IOWA EARLY Learning STANDARDS

Early Childhood IOWA

Iowa Early Learning Standards - 3rd edition

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IOWA EARLY Learning STANDARDS

To Iowa early care and education providers, families, administrators, professional development staff, community partners, legislators, and all Iowa adults,

The vision of Early Childhood Iowa is "Every child, beginning at birth, will be healthy and successful." We are proud and excited to support this important new resource - the **Iowa Early Learning Standards - 3rd edition -** for Iowa to achieve that vision. We invite you to use the standards to support each child in Iowa to reach his or her full potential. The quality of a child's early experiences profoundly influences either a strong or a weak foundation for future learning and success.

Organizations, agencies, communities, and state government must work together to intentionally advance the well-being of our youngest children. The **Iowa Early Learning Standards - 3rd edition provides** a common understanding for what young children should know and be able to do. This set of standards is the result of the dedicated work of home childcare providers, childcare center staff, preschool - grade 12 educators and administrators, Area Education Agency professionals, parents and guardians, and state and national experts in early learning, health, mental health, nutrition, and home visitation and family support.

The **Iowa Early Learning Standards - 3rd edition** builds on the efforts of those who developed the 2006 and 2012 standards. The new document brings together standards and benchmarks for the age range of birth through the end of a child's fifth year. It provides a continuum in developmentally and culturally appropriate standards. In addition, these standards are aligned with the Iowa CORE standards for the end of kindergarten to support the transition from early childhood into preschool - grade 12 education.

The **Iowa Early Learning Standards - 3rd edition** includes the most recent best practice and scientific research. We offer this tool to ALL adults in Iowa to promote positive interactions and environments for young children. As a result of using these standards, Iowa will benefit for years to come.

Sincerely,

David Arens
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Early Childhood Iowa State Board

Brooke Axiotis
President
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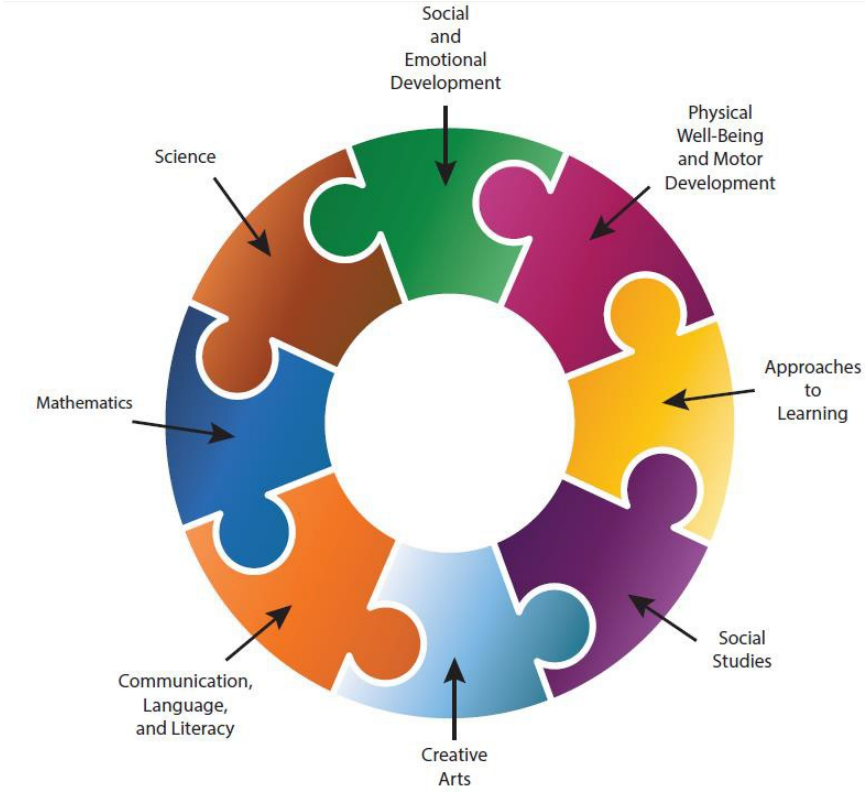
Introduction

Iowa Early Learning Standards - 3rd edition



Defining the Iowa Early Learning Standards

There are approximately 2,000 days from when a child is born until she or he enters kindergarten. Nearly 90% of brain growth occurs during these 2,000 days, making this time period one of the most critical for learning (Brown & Jernigan, 2012). When adults know what young children need to learn during these 2,000 days, they can create appropriate situations, build healthy attachments, and provide experiences to support and nurture the best development by each child.

Early learning standards, also referred to as guidelines or expectations, define what children should know and be able to do during and by the end of the first 2,000 days of life. The Iowa Early Learning Standards (IELS) are guidelines to help achieve positive results for young children and families. The IELS serve as a structure for early childhood providers to make informed decisions that shape how we care for, and how we educate, our youngest citizens.

The IELS are designed for the following:

- inform families, professionals, and community leaders about what to expect young children to know and do
- assist families, professionals, and community leaders to provide high quality early care, health, and education experiences for all children
- guide learning and evaluation decisions by early childhood professionals in all public and private early care and education settings
- inform policy development to improve organizational and professional development systems
- unite expectations of program administration, early care and education, health, mental health, and family support professionals about child development and the importance of each child's experiences

The IELS are not intended:

- for use as a checklist or assessment tool to evaluate children
- to label, sort, or diagnose children
- to exclude children from infant/toddler programs, preschools, kindergarten, or any early childhood program for which they are otherwise eligible
- to identify programs based on children's high achievement
- to serve as a measure for program funding
- to evaluate teachers or caregivers

Early learning standards assist adults to understand what children should know and be able to do prior to entering kindergarten. The IELS emphasize developmental (age-level) appropriate processes, skills, content, and child outcomes. The intent of the IELS is to implement the standards with teaching and assessment strategies that are ethical and appropriate for young children. For full implementation, the standards require reinforcement with strong financial supports and resources from legislators, community leaders, and policy makers for early childhood programs, professionals, and families (NAEYC, 2002).

Sections of the Iowa Early Learning Standards 3rd edition

The Iowa Early Learning Standards (IELS) are for everyone who cares for, educates, and works with young children. The standards are a resource to support and enhance children's learning and development. In addition, the standards are a tool to share information among families, caregivers, child care providers, family support, mental health, and health care professionals, teachers, program administrators, and others who care for or work with children during their first 2,000 days.

There are four sections to the Iowa Early Learning Standards - 3rd edition.

Section 1 - Introduction

- Defining the Iowa Early Learning Standards
- Components of the Iowa Early Learning Standards
- History of the Iowa Early Learning Standards
- Revisions to the Iowa Early Learning Standards - 3rd edition

Section 2 - Essential Considerations

- The Importance of Children's Physical and Mental Health
- The Role of Relationships in Learning
- Embracing Diversity and Inclusion
- The Importance of Play in Learning
- The Role of Technology and Interactive Media
- The Role of Observation and Monitoring
- Understanding School Readiness

Section 3 - Iowa Early Learning Standards

- **area** - reflects the parts of growth and development for young children. The areas of development are connected to each other and integrate the development of the whole child. The areas provide a strong developmental foundation that represents the needs and capabilities of infants, toddlers, and preschool-age children. Within each of the eight areas, the standard, rationale, benchmarks, examples of benchmarks, and adult supports are identified within infant/toddler (infants 0 - 18 months and toddlers 18 months - 3 years) and preschool-age (3 - 5 years) groups.
- **standard** - provides the expectation of what an infant/toddler (birth - 3 years) or preschool (3 - 5 years) child should demonstrate.
- **rationale** - includes a description of the standard and the research that supports it.
- **benchmark** - defines the skills and behaviors infants, toddlers, or preschool-age children develop that demonstrate the standard.
- **example** - suggests how children can practice and/or show the identified benchmarks.
- **adult support** - provides recommendations that contribute to the care, learning, and development of infants, toddlers, and preschool-age children, using developmentally appropriate strategies - which should incorporate English and each child's home language.
- **references** – provides details to access the research used to define the rationale and standards.

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Section 4 - Alignment to the K-12 Iowa CORE

This section describes academic expectations for K-12 students in Iowa. It provides a broad comparison of the connections between early learning and school-age expectations for children. The alignment shows the areas and benchmarks of the IELS that serve as introductory learning for students to achieve expected skills in the K-12 school setting.

History of the Iowa Early Learning Standards

Early childhood leaders in Iowa continue to recognize the need for developmentally appropriate learning standards for children ages birth through five. The National Association for the Education of Young Children (NAEYC) defines developmentally appropriate practice**,** often shortened to DAP, as an approach to teaching, grounded in the research, on how young children develop and learn, and in what is known about effective early education. Its framework is designed to promote young children's peak learning and development.

During 2005 and 2006, in response to federal requirements in the Good Start, Grow Smart Early Childhood Initiative and the Federal Child Care Development Fund, the Iowa Department of Education and the Iowa Department of Human Services jointly established a process and identified interested people to serve as the first Iowa Early Learning Standards Writing Committee. The first Iowa Early Learning Standards (IELS) were developed and formally adopted in 2006.

In 2010, early learning standards became a priority in the Head Start Early Childhood Advisory Council federal grant, which resulted in an update of the Iowa standards in 2012. As part of the Child Care Development Block Grant (CCDBG) federal rules, it was required to determine guidelines for continual review of early learning standards in each state. As a result, Early Childhood Iowa decided to review the Iowa Early Learning Standards every five years. In 2017, the Iowa Early Learning Standards Update Committee identified the importance of the following goals to guide their work:

- honor the quality work completed in 2006 by the original writing committee by making updates and revisions only as needed
- use the National Association for the Education of Young Children (NAEYC) Principles of Child Development and Learning as guiding principles (Copple and Bredekamp, 2009)
- design a user-friendly document for use by everyone who works with young children
- provide alignment across the K-12 Iowa Core, Head Start Early Learning Outcomes Framework, Teaching Strategies GOLD, and other applicable documents used within Iowa
- use the IELS to impact policies and procedures at local and state levels
- provide professional development opportunities aligned with the IELS
- use current research to define what children should know and be able to do
- impact the Early Childhood Iowa Professional Development framework, including early learning, family support, and health/mental health/nutrition, including special needs and early intervention
- build a seamless continuum with the K-12 Iowa Core to provide standards from birth-12th grade

Iowa Early Learning Standards 3rd edition Revisions and Updates

The 2017 Iowa Early Learning Standards Update Committee included more than 60 individuals from every region of Iowa who represented a variety of positions within early care and education. The Update Committee reviewed the K-12 Iowa Core, Head Start Early Learning Outcomes Framework, and Teaching Strategies GOLD® Objectives for Development and Learning, and considered the current Iowa situation. The Update Committee also reviewed recent and updated research and theory in child development and early education. After this review, the Update Committee chose to separate the areas of mathematics and science. The Iowa Early Learning Standards - 3rd edition, as updated in 2017, include the following eight areas:

Additional and more current research was added throughout the IELS - 3rd edition update. Social Studies is aligned with the updated K-12 Iowa CORE standards. Communication, Language, and Literacy includes a stronger emphasis on dual language learners. National experts provided comments and input.

Access the Iowa Early Learning Standards - 3rd edition

Early Childhood Iowa: https://earlychildhood.iowa.gov/document/iowa-early-learning-standards
Iowa Department of Education: https://educateiowa.gov/documents/early-childhood-standards/2018/07/iowa-early-learning-standards-3rd-edition
Iowa Association for the Education of Young Children: http://www.iowaaeyc.org/iowa-early-learning-standards.cfm

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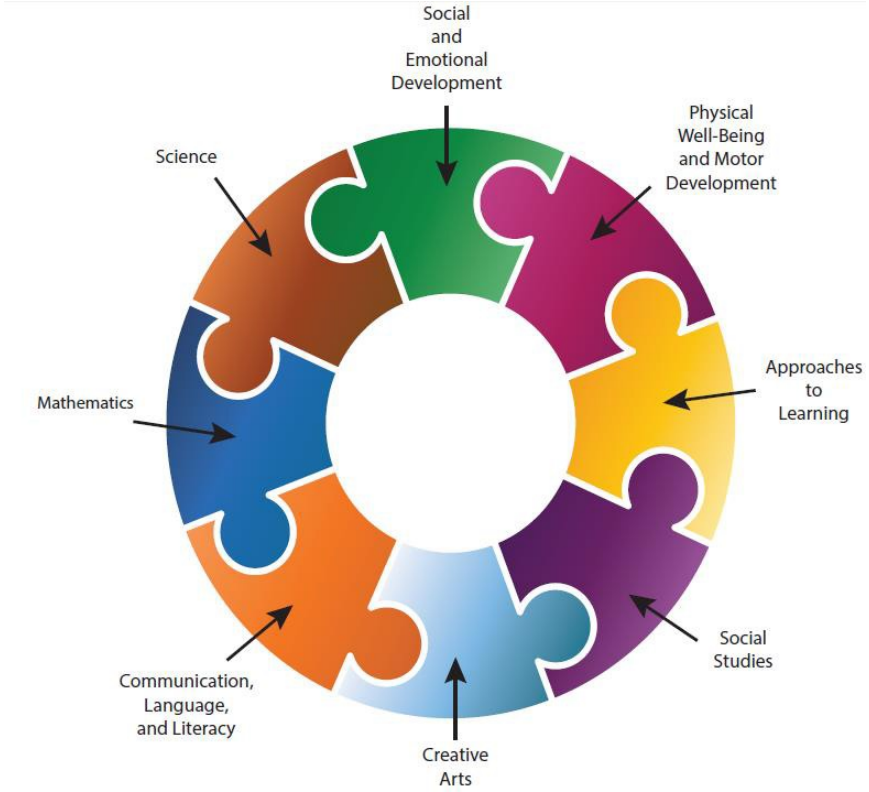
Essential Considerations

Iowa Early Learning Standards - 3rd edition



The Intent of the Essential Considerations

The intent of the Iowa Early Learning Standards is to create an understanding of how children develop and learn. The standards define age appropriate expectations to provide a framework when designing developmentally appropriate teaching and learning experiences.

In 2016, the Early Childhood Iowa Professional Development Component Group developed the **Iowa Core Knowledge of Child Development** (http://www.iowaaeyc.org/iowa-core-knowledge-of-child-development.cfm) to assist adults with ideas to increase their knowledge and their ability to appropriately respond to children in their lives. The information reflects the principles of child development from the National Association for the Education of Young Children (NAEYC). The following eight statements define the foundational information that all adults who have a role in a child's development - whether a child care provider, parent or guardian, "baby sitter," grandparent, health care professional, retail checker, secretary in a business where a family may visit, or any other role as a positive adult in the life of a child (Early Childhood Iowa, 2016):

- Play is learning
- Children are influenced by their family, community, and cultural experiences
- Balanced nutrition, adequate sleep, and physical activity help children grow
- Early experiences and relationships have profound effects on brain development
- Children develop best when they have secure and positive relationships
- Children learn in a variety of ways
- All areas of development and learning are important
- Learning and development occur in a specific order, but at differing rates

Children learn from everything they experience, which impacts all areas of development at the same time. The play, learning, communication, and relationships children encounter in their first five years lay the foundation for learning throughout the rest of their lives. When children are exposed to age-appropriate learning experiences, many opportunities for play, and nurturing relationships within family and early care and education settings, they are better prepared for learning and for getting along with others when they enter school.

NAEYC defined child development and developmentally appropriate guidelines for working with young children using early childhood research and theory. Developmentally appropriate practice defines the materials, equipment, skills, and strategies necessary for quality early learning and caring experiences (Copple & Bredekamp, 2009). Positive relationships, meaningful experiences, play, and active hands-on use of materials help children create their own understanding of the world. Adults pay close attention to each child's individual and social needs, and then adjust situations so each child is successful in his or her own way. These practices serve as the foundation for the Iowa Early Learning Standards.

While implementing the Iowa Early Learning Standards, it is important that caring adults consider topics from developmentally appropriate practice to make decisions about children from birth through five years of age.

The Role of Relationships in Learning

Building nurturing relationships with children assists in the formation of positive attachment. Attachment is the strong emotional bond formed between a child and a caring adult who is a part of the child's everyday life. "Strong attachment relationships between children and the adults who care for them are critical to early brain development. All children need nurturing, responsive adults who they can trust to care for them as they grow and learn. If a child's needs are met, the child forms a secure attachment – a base – that creates a foundation for healthy development in early childhood and beyond. When early relationships are nurturing, individualized, responsive, and predictable, they increase the odds of desirable outcomes – building healthy brain architecture that provides a foundation for learning, behavior, and health. Young children with a weak early foundation have an increased risk for problems later, when they will need to build on those basic capabilities established in the early years to develop more complex skills" (Schumacher & Hoffman, 2008).

Caring adults need to actively involve themselves in observing, helping, and extending children's play during child-initiated play activities. As adults circulate among children during play, they can observe the play and interactions, engage in conversations with children about their play and experience, and support children's problem solving efforts. Responsive adults guide children's communication and mental development with timely and appropriate questions; both open-ended (how, why, and what-if questions) and more specific 'yes' or 'no' questions. High quality instructional support provides quality feedback, builds children's learning, and increases knowledge that makes a difference in school readiness and future academic success. Each early learning standard includes examples of adult supports that guide development through timely, responsive, and appropriate interactions with the child.

Families are children's crucial caregivers and first teachers, and partners in early care, health, and education programs. Creating partnerships with families is essential to ensure that children receive the best learning experiences within and outside the home. All adults involved in a child's day should exchange observations and information every day in order to plan and respond appropriately to the child's needs. In addition, when young children are in early care or education settings outside of the home, it is best to set up caregiving and relationship routines rooted in the familiar cultural background of the family.

What Relationships Means for Families

1. Families are children's first teachers. During play, families can observe the play, encourage children to continue in their play, participate in play, ask open-ended questions, and use brief conversation to share in the joy of the children's discoveries.
2. Families provide their children with learning opportunities throughout their waking day, using whatever materials and routines they have at hand. When their children cannot complete a task, the family member provides "just enough" help to allow for success.
3. Families are equal partners with other adults who work with their children. Families share observations about their children's activities at home, and their opinions and expectations must hold a high priority when other adults who work with their children plan for their children.

The Importance of Physical and Mental Health

Children learn best when they are healthy, safe, free of hunger, and have nurturing caregivers. Well-child visits at an established medical home and regular dental care at a dental home provide an important review of development, behavior, mental well-being, immunizations, oral health, vision, and hearing. Balanced nutrition, adequate sleep, and physical activity help children grow, and set the stage for healthy habits and life-long learning. Infants, toddlers, and preschoolers must have basic needs met in order to be ready to learn.

Consistent routines and experiences that happen about the same time and in about the same way each day provide comfort and a sense of safety to young children. Familiar routines allow children to predict what will happen next, which allows them to feel a sense of control over the events in their lives. Routines also provide opportunities for building relationships, self-control, curiosity, vocabulary, and learning in all areas of development (ZERO TO THREE, 2008).

Early childhood mental health is sometimes referred to as social and emotional development. Mental health in the early years includes the ability to form relationships with adults and other children, to experience and manage emotions, and to explore environments and learn—all in the family, community, and cultural setting (Cohen, Onunaku, Clothier, & Poppe, 2005). Nurturing relationships are key to the formation of positive mental health.

Children's mental health is at risk if they are exposed to events or environments that harm social, intellectual, and emotional functioning. These types of negative events, such as abuse or neglect, are known as Adverse Childhood Experiences (ACEs) and can impact a child for her or his entire life. The ACE study was conducted by Dr. Robert Anda and Dr. Vincent Felitti in 1995 and 1997. The findings, combined with results of physical exams and tracking of participant health experiences, showed a powerful connection between harmful experiences in childhood and poor adult health status decades later. "The experiences children have early in life, and the environments in which they have them, shape their developing brain architecture and strongly affect whether they grow up to be healthy, productive members of society" (Gudmunson, Ryherd, Bougher, Downey, & Zhang, 2013).

It is important to consider each child, individually, in all areas of a child’s development, including physical and mental health. Early care, education, health, mental health, and family support providers must possess awareness of a child’s health in order to individualize and promote overall development and well-being. Consistent daily care and learning experiences in healthy, nurturing, and safe environments foster the development of each child, with the flexibility to capture the interests of the children and individual abilities of each child.

What Physical and Mental Health Means for Families

Find a trusted primary health care provider and dentist who know your child and become familiar with her or his needs.

1. Keep adult and child vaccines current to assist in preventing illnesses.
2. Help your child grow and develop by providing balanced, nutritious meals, including breast milk for babies, and regular naps and bedtimes.
3. Support the physical development of your child by providing at least 60 minutes of active play indoors and outdoors per day.
4. Support the mental development of your child by responding to her or his needs and by providing a safe, stable, predictable, and compassionate environment.
5. Prevent many significant injuries to your child by providing careful supervision at all times.
6. Speak to your child in nurturing ways and take time to understand his or her needs by watching your child during regular routines and play.
7. Provide safe sleep environments for children. Place your baby on her or his back to sleep in a crib with no blankets, bumper pads, or toys until the first birthday. It is dangerous for babies to sleep in car seats that are outside a vehicle, bouncy seats, baby swings, or adult beds.
8. Help keep your child healthy by washing hands before making meals and snacks, eating, feeding a child, after using the bathroom, after changing diapers, after assisting in the bathroom, and after wiping a nose.

Diversity and Inclusion

Diversity refers to the characteristics that make an individual unique. It includes age, culture, abilities, education, family mobility (transient, military, migrant, homeless), family composition, sexual orientation, gender, language, race/ethnicity, region, religion, and socio-economic status/class (Early Childhood Iowa, 2011). The Iowa Early Learning Standards - 3rd edition are designed to identify standards and benchmarks with adult supports for ***all*** children.

Children need early care and education programs that respect diversity, support children's ties to their families and community, and promote development of children's cultural identity. Because the population of Iowa young children is more diverse than the state population as a whole, caring adults can foster inclusion and acceptance by gaining cultural knowledge about families. This knowledge assists with program practices, including learning key words and phrases from a child's home language. When a child's cultural and language backgrounds are used, learning is more meaningful and effective. This is the heart of individualized care.

Adults who respond to the culture and language of children intentionally recognize, embrace, and celebrate diversity to promote success for all children. This comes through respecting and understanding the diverse traditions and values of the children and families. Caring adults actively involve families in programs that respect differences and avoid stereotypes. Through activities, materials, foods, books, dances, songs, art, and celebrations, children develop pride in the traditions of their own family and community, as well as respect for the traditions of others.

Caring adults develop settings and situations that welcome all children and their families. Programs must strive to implement family-centered practices that reflect the values and goals of each family. Adults encourage each child with varying abilities to fully participate in program experiences and daily routines using visual, verbal, and physical cues, as needed, to communicate and interact effectively.

Embracing diversity also includes respecting children with varying abilities and their families. Children with physical, social, emotional, health, and/or communication needs may require individualized supports, adaptations, and accommodations to fully access early care and education. Legally, non-family caring adults are required by the Americans with Disabilities Act (ADA) to make reasonable attempts to accommodate individuals with disabilities.

What Diversity and Inclusion Means for Families

1. Families can expect adults in early care, health, and education settings and those who visit families in their homes, to respect and honor their culture.
2. When asked, families can share aspects of their culture with their children's peers.
3. Families can expect efforts to make printed materials in their native language or read to them by a competent interpreter.
4. Families of children with identified special needs can seek out caring adults in early care and education settings that make accommodations for their children to fully participate in experiences made available to other children.
5. Families must look for early care and education programs that employ competent, educated, and nurturing adults who provide individualized instruction to increase the development of skills and concepts in their children.

What Diversity and Inclusion Means for Teachers and Other Caregivers

1. Provide opportunities and support to assist interaction between children with varying abilities and developmental levels.
2. Develop opportunities for new and specific experiences to meet individual needs.
3. Form routines and other naturally occurring events to help children learn or practice new skills.
4. Develop experiences and materials to provide independent participation by each child.
5. Offer minimal assistance for each child to succeed.
6. Provide encouragement and comments that help the child see the link between his/her effort and the result of the task.
7. Develop opportunities for children to function as leaders or models for their peers.
8. Design room arrangements that make materials and experiences clearly available and accessible to all children.
9. Make adaptations to ensure the setting is fully accessible.
10. Use specific adaptive materials and equipment that provide additional support.
11. Label and/or color-code materials to help with recognition, selection, or use.
12. Modify equipment or tools to increase independent use.
13. Provide adult or peer support, such as an associate teacher or peer buddy, to increase interactions with other children or the use of materials.

The Importance of Play

Play is important for the ideal development of every child. Play is included as a right of every child in the United Nations Convention on the Rights of the Child (Committee of the Rights of the Child, 2013). Research shows, and continues to explore and support, the basic value and positive benefit of play as a helpful approach to learning for young children (Hyson, n.d.; Lifter, Foster-Sanda, Arzamarski, Briesch, & McClure, 2011). The most recent position statement on *Developmentally Appropriate Practice in Early Childhood Programs Serving Children Birth through 8* (NAEYC, 2009) describes that the initial and long-term benefits of play include development of self-control (self-regulation skills), language, reasoning, and social skills.

Play is essential for infants, toddlers, and preschool age children to develop healthy active brains, bodies, and relationships (Ginsburg, 2007). Play must be a natural method for learning in early care and education programs. Children learn about themselves and the world through self-created experiences and positive social interactions with other children and nurturing adults. Children need time, space, supportive adults, open-ended materials (encourage creativity), and safe, yet challenging environments. As a result, children develop confidence in themselves; abilities to master their environment; deep-seated ties to and caring about others; and the ability to create environments of love, safety, security, and resilience (Ginsburg, 2007).

Children enrolled in highly academic programs dominated by teacher-directed activities may become academically prepared for the first years of school. However, research verifies that a healthy balance between preparing for the future and living fully in the present through child-centered and organized play experiences; and caring adult-child connections better prepare children for life - emotionally, socially, and academically (Elkind, Clemens, Lewis, Brown, Almon, & Miller, 2009; Ginsburg, 2007; Gopnik, 2012; Miller & Almon, 2009). All children need the support of nurturing and caring adults who understand, value, and provide opportunities for play in ways that enable the access of their inborn motivations to understand or do what is just beyond their current understanding or mastery to encourage growth.

The Iowa Early Learning Standards emphasize the importance of play in learning by integrating play into every content area of development, using examples of both indoor and outdoor play, to show how adults can support children's natural inclinations, motivations, joy, and learning. Play is natural. Play is meaningful. Play is joyful. Play is essential as we engage and prepare young children for their future.

Adults best support play when they believe and practice the following:

- value child-initiated play and recognize that play is learning
- balance child-initiated play with appropriate levels of adult guidance
- provide adequate time and space for infants, toddlers, and preschool age children to experience the joy of exploring and discovering their world through play
- recognize play as a demonstration of what children know and are thinking
- link inside environments to outside environments to provide settings where new knowledge is built about objects, people, and events
- understand that play is not about the toy - but about the act, the experience, the process, or the outcome
- use play intentionally to support children's learning and development
- use play behaviors to observe and document what children know and can do
- base curriculum on play
- use play as an intervention to enable children's progress and development of increasingly complex levels of play
- use play to promote children's positive approaches to learning (Hyson, n.d.)
- recognize that play is developmental and deserves consideration within all domains of development (Lifter, Foster-Sanda, Arzamarski, Briesch, & McClure, 2011)

Families can provide toys to encourage open-ended play. Open-ended toys have a variety of uses and support creativity in children. Open-ended toys include blocks, play dough, objects to sort, paper, and all types of writing and drawing tools that allow and encourage creativity. As families observe, describe, and ask open-ended questions about child play, they build the skills necessary for their children to understand the world and how to interact with others.

As families seek appropriate early care and education settings for their children, it is important to look for environments where the child care center or home provider setting encourages child-initiated play. The schedule must provide many opportunities for children to play by themselves or in small groups, where they can learn from each other. Rather than worksheets, coloring pages, or cut and paste activities, families can expect art creations which are unique to each child. These creations invite children to use expanding vocabulary to describe the creative process and the result of their efforts

What Play Means for Families

It is vital for families to recognize the importance of child-initiated play, whether at home or in early care and education settings. Play supports children's curiosity and develops their knowledge about why things work the way they do. Families need to understand that through play, their children explore and practice many important skills, including

- movement of their whole bodies (large muscle)
- movement of fingers and hands (small muscle)
- getting along with friends (social and emotional development)
- solving problems (mathematics)
- speaking and listening (communication, language, and literacy)

The Role of Technology and Interactive Media

Children can learn about technology when provided opportunities to explore and experience media in age-appropriate ways (Roskos, Burstein, You, Brueck, & O'Brien, 2011). It is essential during technology exploration that adults are present to supervise, to interact with children, and to frame the learning. This helps children understand what they view and to apply it to the world around them (Labbo, 2009; Turbill, 2001). The American Academy of Pediatrics (AAP) discourages all screen media for children less than 18 months of age, except video chatting with the assistance of a caring adult. For children ages 18-24 months, it is recommended that caregivers use high quality, educational media and use that technology to interact with the child. Further, children two to five years of age should be limited to one hour per day of high quality screen time, alongside a caring adult who can help them understand what they view and how to apply it to the world around them (AAP, 2016).

Key messages by the National Association for the Education of Young Children (NAEYC) and Fred Rogers Center position statement on technology (2012) include:

- when used intentionally and appropriately, technology and interactive media are effective tools to support learning and development
- intentional use of technology requires early childhood teachers and administrators to have information and resources regarding the nature of the tools and the implications of use with children
- limitations on the use of technology and media are important
- special considerations are necessary to the use of technology with infants and toddlers
- attention to digital citizenship and suitable access is essential
- need for ongoing research and professional development

What the Use of Technology and Interactive Media Means for Families

1. Families know that technology is a part of our culture and an important tool for communication and learning. However, technology is not a substitute for one-on-one time with family members. Intentional use of technology can support children's development in areas such as literacy, mathematics, and science.
2. Families can provide opportunities for children to use technology together, such as reading digital storybooks or watching a favorite developmentally appropriate children's show together.
3. It is critical that families protect children from excessive amounts of 'screen time,' as well as inappropriate media, such as violent programs. Instead, families must recognize that children learn through play, and providing extended periods playing with their children is important.
4. Restricting use of technology during meals and for one hour before bedtime is recommended (AAP, 2016).

The Role of Observation and Monitoring Child's Development

All caring adults need to observe each child's development on an on-going basis. Continuous observation:

- identifies activities, interactions, materials, and instruction that assist in the next steps of development for each child
- guides communication with families and professionals regarding the development of the child, including any concerns
- provides information when other resources, including assessments by specialists, are needed
- assists programs to improve educational and developmental interventions by examining the growth of groups of children

It is important for those who provide care and education for children to work with families to observe and monitor each child's development. Consistent patterns of behavior that occur over time during many situations are discussed while considering the cultural context in which the child is developing. Periodically, families and caring adults meet to more formally review the child's growth and progress in order to plan for future programming. Any concerns regarding the child's development begin with either the family or the adult provider. A relationship of mutual trust between adult providers and families is important for dealing with any concerns in a timely and positive manner.

Observation is one of the most common methods of assessment of children's knowledge, skills, and motivations. Recorded observations verify children demonstrating skills and understanding at times and in settings where they occur naturally. Ongoing observations and assessments of the young child in multiple settings, including home, school, and during routine activities and play, give families and child care providers the opportunity to work together and to provide evidence of a child's development. Young children usually show development that is more advanced in a familiar situation, using familiar materials, and during self-selected activities (Meisels & Atkins-Burnett, 2000).

What Observation and Monitoring Means for Families

1. Families can expect their children's development is monitored by early care, health, family support, and education programs. This monitoring is done through brief screening, which usually looks at broad areas of development and learning.
2. Families are valuable sources of information. Families can expect to partner with early care, health, and education programs to share their insights and observations of what their children think, know, and can do. This approach encourages everyone to work together as a team to determine what children know and what they are ready to learn next.
3. Families whose home language is not English can expect their children are screened in their home language, when possible. They can also expect results are provided in a manner that is easy and meaningful to understand.

Understanding School Readiness

School readiness includes the readiness of the individual child, the school's readiness for children, and the ability of the family and community to support ideal early child development (High, 2008). School readiness is not determined by looking at the child alone nor should we measure school readiness only by knowledge of math and literature. Gathering pertinent information includes a comprehensive, developmentally, and educationally important set of goals, rather than a narrow set of skills (NAEYC, 2003). To have rewarding and successful daily experiences, as well as to prepare for successful, responsible experiences, each child needs the following:

- access to high quality early care and education experiences
- health care, nutrition, and social-emotional nurturing
- caring adults with the skills, understanding, and resources to foster development

Families and communities need to provide each child with safe, nurturing, nourishing, and healthy environments that are developmentally, individually, and culturally appropriate. Early care and education settings, including kindergartens, must become ready to serve a population of children and families from diverse cultures and with diverse abilities.

What Readiness Means for Families

1. Families must know overall health and well-being, social and emotional skills, language development, and enthusiasm and curiosity for learning, are all important elements of school readiness.
2. Besides looking at the whole child when thinking about kindergarten readiness, it is important for families, caregivers, and early education professionals to think about what type of kindergarten experience is available for children and who can help children with the transition to kindergarten.
3. Families must know the only requirement in Iowa for attending kindergarten is that a child is 5 years old by September 15 of the year he or she start kindergarten.
4. Families concern about their children's future success in kindergarten can ask for assistance to find appropriate supports and early care opportunities for children.
5. Families can request the home provider or early care and education program, and the school district, to prepare a shared transition plan for their child and family.

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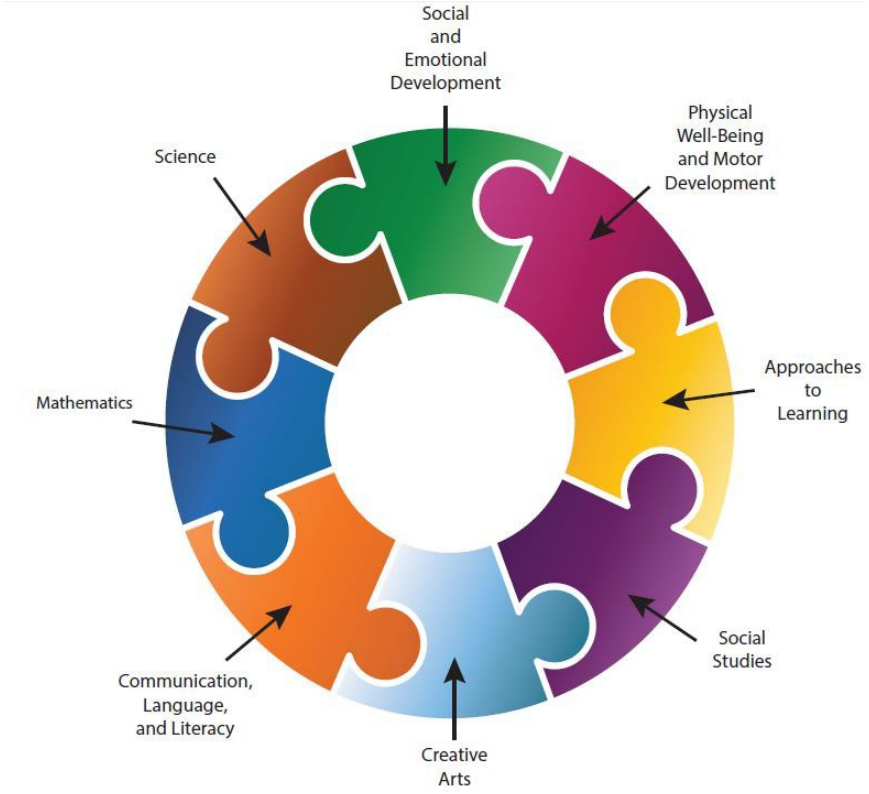
Standards and CORE Alignments

Iowa Early Learning Standards - 3rd edition



IOWA EARLY Learning STANDARDS

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1.1.IT Infants and toddlers display a positive sense of self.

1.1.PS Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences.

Standard 1.2 Self-Regulation

1.2.IT Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways.

1.2.PS Children show increasing ability to regulate behavior and express emotions in appropriate ways.

Standard 1.3 Relationships with Adults

1.3.IT Infants and toddlers relate positively with significant adults.

1.3.PS Children relate positively with significant adults.

Standard 1.4 Relationships with Children

1.4.IT Infants and toddlers respond to and initiate interactions with other children.

1.4.PS Children respond to and initiate appropriate interactions with other children and form positive peer relationships.

IT = Infant and Toddler (birth - 3 years)

PS = Preschool (3 - 5 years)

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2.1.IT Infants and toddlers participate in healthy and safe living practices.

2.1.PS Children understand healthy and safe living practices.

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2.2.IT Infants and toddlers develop large motor skills.

2.2.PS Children develop large motor skills.

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2.3.IT Infants and toddlers develop small motor skills.

2.3.PS Children develop small motor skills.

Area 3: Approaches to Learning

Standard 3.1: Curiosity and Initiative

3.1.IT Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills.

3.1.PS Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills.

Standard 3.2 Engagement and Persistence

3.2.IT Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines.

3.2.PS Children purposefully choose and persist in experiences and play.

Standard 3.3 Reasoning and Problem Solving

3.3.IT Infants and toddlers purposefully demonstrate strategies for reasoning and problem solving.

3.3.PS Children purposefully demonstrate strategies for reasoning and problem solving.

Standard 3.4 Play and Senses

3.4.IT Infants and toddlers engage in play to learn.

3.4.PS Children engage in play to learn.

IT = Infant and Toddler (birth - 3 years)
PS = Preschool (3 - 5 years)

Area 4: Social Studies

Standard 4.1 Awareness of Family and Community

4.1.IT Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups.

4.1.PS Children demonstrate an increasing awareness of belonging to a family and community.

Standard 4.2 Awareness of Culture

4.2.IT Infants and toddlers demonstrate a strong sense of self within their culture.

4.2.PS Children demonstrate am increasing awareness of culture and diversity.

Standard 4.3 Exploration of the Environment

4.3.IT Infants and toddlers explore new environments with interest and recognize familiar places.

4.3.PS Children demonstrate an increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment.

Standard 4.4 Awareness of Past

4.4.PS Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community.

Area 5: Creative Arts

Standard 5.1 Art

5.1.IT Infants and toddlers participate in a variety of sensory and art-related experiences.

5.1.PS Children participate in a variety of art and sensory-related experiences.

Standard 5.2 Music, Rhythm, and Movement

5.2.IT Infants and Toddlers participate in a variety of rhythm, music, and movement experiences.

5.2.PS Children participate in a variety of music and movement experiences.

Standard 5.3 Dramatic Play

5.3.IT Infants and toddlers engage in dramatic play experiences.

5.3.PS Children engage in dramatic play experiences.

IT = Infant and Toddler (birth - 3 years

PS = Preschool (3 - 5 years)

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6.1.IT Infants and toddlers understand and use communication and language for a variety of purposes.

6.1.PS Children understand and use communication and language for a variety of purposes.

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6.2.IT Infants and toddlers engage in early reading experiences.

6.2.PS Children engage in early reading experiences.

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6.3.IT Infants and toddlers engage in early writing experiences.

6.3.PS Children engage in early writing experiences.

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Standard 7.1 Comparisons, Numbers, and Operations

7.1.IT Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting.

7.1.PS Children understand counting, ways of representing numbers, and relationships between quantities and numerals.

Standard 7.2 Patterns

7.2.IT Infants and toddlers begin to recognize patterns.

7.2.PS Children understand patterns.

Standard 7.3 Shapes and Spatial Relationships

7.3.IT Infants and toddlers show increasing understanding of spatial relationships.

7.3.PS Children understand shapes and spatial relationships.

Standard 7.4 Measurement

7.4.PS Children understand comparisons and measurements.

IT = Infant and Toddler (birth - 3 years)

PS = Preschool (3 - 5 years)

Standard 7.5 Data Analysis

7.5.PS Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers.

Area 8: Science

Standard 8.1 Scientific Investigations

8.1.IT Infants and toddlers gather and interpret information from the environment around them.

8.1.PS Children gather information and conduct investigations to address their wonderings and test solutions to problems.

Standard 8.2 Scientific Reasoning

8.2.IT Infants and toddlers use reasoning to make sense of information in their environment.

8.2.PS Children use reasoning to make sense of information and design solutions to problems in their environment.

Standard 8.3 Scientific Communication

8.3.IT Infants and toddlers share information and understanding about experiences in their environment.

8.3.PS Children share information and understanding about experiences in their environment.

IT = Infant and Toddler (birth - 3 years)

PS = Preschool (3 - 5 years)

Iowa Early Learning Standards - 3rd edition alignment with Iowa CORE Social Studies

Iowa Early Learning Standards - 3rd edition alignment with Iowa Fine Arts Standards

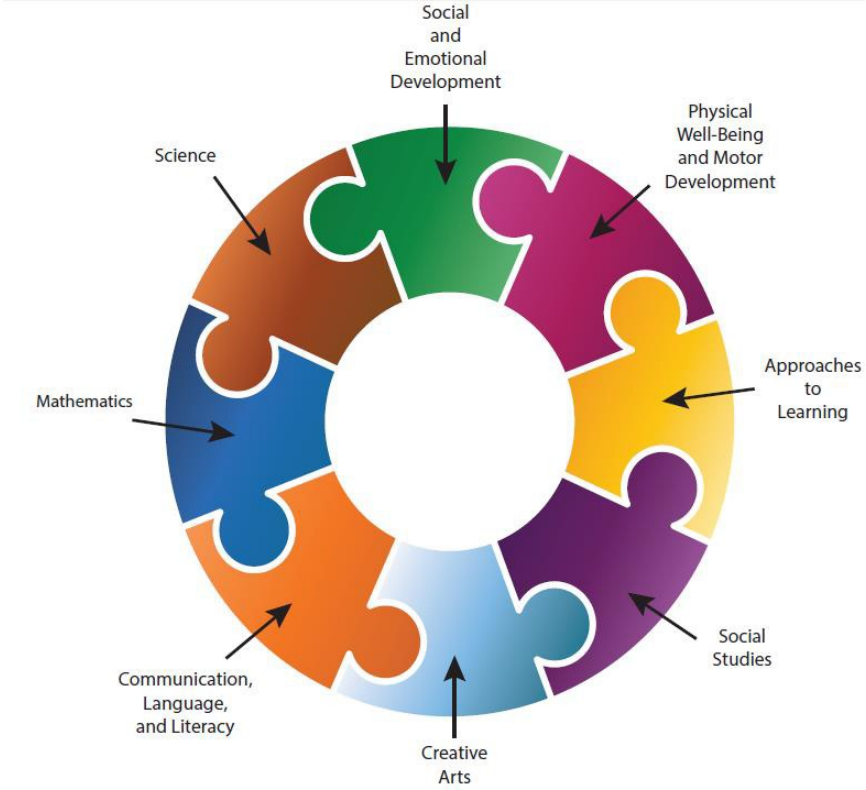
Iowa Early Learning Standards - 3rd edition alignment with Iowa CORE English Language Arts

Iowa Early Learning Standards - 3rd edition alignment with Iowa CORE Mathematics

Iowa Early Learning Standards - 3rd edition alignment with Iowa CORE Social Science

Rationale

Iowa Early Learning Standards - 3rd edition



Area 1: Social and Emotional Development

Self - Infant and Toddler (birth - 3 years)

Standard 1.1.IT Infants and toddlers display a positive sense of self.

Rationale - Why is this important for a child?

For very young children, acceptance, emotional attachment, and ongoing nurturing are the primary basis for a positive sense of self. A sense of self includes self-recognition and self-esteem. The way adults relate to infants and toddlers influences the way they grow up to view themselves. Using a child's name while talking with him or her helps the child realize he or she is a separate individual. Caring adults who provide safe, stable, predictable, and compassionate environments support infants' and toddlers' growing independence and promote a healthy sense of self, as well as connections with others. Infants and toddlers learn they can make things happen and begin to initiate activities. Infants usually prefer adults who imitate their activities (Meltzoff, 1990). Infants will show more positive helping behaviors toward adults who imitate them (Carpenter, Uebel, & Tomesallo, 2013). Young infants begin to recognize themselves and to tell the difference between themselves and others by four months of age (Rochat & Striano, 2002).

During the second year, most toddlers display deeper levels of self-awareness when they show recognition of images of themselves (Rochat, Broesch, & Jayne, 2012). They also demand the right to make some independent choices and to refuse some experiences (Bullock & Lütkenhaus, 1988). Making choices helps develop a sense of independence and autonomy, but it is also important to keep the choices manageable because too many choices can become overwhelming. Infants and toddlers usually learn to choose activities they can do successfully, but rely heavily on adult reactions to their actions (Stipek, Gralinski, & Kopp, 1990). Caring adults foster development of self by imitating infants and by respecting their choices (Bronson, 2000). Toddlers develop self-awareness and self-understanding based on the evaluations of others, especially those adults to whom the child is attached emotionally (Thompson, 1991). Adults need to accommodate each child's distinct blend of personality characteristics, interests, and abilities.

Area 1: Social and Emotional Development

Self - Preschool (3 - 5 years)

Standard 1.1.PS Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences.

Rationale - Why is this important for a child?

One of the most important goals of the preschool years is helping children develop a positive self-concept and self-esteem (Kagan, Moore, & Bredekamp, 1995). Self-concept is the perception that one is capable of successfully making decisions, accomplishing tasks, and meeting goals. "The goal of using these intentional steps is to help the child establish a positive schema - or concept - for who he/she believes him/herself to be" (Durkin, 2016, p.5). Children need to feel valued.

Young children typically overestimate their own abilities. At the same time, they equate effort and ability, assuming that failure represents both a lack of effort and ability (Nicholls, 1978). After repeated failures, some young children already acquire learned helplessness, a belief they cannot succeed in anything they try. Learned helplessness (Dweck & Licht, 1980) affects later learning. Therefore, it is essential to help young children see themselves as capable learners, to develop resilience (flexibility), and to instill genuine feelings of success. During the preschool years, it is important for a child to develop a positive self-concept, not by telling the child he or she is special, but by taking initiative and succeeding at challenging tasks while also receiving adult encouragement (Peth-Pierce, 2000).

"Children who cannot effectively regulate anxiety or discouragement tend to move away from, rather than engage in, challenging learning activities. On the contrary, when children regulate uncomfortable emotions, they can relax and focus on learning thinking skills. Similarly, children experience better emotional regulation when they replace thoughts like 'I'm not good at this' with thoughts like 'This is difficult, but I can do it if I keep trying.' Regulating anxiety and thinking helps children persist in challenging activities, which increases their opportunities to practice the skills required for an activity" (Florez, 2011, p.47).

All children need opportunities to make choices. Therefore, it is important for adults to provide opportunities to help build children's emotional regulation. Learning to make choices allows a child to grow and to develop into an independent person, one that is connected with her or his parents, family, community, and society.

Area 1: Social and Emotional Development

Self-Regulation - Infant and Toddler (birth - 3 years)

Standard 1.2.IT Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways.

Rationale - Why is this important for a child?

Self-regulation refers to the abilities of infants to respond in an organized and effective way to events in their world, and to become aware of their emotions in order to help them understand what they need and want, and how to get it in socially acceptable ways. From birth, infants and toddlers show individual differences in the ability to self-regulate. Self-regulation is one component of temperament (Thomas, Chess, & Birch, 1970). Self-regulation, as a 'cornerstone for early childhood development,' and is possible to observe in all areas of behavior (Gillespie & Seibel, 2006).

Temperament, present from birth, also plays an important role in self-regulation. Temperament refers to individual styles of behavior, for example, how active children are, how easily they accept new things or adapt to changes, and their general mood. To build children's self-regulation, adults recognize each infant or toddler's individual temperament and adjust their responses to best fit each child's temperament. Caring adults provide physical contact, sensitive social stimulation, and responsiveness needed to foster early self-regulation (Bronson, 2000).

Infants and toddlers who receive sensitive and responsive care from adults develop secure attachments, and are better able to control and effectively express emotions (Cassidy, 2008; Thompson, 1998). Support from caregivers is important to help infants regulate feelings of distress (Kiel & Kalomiris, 2015). When adults help infants and toddlers build empathy by talking about the emotions of others, children are more likely to behave in prosocial ways (Brownell, 2014).

Self-regulation skills develop gradually. Infants and toddlers typically show early self-regulation skills during experiences that lead to a desired goal or a desired activity (Thompson, 2001). In order to fully develop self-regulation skills, toddlers must receive many opportunities to experience and to practice the skill with adults and with other children (Florez, 2011; Tanyel, 2009). As toddlers observe the emotional responses of others, they increase the variety of emotions for their responses to include guilt, embarrassment, pride, and shame (Thompson, 2001). It is crucial for adults to provide the physical contact, sensitive social stimulation, and responsiveness needed to foster early self-regulation (Tanyel, 2009).

Area 1: Social and Emotional Development

Self-Regulation - Preschool (3 - 5 years)

Standard 1.2.PS Children show increasing ability to regulate their behavior and express their emotions in appropriate ways.

Rationale - Why is this important for a child?

Young children learn to regulate behavior under the guidance of adults (Shonkoff & Phillips, 2000). Self-regulation is not an isolated skill. Children must interpret their experiences into information they can use to assist in regulating their thoughts, emotions, and behaviors. Children learn this skill by watching and responding to self-regulation by adults (Florez, 2011). Self-regulation is a two-fold skill. Children must learn to control their impulses and to stop themselves from doing something, and they must also learn to do something they may not want to do (Bodrova & Leong, 2005).

As children enter the preschool age, their increasing language skills allow them to have a greater impact on their immediate environment and to better understand when caregivers talk to them about controlling their emotions and behavior (Gross, 2015). The expression of emotion in young children is linked to what they like and want, as well as to what they do not like and do not want (Wellman & Wooley, 1990). As a result, they show increasing understanding of emotions and skills in regulating their emotions. Four year-old children tend to understand more about strategies they can use to regulate their emotions than do three year-olds. Four year-olds tend to use more effective strategies to control anger than three year-olds (Cole, Dennis, Smith-Simon, & Cohen, 2009).

Culture directly influences how emotions develop, and how children display emotions (Kitayama & Markus, 1994). During early childhood, children learn that everyone has emotions and they can learn how others feel by observing expressions or emotions of other children (Hyson, 2008). They also learn emotions occur in response to different situations and that emotions are expressed in different ways. While young children's understanding of emotions is often restricted to 'mad,' 'sad,' or 'glad,' they gradually develop more understanding of emotions such as fear, surprise, and disappointment.

When adults provide responsive interactions with children, model appropriate responses, and provide feedback to children, children learn how and when to express emotions in socially appropriate ways (Burchinal et al., 2008; Hamre, Hatfield, Pianta, & Faiza, 2014; Thompson, 1991). Children also learn from adults how to show empathy and to display concern over the emotional expressions of other children. Young children are preferred as playmates when they recognize the emotions of others and show their own emotions in socially appropriate ways (Saarni, Mimme, & Campos, 1997).

Area 1: Social and Emotional Development

Relationships with Adults - Infant and Toddler (birth - 3 years)

Standard 1.3.IT Infants and toddlers relate positively with significant adults.

Rationale - Why is this important for a child?

During the first year of life, infants and toddlers can become attached to several consistent, responsive, and sensitive adults. Attachment is the strong, emotional bond formed between an infant or toddler and a nurturing, responsive adult (Carter, 2001). Research suggests secure attachments to an adult that matters to the infant or toddler, as demonstrated through love and respect, are related to the most favorable social and intellectual growth (Fuller, Gasko, & Anguiano, 2010; NAEYC, 2010; Howes & Smith, 1995). In new situations, or with new adults, infants prefer to be close to familiar adults, with whom they developed an attachment, sometimes seeking physical contact with them. Attachment helps infants regulate their emotions, learn to interact with objects and people in their environment, and become aware of themselves as people (Thompson, 1998; Vacca, 2001). “Children’s early relationships teach them who they are and what they can expect from the world; and their healthy brain development thrives on loving attachments and secure sense of belonging” (Baker & Manfredi-Petitt, 2004, p.56). An infant typically uses the secure attachment to familiar adults as a base to explore the environment while returning occasionally to re-establish physical or visual contact with the familiar person (Ainsworth, Blehar, Waters, & Wall, 1978; Vacca, 2001).

Infants and toddlers are less likely to form attachments when caregiver changes occur frequently (Raikes, 1993; Cryer, Hurwitz, & Wolery, 2001); for example, frequent classroom changes that may occur in child care settings. The loss of a particular caregiver with whom a child established a trusting relationship can affect the child's feelings of security and can also affect the development of intellectual and social skills (Howes, Hamilton, & Philipsen, 1998; Howes & Smith, 1995). This is due to lost valuable learning during the time between when one caregiver leaves and the adjustment to a new caregiver. When children have frequent adjustments, their energy is consumed with establishing security, rather than with exploration and learning (Cryer, Hurwitz, & Wolery, 2001).

Area 1: Social and Emotional Development

Relationships with Adults - Preschool (ages 3 - 5)

Standard 1.3.PS Children relate positively with significant adults.

Rationale - Why is this important for a child?

"Children who feel valued and have positive and caring relationships with their caregivers are able to acquire the skills and understanding they need to regulate their emotions and behavior" (Dunlap, Fox, Hemmeter, & Strain, 2004, p.3). Young children's school success requires trusting relationships with familiar adults (Howes & Ritchie, 2002; Hyson, 2008). After developing close, affectionate relationships with their primary caregiver (parent, grandparent, foster parent, guardian), children can also develop close, affectionate relationships with other familiar, sensitive, and responsive adults who nurture and support them (De Schipper, Taevecchio, & Van IJzendoorn, 2008; Sroufe, Fox, & Pancake, 1983). These bonds, referred to as attachment, form the basis to develop shared social relationships with adults and with other children (Thompson, 1998). To feel psychologically safe and free from anxiety, children must feel safe and comfortable with the adults in their lives.

Shared (reciprocal) relationships are often demonstrated differently across cultures and families. Also, research suggests feelings are often expressed differently across cultures. Some cultures encourage independence in children, so these children, when playing independently, are not necessarily withdrawing from relationships (Wittmer, 2011).

Children with diverse needs, especially those with challenging behaviors, may need more support to develop positive relationships. Thus, adults can use different strategies to interact with a child and to build a positive relationship. "If relationships are primary, then each adult's contribution, experience, and availability are valuable" (Brinamen & Page, 2012, p.43).

Area 1: Social and Emotional Development

Relationships with Children - Infant and Toddler (birth - 3 years)

Standard 1.4.IT Infants and toddlers respond to and initiate interactions with other children.

Rationale - Why is this important for a child?

Interactions between infants and children the same age during the first year are usually simple and brief. Infants often make eye contact with other children and typically show distress when they see the distress of another infant. Later, they typically exchange smiles and vocalizations with other infants. Toddlers, typically, will imitate another infant's actions, and begin some shared play (Lamb, Bornstein, & Teti, 2002). However, most toddlers show very limited ability to take turns or to share materials.

Infants and toddlers learn to share and to communicate feelings and experiences from their immediate surroundings with family and community (CSEFEL). Children learn social interactions from their families and community, which they then incorporate into their behavior with others. A caring adult may support infants and toddlers in expressing feelings, demonstrating social interactions, and developing strategies for interacting with other children to communicate their interests, needs, and wants.

Toddler friendships usually develop with other children who engage in positive interactions with each other. However, as many as 50% of the peer interactions among toddlers involve conflicts and typically involve possession of objects (Coie & Dodge, 1998). In preventing another child from taking a toy, toddlers usually find verbal responses such as "NO!" more effective than physical resistance such as holding on to the toy. During the toddler years, physical aggression tends to decrease, but verbal aggression tends to increase (Coie & Dodge, 1998). Adults help children develop relationships with other children by providing supervised opportunities for infants and toddlers to interact in an environment with adequate space and materials to minimize conflicts (Eckerman & Peterman, 2004).

Area 1: Social and Emotional Development

Relationships with Children - Preschool (3 - 5 years)

Standard 1.4.PS Children respond to and initiate appropriate interactions with other children and form positive peer relationships.

Rationale - Why is this important for a child?

Improvements in social skills and reduction in aggression are linked to increases in communication, perspective taking, memory skills, and self-regulation (Coie & Dodge, 1998). Young children engage in more positive behavior and social exchanges with friends than with non- friends (Gottman & Graziano, 1983). Children with the capacity to develop friendships initiate contact, sustain interactions, and resolve conflicts better than children who do not develop friendships (Gottman & Graziano, 1983). In contrast, poor relationships with other children predict later rejection by other children (Coie & Dodge, 1998). Poor relationships and rejection by other children are associated with later problems in school and life, including social isolation, aggression, loneliness, social dissatisfaction, and low self-worth (Hymel, Rubin, Rowden, & LeMare, 1990), as well as low academic performance, school avoidance, truancy, and delinquency (Ladd, 1990; Parker & Asher, 1987).

Children who experience positive learning experiences and healthy relationships in the first years of life show a decrease in physical aggression during the preschool years. However, verbal aggression tends to increase, at least until four years of age (Cairns, 1979). Children learn healthy relationship skills and caring behaviors through observing these behaviors in adults.

As early as the preschool years, same-gender play and preferences can be observed (Manaster & Jobe, 2012). Children who spend more time in same-gender playgroups tend to develop more gender-stereotypical behaviors.

Children with diverse abilities are likely to need support to start or to join in play. Some children may need pairing with more competent same-age children who serve as models of appropriate interactions.

Area 2: Physical Well-Being and Motor Development

Healthy and Safe Living - Infant and Toddler (birth - 3 years)

Standard 2.1.IT Infants and toddlers participate in healthy and safe living practices.

Rationale - Why is this important for a child?

Tremendous growth occurs in infancy and early childhood, and requires an adequate healthy, balanced diet of nutrient-dense beverages and foods (rich in nutrients for the number of calories contained). These beverages and foods provide nutrients required to maintain health. This means planning and providing meals that include fruits, vegetables**,** whole grains, low fat or fat-free milk and dairy products, nuts, beans**,** seeds, turkey, chicken**,** fish, and lean cuts of meats**.** These building blocks are needed for brain development, muscle development, and mind and body coordination. Infants and toddlers are also learning and practicing eating skills used throughout life. Infants first learn to swallow liquids and progress through handling a variety of textures and flavors. Adults can provide nutrient-dense food and beverages that meet the child's current feeding skills and help her or him develop a curiosity for new foods. Caregivers should look for signs of food allergies as new foods are introduced, and maintain open communication with families. The Center for Disease Control reported an increase of 50% in food allergies between 1997 and 2011 (Jackson, Howle, & Akinbami, 2013).

Infants and toddlers need nutritious foods critical for growth and development. It is important to combine daily nutritious foods with appropriate daily physical activity and play time for healthy physical, social, and emotional development. Solid evidence exists that physical activity can prevent a rapid gain in weight, which leads to childhood obesity early in life. According to the Centers for Disease Control, childhood obesity more than doubled in children during the past 30 years. Although obesity among children aged 2 to 5 years decreased from 13.9% in 2003-2004 to 9.4% in 2013-2014, childhood obesity remains high, and is more common among certain populations. Children with obesity are more likely to become adults with obesity. Adult obesity is associated with the increased risk of a number of serious health conditions, including heart disease, Type 2 Diabetes, and cancer. Best practices in early care and education to reduce childhood obesity include promoting healthy eaters, providing healthy beverages, increasing physical activity, limiting screen time, and supporting breastfeeding. Infants and toddlers need active time, including tummy time, time outdoors, and engaging in activities. It is important to limit time in restrictive settings, such as car seats, bouncy seats, cribs, and swings.

Early feeding behaviors play an important role in establishing healthy food preferences and behaviors to prevent childhood overweight and obesity. Promoting healthy nutrition and feeding patterns for infants and toddlers from birth to 24 months, with an emphasis on dietary quality, portion sizes, and mealtime environment, is critical. Physical activity, soothing, and adequate sleep influence early feeding behaviors and weight outcomes (Feeding Guidelines for Infants and Toddlers, 2017).

Sudden Infant Death Syndrome (SIDS) and unintentional injuries are the leading causes of death for infants and toddlers. Drowning, burns, and suffocation from unsafe sleep environments are the most common death-related injuries. Serious injuries in this age group resulting in hospitalization are due to falls and poisoning (Iowa Department of Public Health, 2015). Because young exploring children lack the judgment to avoid dangerous situations, adults have the responsibility to provide active supervision, safe routines, and developmentally appropriate equipment, toys, and environments. Research shows rates of SIDS decline dramatically when infants are placed on their back to sleep. The American Academy of Pediatrics (AAP) recommendations create a safe sleep environment to reduce the risk of SIDS and suffocation, including placing the baby on his or her back on a firm mattress in a safety approved crib or portable crib with a tight-fitting sheet - no soft bedding, bumper pads, blankets, pillows or soft toys in the crib. A bare crib is best. Avoid over heating the baby, use sleep clothing or a wearable blanket, if needed. Do not use sleep positioners, wedges, or monitors. After breast-feeding is well established, offer a pacifier, but only with parent or guardian permission (AAP, 2016).

Lead is a neurotoxin (substance poisonous or destructive to nerve tissue), and exposure can affect overall health and well-being. Even at low levels of exposure, lead can cause reduction in a child's intelligence quotient (IQ) and attention span, and can result in reading and learning disabilities, impaired hearing, impaired formation and function of blood cells, hyperactivity, and behavioral difficulties. These effects are not reversible after the damage is done, which affects a child's ability to learn, to succeed in school, and to function later in life. Lead exposure to children most often occurs through chipping and peeling interior and exterior paint. Additional sources of lead exposure occur through environmental contamination, imported play equipment, toys, jewelry used for play, vinyl mini-blinds, food contact products, and drinking water (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2010; American Academy Of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education, 2011, United States Environmental Protection Agency, 2017).

Routine well-child health screenings with a primary care provider are important for improved oral, physical, mental, and social and emotional health, and for preventative health care. It is important that each well-child screening visit includes a complete physical, growth, height, weight, vision and hearing assessment, nutrition/obesity prevention, oral health assessment, developmental assessment, anticipatory guidance, and immunizations following the recommended schedule. Routine dental checkups are also critical for preventative oral health care (Bright Futures, AAP).*

**access Iowa oral health screening recommendation at https://idph.iowa.gov/Portals/1/userfiles/88/EPSDT_periodicity_table_9-2017.pdf*

Area 2: Physical Well-Being and Motor Development

Healthy and Safe Living - Preschool (ages 3 - 5)

Standard 2.1.PS Children show increasing awareness of healthy and safe living practices.

Rationale - Why is this important for a child?

Healthy eating provides needed nourishment for children's brains and for physical activities. Although children of this age may struggle to taste new foods, repeated exposure help them establish healthy food preferences (Cooke, 2007). Well-rested children are less distracted, have more acute attention spans, and have improved ability to control impulsive reactions (Galinsky, 2010). Best practices in the early care environment for reducing childhood obesity include nurturing healthy eaters, providing healthy beverages, increasing physical activity, and limiting screen time. Adults are important role models for healthy and safe living practices.

Burns, drowning, falls, and poisoning are the highest risk for injury and death for 3-5 year-olds**.** Appropriate levels of risk encourage exploration without undermining children's safety. Even very young children can begin to learn about personal safety. Adults support safety by setting up age-appropriate environments with a variety of materials for play, exploration, and learning. It is important for adults to frequently check indoor and outdoor environments for safety and health hazards.

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Routine well-child health screenings with a primary care provider are important for improved oral, physical, mental, and social and emotional health, and for preventative health care. Families can expect each well-child screening visit to include a complete physical, growth, height, weight, vision and hearing assessment, nutrition/obesity prevention, oral health assessment, developmental assessment, anticipatory guidance, and immunizations following the recommended schedule. Routine dental checkups are also critical for preventative oral health care (Bright Futures, AAP).

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Area 2: Physical Well-Being and Motor Development

Large Motor Development - Infant and Toddler (birth - 3 years)

Standard 2.2.IT Infants and toddlers develop large motor skills.

Rationale - Why is this important for a child?

Large motor development, such as crawling, walking, and running, includes skills that involve the big muscles of the body. Reaching for objects is also defined as 'whole body activity' because the movements require balance while reaching (Rochat & Goubet, 1995). Infants and toddlers move for exploration and fun. They use movement to get to people and toys. They typically make significant gains in balance, strength, coordination, and locomotion during the first 30 months. These advances in motor skills also affect intellectual, and social and emotional development. For example, although infants can distinguish between shallow and high drop-offs, they show no fear of heights until they can crawl on their own (Bertanthal & Campos, 1990). Complex motor skills such as learning to walk up a slope require the development of visual perception, physical strength, coordination, and balance gained through previous motor experiences (Adolph, 1997).

To help infants and toddlers develop large motor skills, adults should provide indoor and outdoor environments that are both safe and challenging to explore. It is important for adults to limit the use of restrictive equipment, such as bouncy and Bumbo seats, exersaucers, infant swings, and jumping equipment. These types of equipment limit movement and the proper development of large motor skills. Research reports that infants who spend time in restrictive equipment show delays in physical development (Garrett, McElroy, & Staines, 2002).

Active play and supervised structured physical activities promote healthy weight, movement skills, and overall fitness, including mental health, improved bone development, cardiovascular health, and development of social skills. Adults can provide opportunities for children to be physically active and to facilitate the child's movement skills from the moment of birth. The National Association for Sports and Physical Education (NASPE) and the American Academy of Pediatrics (AAP) recommend engaging toddlers in a minimum of 60 minutes of physical activity daily and not to remain sedentary for more than 60 minutes at a time - this excludes times of sleeping (NASPE, 2002).

The National Resource Center for Health and Safety in Child Care and Early Education (NRC) emphasizes that physical activity promotes gross motor development and provides health benefits including improved fitness and cardiovascular health, healthy bone development, improved sleep, and improved mood and sense of well-being. Physical activity habits learned early in life may track into adolescence and adulthood supporting the importance for children to learn lifelong healthy physical activity habits (NRC, 2017).

Area 2: Physical Well-Being and Motor Development

Large Motor Development - Preschool (3 - 5 years)

Standard 2.2.PS Children develop large motor skills.

Rationale - Why is this important for a child?

Development of large motor skills, such as running, jumping, throwing, catching, balancing, and climbing, is influenced by maturing, environment, and the individual child's experiences (Haywood & Getchell, 2009). While young children learn motor skills, they typically show a variety of ways of performing the skill. With experience, children gain ability to perform skills more consistently. By five years of age, children show more integrated skills, such as the use of arms to help them jump or a shift in weight to help them throw. Children develop physical fitness, for example, strength, flexibility, and endurance. Children develop motor skills from a variety of child-initiated and adult- directed experiences. Physical activity patterns follow children into adulthood. Inactive health-risk behaviors are more difficult to change as children age and it is important to encourage enjoyable activities throughout the preschool years (Goodway, Getchell, & Raynes, 2009).

Research links daily physical activity to health at all ages (U.S. Department of Health and Human Services, 1996). Studies also show even though children engage in active play on the playground, the intensity and duration of their movement may not be sufficient to ensure health, fitness, and motor development (Timmons, Naylor, & Pfeiffer, 2007). This suggests children need adults to provide some structured physical activities that promote the desire to continue participating in fun movement activities as they get older. For preschoolers, researchers suggest at least 30 minutes per day of structured, adult-guided motor activity to keep children moving (Trawick-Smith, 2010), while the National Association for Sport and Physical Education recommends 60 minutes per day (Goodway, Getchell, & Raynes, 2009).

It is important for children to play actively several times each day. Their activity may happen in short bursts of time and not be all at once. Physical activities for young children should be developmentally appropriate, fun, and offer variety. Younger children usually strengthen their muscles when they do gymnastics, play outside, or climb on playground structures. Also, the skill and coordination needed for complex physical activities may not allow for younger children to participate safely (National Resource Center for Health and Safety in Child Care and Early Education, 2017). However, teaching or expecting these skills to develop before children are developmentally ready is more likely to cause frustration than long-term success in organized sports (Stryer, Toffler, & Lapchick, 1998). It is important for caregivers to provide developmentally appropriate games and activities for children and to offer plenty of opportunities to practice, to make mistakes, and to receive positive feedback when trying new things.

Area 2: Physical Well-Being and Motor Development

Small Motor Development - Infant and Toddler (birth - 3 years)

Standard 2.3.IT Infants and toddlers develop small motor skills.

Rationale - Why is this important for a child?

Small motor development includes skills related to the muscles in our fingers and hands, such as picking up and holding objects. With the development of small motor skills, the infant gains self-help skills, including eating and picking up toys. Small motor skills affect the development of self, reasoning, and social skills (Smitsman, 2004). After learning to reach, grasp, and pick up an object, an infant can use the object to learn its properties, such as whether it is hard, soft, sweet, or cold. When an infant learns to bring her or his hands together, the infant can take part in social activities such as clapping. These games, in turn, promote additional adult-infant interactions. Large motor and small motor development depend on maturing, development of visual perception skills, and a variety of experiences to affect the development of small motor skills (Smitsman, 2004). As infants and toddlers practice small motor skills, they build the necessary movements for early writing experiences.

Area 2: Physical Well-Being and Motor Development

Small Motor Development - Preschool (ages 3 - 5)

Standard 2.3.PS Children develop small motor skills.

Rationale - Why is this important for a child?

Small motor skills require a child to handle and work with objects using accurate, controlled, and precise movements. With practice, children also become skilled in self-care skills, including buttoning, snapping, and zipping. By manipulating small objects, such as stringing beads, young children gain small muscle control to perform more complex tasks (Case-Smith & Pehoski, 1992). With experience, young children gain skills to use tools to eat, draw, and paint (Henderson & Pehoski, 1995). Early scribbles become letter-like forms as children watch caregivers write (Iowa Department of Education, 2001). These skills provide the basis for handwriting and other small motor skills needed for success in daily life and in school. Adults can support development of small moto skills by providing a variety of age-appropriate materials and many opportunities for play and exploration.

Area 3: Approaches to Learning

Curiosity and Initiative - Infant and Toddler (birth - 3 years)

Standard 3.1.IT Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills.

Rationale - Why is this important for a child?

Infants and toddlers are naturally motivated to explore the world around them. They investigate and engage with objects and people in their environment, and gather knowledge in the process. Even the youngest children make active choices and decisions (Lockhart, 2011). As part of exploring, infants typically put anything into their mouths. After repeated exposure to the same toys, infants and toddlers typically explore new ways to use these materials (Piaget, 1952). Toddlers may explore objects vigorously, occasionally breaking objects.

An infant gains interest to explore objects through experiences that are different from experiences that lead to exploring people (Wachs & Combs, 1995). Infants who spend a lot of time with caring adults who name, show, and demonstrate objects typically spend more time playing with adults and objects together. However, these infants spend less time exploring objects on their own. In contrast, infants typically spend more time exploring objects in environments with lots of interesting objects to explore. To build curiosity, interest, and initiative to explore new experiences by an infant or toddler, adults should regularly observe children. This information guides the adult to provide infants and toddlers with space, time, and materials to explore, as well as opportunities to play jointly with adults and objects.

Area 3: Approaches to Learning

Curiosity and Initiative - Preschool (3 - 5 years)

Standard 3.1.PS Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and in learning new skills.

Rationale - Why is this important for a child?

The internal conflict of initiative versus guilt is central to the preschool years (Erikson, 1950). Initiative - trying new and familiar skills - is a key part of the development of competence. When a child experiences many failures - especially those the child believes is his or her fault - the child is less likely to try new experiences and to learn new skills. Children who hesitate and avoid new experiences often experienced repeated failures (Smiley & Dweck, 1994). Children are more likely to initiate and to explore activities when they see the results depend on their actions (Bandura, 1997). Caring adults influence this development by providing a variety of materials for play and exploration that encourage children to try new experiences at which they are likely, with effort, to be successful (Kopp, 1991). Children are more likely to repeat experiences when adults give encouragement and feedback that links their effort to results (Skinner, 1995). Caring adults can help children learn how to think in concepts and to remember new information by answering the "why" questions about the way the world works (Siegler, DeLoache, & Eisenberg, 2006). There is always a sociocultural (combining social and cultural) component to the development and expression of imagination, which is an important element of curiosity and initiative (Eckhoff & Urbach, 2008).

Area 3: Approaches to Learning

Engagement and Persistence - Infant and Toddler (birth - 3 years)

Standard 3.2.IT Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines.

Rationale - Why is this important for a child?

Learning occurs when children can handle and choose materials, and can freely use their entire bodies and all their senses (Lockhart, 2011). Infants and toddlers usually show pleasure when they are successful at manipulating their environment and at overcoming barriers to reach a goal. Infants and toddlers are motivated to explore their surroundings, to overcome obstacles, and to master their environment (White, 1959). Early persistence by infants and teaching by adults predict intellectual abilities of children at 14 months (Banerjee & Tamis-LeMonda, 2007).

Toddlers differ in their interest in engaging and persisting in activities as a result of differences in personality and in the styles of caregiving they receive (Stipek & Greene, 2001). Toddlers show more persistence in activities when caregivers promptly respond to requests for help (Lutkenhaus, 1984). Adults foster engagement and persistence by providing enough interesting materials for young children to use, and time for them to explore the materials as long as they are interested. Adults may need to provide physical adaptations to enable each child to engage and to persist in the exploration of materials.

Area 3: Approaches to Learning

Engagement and Persistence - Preschool (3 - 5 years)

Standard 3.2.PS Children purposefully choose and persist in experiences and play.

Rationale - Why is this important for a child?

Children who believe success depends on their efforts and that they are capable of success are more likely to be persistent (Bandura, 1997). Young children who are given some independence are more likely to complete tasks (Grolnick, Frodi, & Bridges, 1984). The ability to focus attention and to concentrate increases academic learning, including acquiring language skills and problem solving, as well as social skills and cooperation (Bono & Stifter, 2003; Landry, Smith, Swank, & Miller-Loncar, 2003; Murphy, Laurie-Rose, Brinkman, & McNamara, 2007). There is a very rapid increase in impulse control during the preschool years (Jones, Rothbart, & Posner, 2003). Play provides an appropriate setting for learning about active involvement, to persist, and to take risks. When children participate with adults in playful learning activity, children learn and develop thinking abilities (Siraj-Blacksford, 2009).

Caring adults encourage persistence by guiding children to tasks where their efforts are likely to bring success. Adults give only the minimum help necessary to complete a task. They give specific feedback to children that success is due to efforts (Skinner, 1995). Offering a variety of planned play experiences supports each child's most favorable physical, mental, emotional, and social development.

Area 3: Approaches to Learning

Reasoning and Problem Solving - Infant and Toddler (birth - 3 years)

Standard 3.3.IT Infants and toddlers purposefully demonstrate strategies for reasoning and problem solving.

Rationale - Why is this important for a child?

Infants show the beginning of problem solving when they use a series of actions to reach a goal, such as pulling a string to reach an attached toy (Piaget, 1952; Lockman, 2002). Infants will imitate problem-solving behaviors shown by others if the behaviors are within their abilities (Meltzoff, 1988). Toddlers deliberately vary their actions, observing the effects of each change in trial and error. Through active experimentation with materials, infants and toddlers think through trial and error solutions with similar materials (Uzgiris & Hunt, 1975).

Caring adults help young children develop reasoning and problem solving skills by making problem solving opportunities available as children explore a wide variety of materials. Caring adults can encourage infants and toddlers to experiment to find solutions by not intervening too quickly to solve problems for them. Caring adults can help infants and toddlers notice the results of their experiments (Piaget, 1980). During problem solving opportunities, adults talk through solutions and display appropriate behavior.

Area 3: Approaches to Learning

Reasoning and Problem Solving - Preschool (3 - 5 years)

Standard 3.3.PS Children demonstrate strategies for reasoning and problem solving.

Rationale - Why is this important for a child?

Problem solving is natural for young children, because so much of the world is new. Problem solving is learned through daily routines and play experiences involving issues important to the child. Allowing children the freedom to explore and to play promotes skills needed to reason and to solve problems (Bruner, 1973; Lockman, 2002). At the same time, children who repeatedly experience failure and criticism are less likely to attempt new problems (Smiley & Dweck, 1994). “Playful, negotiatory, flexible, mindful interaction early on may become a model later for what you do when you encounter problems” (Bruner, 1985, p.905). Through active experimentation with materials, children use trial and error to think through solutions.

Caring adults help young children develop reasoning and problem solving skills by using problem solving opportunities while children explore and play with a wide variety of materials, and by not intervening too quickly to solve problems for them (Piaget, 1980). During problem solving opportunities, adults can enhance problem-solving skills for preschoolers by giving hints, talking through possible solutions, and by displaying appropriate behaviors (Joh et al., 2010; Bascandziev & Harris, 2010).

Area 3: Approaches to Learning

Play and Senses - Infant and Toddler (birth - 3 years)

Standard 3.4.IT Infants and toddlers engage in play to learn.

Rationale - Why is this important for a child?

Play is fundamental and essential for infants and toddlers to develop healthy active brains, bodies, and relationships (Ginsberg, 2007). Children learn about themselves and the world through self-created experiences, play, and positive social interactions with other children and with nurturing adults. For infants, play is voluntary and self-motivating (Young & Hauser-Cram, 2006). Through play, infants and toddlers typically build understanding and skills in intellectual, communication, motor, social, and emotional development. Piaget (1971) argued that play allows infants and toddlers to build understanding of how things work; including their own bodies, and allows them to test their understandings. Infants and toddlers who are allowed to spend most of the day freely moving arms and legs, while exploring their physical environment designed for maximum safety, develop the most advanced motor and cognitive skills needed for later development. Given time, space, supportive adults, open-ended materials, and safe, yet challenging environments, children develop confidence in themselves. They develop capabilities to master their environment. They develop deep-rooted connectedness to others and caring about others. They develop the ability to create and to spread environments of love, safety, security, and resilience (Ginsberg, 2007).

Area 3: Approaches to Learning

Play and Senses - Preschool (3 - 5 years)

Standard 3.4.PS Children engage in play to learn.

Rationale - Why is this important for a child?

Play is so important for the most favorable child development that it is included as a right of every child in the United Nations High Commission for Human Rights (Convention on the Rights of the Child, General Assembly Resolution 50/155 of 21, 1995). Research confirms and continues to explore and support the core value and positive benefits of play as a positive approach to learning for young children (Hyson, n.d.; Lifter, Foster-Sanda, Arzamarski, Briesch, & McClure, 2011). The most recent position statement on *Developmentally Appropriate Practice in Early Childhood Programs Serving Children Birth through 8* (NAEYC, 2009) describes the basic and long-term benefits of play that include the development of self-regulation skills, as well as language, intellectual, and social competence.

Research shows a relationship between play in the natural environment and the positive impact on social-emotional development (Weinstein, Przybylski, & Ryan, 2009), motor development (Fjørtoft, 2001), and intellectual development (Wells & Evans, 2003). Outdoor play also boosts exercise levels that help children reduce body fat (Moore, Gao, Bradlee, Cupples, Sundarajan-Ramamurti, Proctor, & Ellison, 2003). Outdoor play can help children maintain healthy weight, build stronger muscles and bones, and reduce blood and cholesterol levels. A recommended daily dose of at least one hour of outdoor play helps young children achieve healthy fitness levels (NASPE, 2003).

Area 4: Social Studies

Awareness of Family and Community - Infant and Toddler (birth - 3 years)

Standard 4.1.IT Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups.

Rationale - Why is this important for a child?

Infants and toddlers who have warm, nurturing relationships with parents/guardians and other adults develop better social skills than those with poor relationships. For very young children, acceptance, emotional attachment, and ongoing nurturing are the most important basis for building a sense of belonging. The way caring adults relate to an infant or toddler influences her or his feelings of safety, security, and belonging within various settings. Predictable routines help infants and toddlers adjust to settings, which builds the sense of belonging. Caring adults who nurture and respond to children's needs help infants and toddlers feel their needs are important and valued, which in turn creates a sense of belonging (Stratigos, Bradley, & Sumsion, 2014; Woodhead & Booker, 2008; De Schipper, Tavecchio, & Van IJzendoorn, 2008; Dykas & Cassidy, 2011, Edwards & Raikes, 2002).

Area 4: Social Studies

Awareness of Family and Community - Preschool (3 - 5 years)

Standard 4.1.PS Children demonstrate an increasing awareness of belonging to a family and community.

Rationale - Why is this important for a child?

Membership in a family contributes to a child's identity, which sets the stage for his or her confidence in interacting with others.

Successful participation by a child in a group involves confidence in expressing her or his own ideas and opinions, while respecting ideas and opinions of others. Successful participation develops empathy and cooperation, group problem solving, group decision-making, and valuing ideas such as fairness and individual rights (Cooper, 1980; DeVries & Zan, 1994; Marcus, Teller, & Roke, 1979; Parsons, Young, Murray, Stein, & Kringelbach, 2010).

Area 4: Social Studies

Awareness of Culture - Infant and Toddler (birth - 3 years)

Standard 4.2.IT Infants and toddlers demonstrate a strong sense of self within their culture.

Rationale - Why is this important for a child?

Culture is “a set of values, beliefs, and ways of thinking about the world that influences everyday behavior” (Trumbull, Rothstein-Fisch, Zepeda, & Gonzalez-Mena, 2005, p.3). “Culture is transmitted from one generation to the next in multiple ways, both explicitly - in conversations and direct guidance - and implicitly - in daily practices such as child-rearing” (Trumbull, Rothstein-Fisch, Zepeda, & Gonzalez- Mena, 2005, p.3).

Infants and toddlers develop a sense of culture at a very young age. Infants and toddlers become aware of cultural surroundings through the language they hear, and how family and adults behave around them in caregiving. They become aware through interaction with others, expectations about learning and abilities, and through important stories and traditions. “Through culture, children gain a sense of who they are, a feeling of belonging, what is important, what is right and wrong, how to care for themselves and others, and what to celebrate, eat, and wear” (Mangione, 1995, p.ix). Providing consistent connections (continuity) between home and early care and education environments is essential. The process of adopting the cultural traits or social patterns of another group occurs, even while exposure to differences is certain and healthy (Day & Parlakian, 2004; Maschinot, 2008; Quintana, Aboud, Chao, Conteras-Grau, Cross, Hudley, & Vietze, 2006; Rothstein-Fisch, Greenfield, Trumbull, Keller, & Quiroz, 2010).

Area 4: Social Studies

Awareness of Culture - Preschool (3 - 5 years)

Standard 4.2.PS Children demonstrate an increasing awareness of culture and diversity.

Rationale - Why is this important for a child?

Culture is "a set of values, beliefs, and ways of thinking about the world that influences everyday behavior" (Trumbull, Rothstein-Fisch, Zepeda, & Gonzalez-Mena, 2005, p.3). Every individual is rooted in culture, and culture influences every aspect of human development. Culture is learned through repeated, daily interactions children have with the people around them. Children gain cultural knowledge as they develop language, learn concepts, and experience caring relationships from parents and guardians, family members, teachers, and other people around them (Office of Head Start, 2008; Office of Head Start, 2015).

The population of Iowa and the United States is growing increasingly diverse, with the fastest and most diverse growth among children (Child and Family Policy Center, 2012). This diversity includes a variety of cultures, languages, races, religions, abilities, and family structures (Konishi, 2007). Young children in the United States are "not only oriented by their own multiple cultures, such as race, ethnicity, age, gender, and family, but also by living and learning within a socioculturally [combination or interaction of social and cultural elements] conditioned world filled with many different conditions of cultural difference" (Hyun, 2007, p. 262). Children in such a diverse world feel differently in different places, see things from different perspectives, interact with others in different ways, and listen to different languages patterns as they grow up (Hyun, 2007).

Area 4: Social Studies

Exploration of the Environment - Infant and Toddler (birth - 3 years)

Standard 4.3.IT Infants and toddlers explore new environments with interest and recognize familiar places.

Rationale - Why is this important for a child?

Self-directed exploration and play depends on functioning senses and motor skill development. It is also dependent on a child's comfort and security as well as her or his ability to acquire information through all five senses. Infants and toddlers who are comfortable and secure are more likely to explore new places and to take risks. Infants and toddlers who are allowed to spend most of the day freely moving their arms and legs, as they explore and play within a physical environment planned for maximum safety, develop the most advanced motor and mental skills needed for later development. Exploration increases the richness of experiences and promotes brain development by providing more and varied stimulation (Bowlby, 1988; Gallagher, 2005; Hopkins, Dore, & Lillard, 2015; Lillard, 2015; Paley, 2004; Woolley, & Lillard, 2015).

Area 4: Social Studies

Awareness of the Relationship Between People and the Environment in Which They Live - Preschool (3 - 5 years)

Standard 4.3.PS Children demonstrate an increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment.

Rationale - Why is this important for a child?

As children move in the world, they develop awareness of the environments where they live. Over time, these environments become familiar and new ones are explored. Young children need to think about their surroundings and how settings are different, such as how a library is different from a store. Thinking and forming concepts about environments are shaped by observations of the world around them, and how they move and interact within that world. These perceptions become memories and are used to form ideas about the world, including awareness of environmental issues (Cohen & Horm-Wingerd, 1993, DeLoache & Brown, 1983; Pyle, 2002). Just as relationships with adults and other children shape a child's growth and development, so do relationships with their environment and the world around them.

Exploring different settings helps children learn about the roles people play, such as doctors, firefighters, or teachers. As children learn about these roles, they imitate them during play experiences. Caring adults can talk with children about the roles adults play and the value for communities. Adults can help children learn about roles and job responsibilities by creating opportunities for children to help.

Area 4: Social Studies

Awareness of Past - Preschool (3 - 5 years)

Standard 4.4.PS Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community.

Rationale - Why is this important for a child?

Children's experiences shape, and even determine, what they learn. Experiences happen as a chain of events. As memory develops and thinking skills improve, children can reflect on past events and experiences and "re-experience" by feeling again the emotions from that event, retelling the stories of the event, and making connections between past events and what they are thinking and feeling at the moment (Bernier, Carlson, Deschênes, & Matte-Gagné, , 2012).

Past events are what we call history, which includes the development of historical knowledge and the use of historical knowledge to make sense of the present. For young children, first explorations with historical knowledge begin with memories of personal experiences and sharing those memories through creative expression like drawing a picture, play-acting, or retelling a story (Ellis, Boyce, Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2011). The ability to reflect on the past and to make it usable for the future is an important part of learning and is essential for development, even survival. For example, a child may burn himself or herself on a stove and then recall the event to learn that the stove, when hot, is a source of pain.

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Area 5: Creative Arts

Art - Infant and Toddler (birth - 3 years)

Standard 5.1.IT Infants and toddlers participate in a variety of sensory and art-related experiences.

Rationale - Why is this important for a child?

In the first year of life, art takes the form of sensory experiences. Infants use sight, taste, touch, and hearing to explore a variety of materials. There is a connection between these sensory experiences, such as looking in a mirror or shaking a rattle, that supports the development of creativity (Herr & Swim, 2002). In addition, handling a variety of play materials builds the small motor skills necessary for writing and art experiences.

Older infants and toddlers explore art through using tools, such as crayons or brushes; or through direct handling of materials using their hands to explore clay, playdough, or finger-paint. Through scribbling, infants and toddlers learn what writing materials can do. From repeated exposure to art materials, infants and toddlers gain control of their movements and begin to intentionally plan and direct their use of materials (Lowenfeld & Brittain, 1987). Art by infants and toddlers is affected by the development of small motor skills, understanding, and perception, as well as through experience with specific materials (Seefeldt, 2005). Caring adults help young children develop art skills by providing repeated opportunities to explore both new and familiar media such as dough, clay, crayons, and paint. Caring adults individualize plans to enable each child to acquire skills in manipulating art media. It is important to focus art experiences on a child's explorations and creations, rather than completing adult-directed projects.

Area 5: Creative Arts

Art - Preschool (3 - 5 years)

Standard 5.1.PS Children participate in a variety of art and sensory-related experiences.

Rationale - Why is this important for a child?

Through repeated experiences, young children gain skills in using a variety of materials for art, such as drawing materials, clay or playdough, and paint. Young children move from scribbling to exploring the properties of the material used, and to more representative efforts (Kellogg, 1967). Through the arts, children learn to communicate ideas and experiences while they make choices, gain motor coordination, and explore the physical properties of materials (Althouse, Johnson, & Mitchell, 2003). As children work through plans to build a structure from blocks or to paint a picture, they build intellectual skills (Seefeldt, 1995). Caring adults can support the exploration of art and sensory materials through having a variety of materials available, as well as plenty of time for creation.

As children explore writing and drawing materials, their drawings start out simple, and may include scribbling, but move into complex pictures as children's small motor skills and knowledge increase. A child's development of small motor skills will influence his or her writing and drawing capabilities. In addition, exploring art and sensory materials can build scientific thinking and vocabulary as children experience the properties of various items and talk with adults about what they experience.

Area 5: Creative Arts

Music, Rhythm, and Movement - Infant and Toddler (birth - 3 years)

Standard 5.2.IT Infants and toddlers participate in a variety of rhythm, music, and movement experiences.

Rationale - Why is this important for a child?

Infants are sensitive to musical sounds and patterns, even before birth. Young infants move their bodies rhythmically to music and can respond to patterns in songs (Trehub, 2001). Simple rhythmic songs with repeated phrases and rhymes help infants and toddlers learn language patterns, including sound (phoneme) patterns (Lerner, 2010). Traditional baby games and rhymes help babies learn language and to have fun. Babies learn to anticipate through highlights and patterns (Bardige, 2009). Moving to music helps infants and toddlers develop large muscle control and dexterity (Weikart, 1998). Musical play comes naturally to children, encourages life skills, and offers opportunities for social interaction (Crowe, 2010). Adults help children develop skills in music and movement by providing daily and repeated opportunities to sing, to chant, and to move to new and familiar songs and music. Music engagement is central to the cultural practices and circumstances of many young children's experiences (Barrett, 2011). Music is also a wonderful tool to help toddlers identify and to understand the emotions they experience, while learning to cope with and to control their worlds. This is done by easing transitions and recognizing patterns throughout the day (Pruett, 1999).

Area 5: Creative Arts

Music, Rhythm, and Movement - Preschool (3 - 5 years)

Standard 5.2.PS Children participate in a variety of music and movement experiences.

Rationale - Why is this important for a child?

A large body of research reveals that children learn in, and through, music. Musical activities such as singing, dancing, or rhythmic movement, and playing or listening to music promotes additional learning in a variety of areas, including reaching conclusions or explaining things because of an experience (Rauscher, Shaw, Levine, Wright, Dennis, & Newcomb, 1997). An important finding in recent brain research shows that music and music experiences help develop both sides of the brain and contribute to children's social/emotional, physical, mental, and language development (Dodge, 2016). Music provides opportunities for children to connect with their home language and culture, as well as the multiple languages and cultures within their community. In addition, music is a tool to promote social-emotional development, including self-control (Scripp, 2002). Hearing playful songs and rhymes, including traditional songs and rhythms, develop lifelong sensitivity and imagination, as well as a sense of wonder and love of singing and dancing (Feierabend, 2006). Adults can support music and movement by providing a variety of experiences throughout each day using child-appropriate music and materials.

Area 5: Creative Arts

Dramatic Play - Infant and Toddler (birth - 3 years)

Standard 5.3.IT Infants and toddlers engage in dramatic play experiences.

Rationale - Why is this important for a child?

Most infants develop the ability to imitate what they see and then imitate what they recall. Some infants and toddlers prefer to use real-life props and objects in their play. Older infants and toddlers learn to let one object stand for another such as using a block on a plate to represent a piece of cake (Paley, 2004). Other infants and toddlers focus on objects, people, and events not present at that time, which results in fantasy play or make-believe. They also act out sequences of actions they observe, as well as new patterns they plan. Later, they may act out sequences of actions involving objects (Sluss, 2014). Occasionally, these play sequences involve other infants and toddlers. These actions help children develop motor, mental, social, emotional, and communication skills (Deiner, 2008). Adults support infants and toddlers in dramatic play experiences using a variety of props and by interacting within dramatic play experiences.

Area 5: Creative Arts

Dramatic Play - Preschool (3 - 5 years)

Standard 5.3.PS Children engage in dramatic play experiences.

Rationale - Why is this important for a child?

Dramatic play, socio-dramatic play (the most advanced form of dramatic play where children carry out imitation and drama and fantasy play together; which involves role playing in which children imitate real-life people and their own personal experiences), symbolic play, and pretend play are varied terms that describe or refer to play that involves pretending or the use of symbols that represent something real. The importance of dramatic play to all areas of early development is well documented (Bodrova & Leong, 2005; Hughes, 2010). Its potential to address academic goals in school settings is also found in educational and professional literature (Barnett, Jung, Yarosz, Thomas, Hornbeck, Stechuk, & Burns, 2008; Bodrova, 2008). Some authors find a close relationship between various types of dramatic play and specific curricular areas for typically developing children and those with special needs (Bray & Cooper, 2007; Brown, Remine, Prescott, & Rickards, 2000; Burns, 2008; Kim, 2005; Oliver and Klugman, 2006)

Dramatic play (Howes, 1992) helps children learn to communicate, to control and compromise, and to explore intimacy and trust. In socio-dramatic play, children assume different roles from their experiences, and use their understandings to act out a variety of emotions and social relationships. Children who engage in dramatic play typically show more advanced skills in seeing the perspectives of others and in getting along with peers (Garvey, 1990).

Area 6: Communication, Language, and Literacy

Language Understanding and Use - Infant and Toddler (birth - 3 years)

Standard 6.1.IT Infants and toddlers understand and use communication and language for a variety of purposes.

Rationale - Why is this important for a child?

Through interaction with caring and nurturing adults, infants and toddlers acquire both listening (receptive language) and speaking (expressive language) vocabulary. Young infants typically make sounds, take turns in 'conversations' with adults, and respond to adult spoken conversations (Hibrink, Gattis, & Levinson, 2015; Lock, 2004). Older infants use gestures, such as pointing or reaching up, as part of communication (Camaioni, 2004). Infants typically develop some listening vocabulary before their first birthday. Most infants move from one-word to two-word to three-word phrases while some toddlers begin talking in sentence-length phrases (Camaioni, 2004). Language use influences and is influenced by intellectual development (Shonkoff & Phillips, 2000). When adults talk to infants and toddlers during routine experiences such as diaper changing, dressing, or feeding, infants and toddlers develop larger vocabularies (Hoff-Ginsberg, 1991). Adults influence the types, use, and rate of learning language, especially when they focus on conversations within play experiences that interest the infant (Hart & Risley, 1995).

In recent years, an increase in the language, ethnic, and cultural diversity of infants and toddlers in Iowa early care and education programs occurred. Dual language acquisition - the development of skills and knowledge in two or more languages during the first five years of life - is not uncommon and is based on exposure to, and use of, two or more languages. The language developmental paths may differ from each child based on the variability of an infant's and toddler's experiences and exposure to various languages. However, early exposure, whether immediate or consecutive, can lead to the ability to speak two languages easily (Hammer et al., 2014; Hoff et al., 2014; Ramírez-Esparza, García-Sierra & Kuhl, 2017). Sometimes young children will mix up the two languages as they use them (called "code switching"). This is normal and not a sign of any difficulty in language development (Genesee, Paradis, & Crago, 2004).

Building relationships with families who come from non-dominant cultures or who use language other than English is a prerequisite to help programs support language development and results in better outcomes for children (Tabors, 2008). It is important for early learning programs to make a special effort to gather specific information about families, what languages are used and how often languages are spoken at home (PLA, n.d.). Adults need to understand the advantages of maintaining and using a child's primary home language, as well as how infants and toddlers learn a second language. Use of a child's home language supports infant and toddler development through building a sense of self within his or her family (Pearson & Mangione, 2006). Young children can learn two languages at the same time, although there are individual differences in the rate and manner of learning the languages.

It is important for adults to understand that communication patterns and expectations vary between cultures (Rogoff, Mistry, Goncu, & Mosier, 1993). Expectations for verbal versus non-verbal responses, and whether a child speaks before being spoken to are examples of cultural differences. Caring adults need to make decisions about communication based on the family's beliefs, values, and practices in regard to child development and learning (Division of Early Childhood, 2004).

Adults must monitor and respond to signs of early hearing problems in infants and toddlers because hearing problems can limit language, mental, social, and emotional development. Children with any degree of hearing impairment benefit from early intervention services (Farran, 2000; Stika et al., 2015). Adults can use sign language and adaptive communication devices to support development of communication skills in children with hearing impairments and/or communication delays. Increasing family literacy involvement can benefit children's intellectual and social emotional skills during the early childhood years (Baker, 2013).

Area 6: Communication, Language, and Literacy

Language Understanding and Use - Preschool (3 - 5 years)

Standard 6.1.PS Children understand and use communication and language for a variety of purposes.

Rationale - Why is this important for a child?

During the preschool years, children increase their understanding and use of sentences with greater length and sentence difficulty. They also increase in their ability to use language appropriately and effectively in a variety of social settings (Snow, Burns, & Griffin, 1998). Communication occurs both verbally and non-verbally. Although most children move from non-verbal to verbal communication, some children need non-verbal communication aids, such as sign language, picture communication systems, or communication devices. Vocabulary growth is rapid during the preschool years, but varies widely among children due to different cultural and financial backgrounds (Hart & Risley, 1995). For this reason, programs must intentionally expose children to a wide variety of experiences, and then supplement those experiences by describing them using a rich vocabulary (Wright & Neuman, 2015).

Oral language is especially important as a foundation for future reading because it serves as the main basis for learning words and how to put words together to make meaning in expressive and open communication (NELP 2008, Schickedanz & Collins, 2013; Whitehurst & Lonigan, 1998). Though often verbal, most children ages three to five still learn how language works and the rules surrounding it. It is important to provide obvious opportunities that support oral language through regular, deep, and broad conversations (Massey, 2004). Development of reading skills also builds oral language skills, such as teaching young children phonics and use of the alphabet (26 letters represent 44 sounds in the English language), sharing books, and use of technology to support learning (NELP, 2008).

Equally important is the development of background knowledge. Background knowledge is information children know, based on their everyday experiences, what people tell them about what is happening, in response to their questions. Children learn by connecting what they learn to something they already know, so a rich knowledge base is an important basis for reading comprehension and most other learning (Duke, Halvorsen, & Knight, 2012; Pinkham, Kaefer, & Neuman, 2012).

Recent trends in population change show a dramatic increase in race, ethnicity and language among children (Banerjee & Luckner, 2014; Krogstad, 2016). This presents both a challenge and an opportunity for early childhood programs. Many preschool settings are structured to operate according to a well-established school culture. Children in these settings, who are from different race, ethnicity, and language backgrounds, may experience cultural conflicts because of their different ways of learning and communication.

For young children, the language of the home is the language they use to make and establish meaningful relationships (Chang, 1993). The ongoing support and development of the home language serves as a foundation for learning English. Maintaining a child's home language allows children to stay deeply connected to their families, as well as builds skills to use more than one language (Bialystok, 2001; DeBruin-Parecki & Slutzky, 2016; Paradis, Genesee, & Crago, 2011). Supporting home language is actually useful to help learn English and to support other academic skills (Burchinal, Field, López, Howes, & Pianta, 2012).

A child's ability to learn increases when an adult supports the child's use of home language. Learning a second language is sometimes difficult and people progress at different rates in learning both first and second languages. Children need opportunities to verbalize awareness of language differences and to understand the value of all languages. Learning through shared experiences helps children become more competent learners as they use more than one language, including their culture (California Department of Education, 2009; Guiterrez, Bien, Selland, & Pierce, 2011).

Area 6: Communication, Language, and Literacy

Early Literacy - Infant and Toddler (birth - 3 years)

Standard 6.2.IT Infants and toddlers engage in early reading experiences.

Rationale - Why is this important for a child?

The benefits to Infants and toddlers from shared book experiences include increased communication, vocabulary, and other early literacy skills (Bus, Belsky, van IJzendoorn, & Crnic, 1995; Murray & Egan, 2014). The American Academy of Pediatrics (AAP) considers early reading experiences so important that it recommends pediatricians to 'prescribe' reading for children (AAP, 2014). Shared book experiences are important for infants and toddlers to develop book knowledge, such as holding and turning pages of board books; and because earlier experiences are more likely to have effective results (NELP, 2008). Book reading is also connected with early awareness of sounds and rhymes. Exposure to nursery rhymes, rhyming songs, and word games influences the development of phonemes (sound) awareness and eventual reading skills (Bryant, MacLean, Bradley, & Crossland, 1990).

Responsive and caring adults who talk with toddlers about events and objects not present at the time (decontextualized language) also help build children's later reading skills (Dickinson & Tabors, 2001). When adults create opportunities for joint attention and interaction while they read, they increase opportunities for children to talk. Research shows that intervening earlier - before the age of three - rather than later, is beneficial for promoting language development (NELP, 2008). Talking builds a toddler's interested and animated vocabulary, which is an important prerequisite for later reading skills (Farrant & Zubrick, 2011; Whitehurst & Lonigan, 1998). Recent research shows it matters how adults read with infants and toddlers, and not just that they do, showing the effectiveness of reading styles that include warm interactions, responsiveness to children, frequent conversations, and referring to print while reading (Farrant & Zubrick, 2011; Sim et al., 2014).

Area 6: Communication, Language, and Literacy

Early Literacy - Preschool (3 - 5 years)

Standard 6.2.PS Children engage in early reading experiences.

Rationale - Why is this important for a child?

Early (emergent) literacy skills build on a child's understanding and use of language. Language skills are linked to the development of reading, especially comprehension (Cain, 2015; Catts et al., 2002; Neuman & Dickinson, 2001). Adults who talk with children about current and past events, people, and objects, help children build their language skills. Conversations that analyze a story, with back-and-forth exchanges between adults and children during book reading, also help children increase their vocabulary, oral language skills, and print knowledge (Dickinson and Sprague, 2001; NELP, 2008). When a child participates in conversation during storytelling, and is coached to become the storyteller and to link the story to the child's life, it appears to increase the child's vocabulary (NELP, 2008). There is an equal effect at work: shared reading boosts oral language and vocabulary, and stronger oral language skills predict later reading skill.

Additional predictors of early reading include alphabet knowledge, phonological (speech patterns and pronunciation) awareness, and writing growth (NELP, 2008; Whitehurst & Lonigan 2001). Children able to name ten or more letters are generally not at risk of later reading difficulties (Piasta, Petscher, & Justice, 2012). Phonological processing involves the sensitivity to, manipulation of, and use of sounds in words, and requires understanding of the sounds of language. Phonological awareness includes recognizing and producing rhymes, breaking words into syllables, and identifying words with the same beginning, middle, or ending sounds. Phonological awareness skills in preschool children often predict success in early reading skills (Cunningham, 1990; Whitehurst & Lonigan, 2001) especially with alphabet knowledge (Suortti & Lipponen, 2016). Listening to stories builds phonological awareness, listening skills, vocabulary, and comprehension (Jacobs & Crowley, 2007). Adults can naturally build awareness within children throughout the day during reading activities, telling stories, playing word games, and using rhymes and riddles (Morrow, 2014).

Area 6: Communication, Language, and Literacy

Early Writing - Infant and Toddler (birth - 3 years)

Standard 6.3.IT Infants and toddlers engage in early writing experiences.

Rationale - Why is this important for a child?

Infants and toddlers develop skills in using writing instruments, such as markers and crayons, as they manipulate and explore a variety of materials during play and routine experiences. In addition, caring adults help older infants and toddlers develop writing skills by providing opportunities to use markers, crayons, and paintbrushes in appropriate ways and with the grip most comfortable to the children. Children will use a variety of grasps as their small motor skills mature, starting first with a fist grasp while moving the whole arm and hand (Carlson & Cunningham, 1990). They will use writing materials in a variety of ways and their writing skills reflect their development in reasoning and understanding (Dyson, 2001). As toddlers move between scribbling and drawing, the markings may only have meaning to the children (Whitehurst & Lonigan, 2001), but the movement from scribbles to controlled markings to drawings and then to symbols (not all of which will occur before age 3) is clearly documented sequence in research (Trivette, Hamby, Dunst, & Gorman, 2013). It is important for adults to model writing behaviors to encourage children to imitate the behaviors (Hernik & Csibra, 2015; McCarty, Clifton, & Collard, 2001).

Area 6: Communication, Language, and Literacy

Early Writing - Preschool (3 - 5 years)

Standard 6.3.PS Children engage in early writing experiences.

Rationale - Why is this important for a child?

Learning to read and learning to write are similar and equally strengthening processes (Fitzgerald & Shanahan, 2000). Teachers need to emphasize both to promote early literacy. Early writing is a strong predictor of later reading (NELP, 2008). A child's attempt to write using scribbling, drawing, and pictographs often have meaning only to the child. Children may also use letters, numbers, and letter-like forms in their writing attempts (Puranik & Lonigan, 2011; Schickedanz & Collins, 2013). Children progress through several stages of writing and utensil grips as they practice skills (Carlson & Cunningham, 1990).

An understanding of the developmental order of writing is helpful to know how to support children on their journey to become writers. Support begins by encouraging and supporting early writing experiences (Cabell, Tortorelli, & Gerde, 2013). It is important to understand early efforts may not appear much like conventional writing. Young children may confuse writing and drawing. They may use characteristics of an object in early writing efforts, for example, the word ***horse*** may be bigger than the word ***dog***. Young children may also use letters to represent syllables. The use of invented spellings, in which the child may use unusual symbols, such as the first and last sounds to represent a word: BT for boat. Invented spellings are strongly related to reading and spelling skills in the early grades (Whitehurst & Lonigan, 2001).

Probably the first word a child writes is her or his name. Caring adults must make a special effort to support the child in accomplishing this task because it suggests the gaining of a number of key literacy skills (Haney, 2002). As children begin writing, they build an understanding the written word is made up of sounds that carry meaning (Jacobs & Crowley, 2007). Because children's extensive use of writing materials, prompted by adults, promotes development of writing and literacy skills, adults must provide children with the materials and opportunities to participate in writing activities (Trivette, Hamby, Dunst, & Gorman, 2013). As adults talk about letter sounds and draw attention to print in the classroom and outdoor setting, children build their phonological awareness (awareness of the sound structure of words, such as syllables) and early reading skills. Adults also support writing by helping children develop and refine fine motor skills by letting them practice finger dexterity, hand-eye coordination, and the grasping with the finger and thumb [pincer grasp] (Grissmer et al., 2010). Grissmer also found that fine motor skills, along with reading and other factors that may vary, were better forecasters of later academic learning than factors that may vary without fine motor skills. A final and key inspiration for children's writing is imitating the writing they see adults do. It is important for adults to model writing behaviors to encourage children to imitate the actions in their writing experiences (Gerde, Bingham, & Wasik, 2012).

Mathematics Processes for Infants and Toddlers

The National Council of Teachers of Mathematics (NCTM) stresses the importance of children learning not only math content, but also math processes. According to NCTM, mathematical processes include problem solving, reasoning, communication, connections, and representations. It may not seem infants and toddlers are capable of these actions, however, adults can provide many opportunities in daily experiences to lay the foundation for these processes. More advanced mathematical skills are based on an early math 'foundation' - just like a house built on a strong foundation. Of particular importance for infants and toddlers are the processes of making connections and representations; and problem solving.

For infants and toddlers, ***representation*** involves making mathematical ideas 'real' by using words, pictures, symbols and objects, such as blocks. It is closely related to ***connections*** and ***communication*** as adults may talk about pretend play and real situations in mathematical terms. For example, during a pretend picnic, the adult can say "Here are two plates, and two cups, and two forks. Now we have enough for both of us to have a picnic."

Infant and Toddler Standard 2.3 - *Reasoning* and *Problem Solving* states that Infants and toddlers demonstrate strategies for reasoning and problem solving. While not limited to mathematical thinking, these skills, reflecting a child's Approaches to Learning, will help form an important early math foundation. See **Area 2 - Approaches to Learning** for rationale, benchmarks, and ways for adults to support learning in mathematics.

Mathematics Processes for Preschoolers

For preschoolers, the National Council of Teachers of Mathematics (NCTM) also stresses the importance of learning not only math content, but also math processes. The NCTM Standards (2000, p.7) explain that mathematics content and processes are "inextricably linked" and the processes are "vehicles for children to deepen, extend, elaborate, and refine their thinking" in order to "explore ideas and lines of reasoning" (NRC 2009, 42). In their joint position statement, NCTM and the National Association for the Education of Young Children (NAEYC), stress that high quality mathematics instruction will strengthen children's skills in all of the mathematical processing areas (NAEYC & NCTM 2002, 3). In order for children to really 'learn' mathematics, they must use these processes to understand mathematical concepts.

According to NCTM, mathematical processes include *problem solving, reasoning, communication, connections, and representations.* The following definitions of these processes will help adults recognize when and how to incorporate the processes into mathematical learning opportunities.

Problem solving involves children identifying and understanding a problem, making a plan to solve it, carrying out the plan, and reviewing the results. A problem is a question that prompts someone to find a solution. Children show great differences in their 'dispositions' towards problem solving and benefit from opportunities to strengthen dispositions such as perseverance (grit), attention to task, risk taking behaviors, flexibility, and self-regulation.

Reasoning involves thinking through a question or a problem in order to arrive at an answer. Children who demonstrate reasoning are able to think logically, reflect on, explain, and justify their thinking. In order to developing reasoning skills, adults must listen to children's reasoning in order to understand and then to encourage more sophisticated reasoning.

Communication involves the sharing of thoughts, ideas, and feelings with others. When children communicate ideas about mathematics they communicate, clarify, organize, and combine their math thinking. When children communicate, adults can find out more about what children think and know, and other children can learn ideas that might be different from their own.

Connections link new learning and experiences to previous learning and experience. These connections help to bridge informal, experience-based mathematics, and more formal, school mathematics. Adults can use connections to make mathematics learning more meaningful.

Representations show thought about mathematical ideas in different ways and with a variety of tools. This enhances understanding of math by making mathematical relationships more obvious. ***Representation*** is also important for recording information, for communicating solutions, and for explaining reasoning.

It is important to carefully and fully incorporate math processes into the learning of young children. Processes often reflect what adults need to do in order to facilitate implementation of the processes. For this reason, separate standards related to math processes have not been developed. Instead, *italicized* references to the corresponding math process are found under the Adult Supports for each Preschool Math Standard.

Reference: Copley, J. V. (2010). *The Young Child and Mathematics,* 2nd edition. Reston, Virginia: National Council for the Teachers of Mathematics.

Area 7: Mathematics

Comparison, Number, and Operations - Infant and Toddler (birth - 3 years)

Standard 7.1.IT Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting.

Rationale - Why is this important for a child?

Infants and toddlers learn number skills as they work with small groups of objects in meaningful, routine tasks. Through rhymes, chants, and finger plays involving counting, they learn that numerals (numbers) have a constant sequence (order). In experiences that involve counting, children practice connecting numbers to objects as they begin to build the notion of one-to-one connections. Through repeated experiences of counting small groups of objects, they learn the last number in the counting sequence represents the total quantity, rather than the name of the last object (Gelman & Gallistel, 1978). Adults help children understand numbers and amount by providing many opportunities for children to explore and to count small groups of objects, and to hear and repeat familiar counting rhymes.

Comparison involves finding a relationship between two things or two groups of things. We know from behaviors that infants and toddlers are continually comparing objects, mentally grouping objects that are similar in shape, quantity, size, and texture (Thompson, 2001). Comparisons provide the basis for the development of measurement concepts and skills in older infants and toddlers. Adults who attach a verbal label to an object or comparison of focus to the infants or toddlers, such as big/small, heavy/light, hot/cold, help children build math-related vocabulary and understanding (Camaioni, 2004).

Area 7: Mathematics

Comparisons, Numbers, and Operations - Preschool (3 - 5 years)

Standard 7.1.PS Children understand counting, ways of representing numbers, and relationships between quantities and numerals.

Rationale - Why is this important for a child?

During the preschool years, children build basic understandings of numbers and amount ('how many'). These understandings differ from the understandings of older children and adults. Children initially build understanding of amount through their hands-on actions with objects. After repeated experiences with small quantities of objects, they build an understanding of specific numbers.

Children learn to count with understanding when they match the counting sequence, one-to-one, with a group of objects (NCTM, 2000). When adults help children link understandings with objects to conventional numbers, children advance understanding of quantity (Mix, Huttenlocher, & Levine, 2002). Counting from the first number, and counting on from one number to another, provides the basis for later skills in formal addition (Fuson & Fuson, 1992).

Number operations are the tools children use to answer questions such as "How many now?" or "How many more or fewer?" When children focus on what happens when two sets are joined together or separated into parts, they learn quantities change. Children need many experiences comparing amounts to become familiar with thinking about differences between sets (Erikson Institute, 2014).

Area 7: Mathematics

Patterns - Infant and Toddler (birth - 3 years)

Standard 7.2.IT Infants and toddlers begin to recognize patterns.

Rationale - Why is this important for a child?

Children's first encounter with patterns is not in school but in nature, at home, at play, and in stories (Copley, 2010). Patterning involves making or finding regular sequence in sounds, sights, or large/small motor experiences. Infants notice and remember patterns they see or hear. Infants visually group objects that are close together (Baillargeon, 1987). They recall and expect familiar sequences of events, such as the pattern of daily routines, and use memories to predict events and to respond accordingly. Learning to recognize, predict, and repeat patterns are a basic standard in mathematics education (NCTM, 2000).

Toward the end of their first year, many infants begin to figure out there is an order to their days (PBS.org/parents). Toddlers can organize objects and recognize patterns in a variety of ways. Toys, such as nesting cubes and stacking rings, help infants and toddlers explore and practice making patterns as well as practice seriation (placing objects in order such as from smallest to largest). Sorting objects into groups of similar objects also involves recognizing patterns. Toddlers may group objects by a variety of characteristics such as shape, colors, use, or size. With practice and development, infants and toddlers become better able to recognize, to create, and to extend patterns; and to organize objects in a variety of ways.

Area 7: Mathematics

Patterns - Preschool (3 - 5 years)

Standard 7.2.PS Children understand patterns.

Rationale - Why is this important for a child?

Recognizing patterns is an important forerunner to algebraic understanding (NCTM, 2000). Mathematics is the language and science of patterns (Copley, 2010). Patterns are everywhere in the curriculum. They appear in various sensations - auditory (hearing), tactile (touch), and kinesthetic (movement), and visual (seeing). Inviting young children to create a pattern musically (loud-soft-soft-soft, loud-soft-soft-soft) or physically (jump-jump-clap, jump-jump-clap), especially helps them recognize and understand patterns. (Copley, 2010). Recognizing patterns helps children organize their world and facilitates problem solving. Working with and recognizing pattern helps children see relationships between objects and to make predictions.

Seriation, or organizing objects into a sequence, is one pattern such as lining items up from big to little. Children can learn the order of numbers, first, second, third, to last, to describe the sequence of objects or events. Adults support the learning of patterns through talking about patterns during daily events and play experiences.

Area 7: Mathematics

Shapes and Spatial Relationships - Infant and Toddler (birth - 3 years)

Standard 7.3.IT Infants and toddlers show increasing understanding of spatial relationships.

Rationale - Why is this important for a child?

Young infants begin to recognize spatial (actual things that exist) relationships during play and routines. The development of binocular vision (seeing with two eyes), at about four months of age in most children, helps this skill (Slater, 2004). Infants usually reach for closer objects rather than ones that are further away. Infants and toddlers distinguish shallow surfaces from deep ones, and avoid deep steps when they see them (Gibson & Walk, 1960). There is research which suggests children who play outdoors are less likely to be near-sighted; thus impacting how they see shapes (McBrien, Morgan, & Mutti, 2009; Rose, Morgan, Ip, Kifley, Huynh, Smith, & Mitchell, 2008).

Working with both two- and three-dimensional shapes provides the basis for geometry (NCTM, 2000). Infants and toddlers learn to sort or group three-dimensional shapes based on their uses (Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). Infants and toddlers note and use shape differences before they have labels for shapes. For example, they may separate objects into those that roll and those that do not roll. Adults help children learn about shapes by providing a variety of toys and materials for young children to explore, compare, and classify, including puzzles and sorting canisters. Adults also help children understand shapes by labeling shapes children explore, and by using words that suggest comparisons, such as bigger or smaller. Adults also use directional words such as in, on, under, up, or down, in simple directions and in conversations with young children (Clements & Sarama, 2014).

Area 7: Mathematics

Shapes and Spatial Reasoning - Preschool (3 - 5 years)

Standard 7.3.PS Children understand shapes and spatial relationships.

Rationale - Why is this important for a child?

Recognizing shapes is the beginning of geometric understanding. The understanding of shapes requires children to actively manipulate shapes and to explore the characteristics and parts of shapes, rather than simply seeing and naming the shapes (Clements, 2014). Children's concepts of shape may differ from mathematical concepts. This means children may limit triangles to only equilateral triangles, or not to classify squares as rectangles. Instruction from adults is needed to help children progress from recognizing shapes to understanding the characteristics of shapes.

Spatial relationships involve ideas related to position such as on, under, next to; direction; and distance such as near, far, next to, close to, of objects in space. Children develop understanding of space from actively manipulating materials and their own spatial environments (Clements & Battista, 1992). Spatial visualization involves seeing an object from different perspectives, and building and changing mental representations of both two and three-dimensional objects (Clements & Sarama, 2014). Through geometric modeling (methods and step-by- step sets of operations for the mathematical description of shapes) and spatial reasoning (visualizing three-dimensional images and mentally twisting and turning into other shapes), children learn to describe their physical environment and to build problem solving skills (NCTM, 2000).

Area 7: Mathematics

Measurement - Preschool (3 - 5 years)

Standard 7.4.PS Children understand comparisons and measurement.

Rationale - Why is this important for a child?

Children organize their experiences through sorting and classifying. Learning vocabulary words related to matching and comparisons helps children focus their attention and find similarities between objects (Sandhoffer & Smith, 1999). Making comparisons, such as similarities and differences, provides a basis for making patterns and generalizations. Exploring graphs provides a basis for understanding numbers, differences in amount, and probability (strong likelihood or chance of something).

Measurement, which provides a basis for comparison, is one of the most widely used applications of mathematics (NCTM, 2000). Children begin to understand measurement by comparing the size of objects. Young children experiment by lining up objects, and then begin to connect number to length as they use nonstandard measurement tools, such as links, blocks, or rods. Experimenting with tools that give different results, such as sometimes measuring with links and later measuring the same object with rods, is an essential step to understand why standard measuring rulers and measuring tapes are important for comparing measurements. Children also benefit from exploring and using tools with uniform units, such as rulers and centimeter cubes, as their measurement ideas and skills develop (Clements, 2003; Clements & Sarama, 2014). Young children explore measurement concepts through exploring and manipulating a variety of objects and materials within their environments. Children need hands-on experiences with objects and use of words by adults to learn how to describe relationships involving measurement.

Children's initial ideas about the size or quantity of an object are based on perception. They think one object is bigger than the other object because it looks bigger. (Copley, 2010). They need many experiences in making comparisons and conversations - using sight, touch, and words - to help reach the right conclusion and that it was measured fairly (Erikson, pg. 103).

Time is a difficult measurement concept for children to learn because it is not a physical attribute of objects. Telling time develops well after kindergarten, although preschoolers develop an understanding of the passage of time as they go through predictable daily routines (Geist, 2009).

Area 7: Mathematics

Data Analysis - Preschool (3 - 5 years)

Standard 7.5.PS Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers.

Rationale - Why is this important for a child?

Children formulate meaningful questions, collect, represent, and analyze data to answer them. These questions relate to the child's world, such as "How many children have birthdays in April?" or "How many children are wearing shoes that tie?" Because these types of questions are important to young children, they focus their attention on collecting and organizing relevant information. Allowing children to vote, by writing children's names on slips of paper to record their votes, followed by displaying the votes on a graph, creates a record of the votes, that the children can refer to as they talk about the data (Copley, 2010; Moomaw, 2011). The foundation for data analysis, especially for young children, focuses on other areas, including counting and classification (Clements & Sarama, 2014).

As part of collecting data, children begin to sort and make groups (sets) by properties such as kind, color, shape, or size. As they refine sorting skills, they begin to sort by more than one attribute - size and color or shape and color, as examples. This is strengthened when they talk about their sorting, and describing their rules that define their categories. Typically, children sort by color, followed by size and shape. Other properties, such as sound, texture, and function, are also used as rules for sorting. Young children often sort inconsistently. Some children also begin to sort into two groups, such as a group of red and another group of not red. This two part classification - have/have nots - is important in collecting, graphing, and other representations of certain kinds of data (Copley, 2010).

Children younger than three years of age can classify intuitively (unthinkingly). At age three, most children can sort following verbal rules. During the preschool ages, many children learn to sort objects according to a given attribute, forming categories, although they may switch attributes during sorting. Not until age five or six do children usually sort consistently by a single attribute and re-classify by different attributes. Research suggests the process of classification and seriation (arranging into chronological order) are related to number knowledge (Clements & Sarama, 2014).

Area 8: Science

Scientific Investigations - Infant and Toddler (birth - 3 years)

Standard 8.1.IT Infants and toddlers gather and interpret information from the environment around them.

Rationale - Why is this important for a child?

As infants and toddlers observe the adults and environment around them, they begin to make connections in their environment, which in turn creates knowledge. Sensory play provides many opportunities for children to learn early science and engineering concepts (Hamlin & Wisneski, 2012; Sikder & Fleer, 2015) and spatial reasoning (Hanline, Milton, & Phelps, 2010; Miyakawa, Kamii, Nagahiro, 2005). Sensory experiences provide a natural environment for infants and toddlers to explore, identify, and attempt solutions, which all represent a process of scientific investigation and engineering thought (Hoisington & Winokur, 2015). Additionally, intentional and developmentally appropriate experiences provided by an adult that foster young children's conceptual development in physical, life, and earth science ensure young children form concepts that serve as a foundation for later scientific learning (Hoisington & Winokur, 2015). Infants and toddlers need time to repeat actions over and over to begin understanding how things work and to begin problem solving.

Scientists and engineers often refer to both the 'natural' and the 'designed' world. The natural world includes all living and nonliving things not made by humans. The designed world encompasses the components of our environment made or modified by humans, such as a rock and a stick tied together with grass to make a hammer. Daily and routine concrete experiences involve both the natural and designed worlds, and adults can skillfully use experiences to help young children become consciously aware of the scientific situations (phenomena) around them and to build conceptual knowledge about the natural and designed worlds (Hamlin & Wisneski, 2012; Hong & Diamond, 2012; Sikder & Fleer, 2015).

Area 8: Science

Scientific Investigations - Preschool (3 - 5 years)

Standard 8.1.PS Children gather information and conduct investigations to address their wonderings and test solutions to problems.

Rationale - Why is this important for a child?

Scientists and engineers often refer to both the 'natural' and the 'designed' world. The natural world includes all objects, materials, organisms, and natural phenomena, such as gravity, weather, and needs of living things - not developed or caused by humans. The designed world includes the components of our environment developed or modified by humans, such as a rock and a stick tied together with grass to make a hammer. Daily and routine concrete experiences involve both the natural and designed worlds and can be skillfully used by adults to help young children become consciously aware of the scientific situations (phenomena) around them and to build conceptual knowledge about the natural and designed worlds (Hamlin & Wisneski, 2012; Hong & Diamond, 2012; Sikder & Fleer, 2015).

Learning science is an active process (National Research Council, 2012) where children observe, compare, classify, and communicate their observations of events and objects (Eshach, 2005; Trundle, 2015). Children are introduced to earth/space science including meteorology, astronomy, and geology; physical science including physics and chemistry; and life science including biology, botany, and zoology. Children explore, investigate, and observe objects, materials, and organisms in the world around them. With support, children plan and carry out investigations to address scientific questions or to solve engineering design problems. "At all levels, they should engage in investigations that range from those structured by the [adult] - in order to expose an issue or question that they would be unlikely to explore on their own (e.g., measuring specific properties of materials) - to those that emerge from [children's] own questions" (National Research Council, 2012, p. 61).

To develop understanding of science concepts, children need to actively engage in scientific practices including asking questions, obtaining information, and planning and carrying out investigations. It is important to acknowledge questions from young children are often 'wonderings.' An example is "I wonder what will happen if I push/pull/shake/drop this?" rather than fully expressed questions. Some questions are not expressed verbally, but an adult can infer questions from the actions and the explorations of the child.

To develop engineering habits of mind, children need time, space, and materials to pose their own design problems, to make, and to revise their design as they encounter unforeseen problems, and continue to eventual completion. This is expressed through play and 'tinkering' with materials until they produce the desired effect. Young children develop engineering habits of mind in their play as they devise, invent, and construct their own toys and games; as they construct towers with blocks; or as they move sand and fill in puddles of water (Petroski, 2003).

Adults play a central and important role in helping young children engage in science engineering. “Everyday life is rich with science and engineering experiences, but these experiences can best contribute to science learning when an adult prepares the environment for science exploration, focuses children’s observations, and provides time to talk about what was done and seen” (NAEYC, 2013, p. 18). “It is important that adults support children’s play and also direct their attention, structure their experiences, support their learning attempts, and regulate the complexity and difficulty of levels of information” (NRC, 2007, p. 3). It is equally important for adults to look for signs from children and to adjust the learning experiences to support the children’s curiosity, learning, and understanding.

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Area 8: Science

Scientific Reasoning - Infant and Toddler (birth - 3 years)

Standard 8.2.IT Infants and toddlers use reasoning to make sense of information in their environment.

Rationale - Why is this important for a child?

Young infants are introduced to scientific concepts through their interactions with the living and nonliving world (Hong & Diamond, 2012; Martin, Raynice, & Schmidt, 2005). For example, play offers situations that demonstrate cause and effect. Some events then lead to others (Spelke, Katz, Purcell, Ehrlich, & Breinlinger, 1994). Infants and toddlers show surprise when events occur that do not follow expected sequences. For example, four-month-old infants show surprise when a toy train disappears into a tunnel without emerging on the other side (Baillargeon, 1987). This expectation is the beginning of object permanence. However, actually retrieving an object that disappears in an unusual location requires motor control of reaching, which develops later. Infants typically observe the results of their actions and sometimes repeat them, showing surprise if the results are not the same as before. Toddlers deliberately vary their actions, watching what happens each time (Piaget, 1971).

Adults promote the development of scientific reasoning by providing young children with safe environments for play and interesting materials to explore (Hamlin & Wisneski, 2012; Hong & Diamond, 2012; Sikder & Fleer, 2015; Wachs & Combs, 1995). Regular, year-round experiences with nature, both indoors and outdoors, will provide unique learning experiences about the world.

Area 8: Science

Scientific Reasoning - Preschool (3 - 5 years)

Standard 8.2.PS Children use reasoning to make sense of information and design solutions to problems in their environment.

Rationale - Why is this important for a child?

"As they interact with the world around them, young children develop their own complex and varying theories about this world" (Chaille, 2003). Children are sensitive to patterns and causal connections, and can use this information to guide the ways in which they generalize, make interpretations, and make sense of the world (National Research Council, 2007).

Preschool children use reasoning and inquiry as they investigate and make sense of how the world works (National Research Council, 2007, 2012; National Science Teachers Association, 2014). Through reasoning, children begin to develop different types of scientific knowledge: (1) factual, (2) conceptual and (3) procedural. ***Factual*** knowledge is knowledge of specific events and situations. ***Conceptual*** knowledge is knowledge of principles that bring many pieces of factual knowledge together into a unified whole. ***Procedural*** knowledge is knowledge of how to apply factual knowledge and/or conceptual knowledge to specific problem-solving situations (Counsell et. al., 2016). Children are active participants in this process of building abstract learning (National Research Council, 2000, 2012; National Science Teachers Association, 2014). Very young children gain factual knowledge directly through experience. Then they begin to explore cause and effect relationships, such as putting different size rocks in water and watching as the rocks sink to the bottom. Although children do not possess specific knowledge about *why* objects sink or float, they demonstrate their attempts to pull together pieces of factual knowledge and to unify them into a concept they can use to explain and predict events. Their factual and conceptual knowledge may be partially or entirely incorrect. As they continuously organize bits and pieces of factual knowledge into concepts, they tend to organize their procedural knowledge into 'practical' theories about the physical world, and use them in problem solving. With each experience, these practical theories are further refined (Counsell et al., 2016).

"Young children develop science understanding best through multiple opportunities to engage in science exploration and experiences through inquiry" (Bosse, 2009; Gelman, 2010). As children engage in science and engineering practices, they can observe, compare, classify, measure, and communicate their observations of occurrences (Charlesworth & Lind, 1999). They make meaning from experiences based on evidence and make predictions about future events. They describe their observations and compare them to their predictions (Piaget, 1980). In addition to direct experiences, children's theories and understandings are enhanced through interactions with peers and trusted adults (Conezio, 2002; National Research Council, 2012). Young children are able to draw on information from a range of sources, including their own perception, the testimony of other children and adults, and the interpretations they draw from observations and informational texts (Harris, 2002; National Research Council, 2007). Knowledge and understanding are built best through multiple opportunities to engage in learning experiences that fit together around the same scientific concept.

Scientific Communication - Infant and Toddler (birth - 3 years)

Standard 8.3.IT Infants and toddlers share information and understanding about experiences in their environment.

Rationale - Why is this important for a child?

Infants and toddlers use several methods to communicate their beginning science understanding. This is the foundation for children to develop and to share claims using evidence (Moulding, Bybee, & Paulson, 2015). Adult interaction and guidance is critical to support infants and toddlers in beginning scientific communication (Hamlin & Wisneski, 2012; Head Start, 2014). Adults can support infant and toddler learning through thoughtful questioning and listening as children explore their environment (Harlan & Rivkin, 2012; Head Start, 2014). As an example, when a toddler hits blocks with a toy hammer, the adult says, "You are making a loud noise when you hit the blocks with the hammer." The toddler continues to hit the blocks and the blocks fall down. The adult says, "You hit the blocks with the hammer and the blocks fell down." Providing infants and toddlers with opportunities to make and to handle models, and to draw pictures, which may not be recognizable, encourages scientific communication (Hamlin & Wisneski, 2012; Head Start, 2014). Adults indirectly guide children's thinking when they model their own reasoning process by 'thinking out loud' (Harlan & Rivkin, 2012; Head Start, 2014; Moulding et al., 2015.). "Modeling and labeling thought, adults offer children conscious knowledge of non-conscious thinking processes" (Harlan & Rivkin, 2012, p. 34).

Adults should keep in mind that young children develop science skills and learning by engaging in experiential learning. After children experience the joy of figuring something out, teachers can use picture books that provide children confirmation of their interests and findings. It is not enough to only read and to tell stories about science, but giving children hands-on science experiences is critical (Hoffman, Collins, & Schickedanz, 2015).

Area 8: Science

Shapes and Spatial Reasoning - Preschool (3 - 5 years)

Standard 8.3.PS Children share information and understanding about experiences in their environment.

Rationale - Why is this important for a child?

Scientific communication through reading, writing, speaking, viewing, and listening is the next step of scientific investigations and reasoning. Communicating in multiple ways provides children with the opportunity to boost their understanding of information gained through combined, active learning experiences. When children are allowed to communicate their understanding, it adds meaning to their investigations. Caring adults can support children in communicating their findings based on evidence rather than opinion (Moulding, Bybee, & Paulson, 2015). Communication provides children an opportunity to make explanations and design solutions, as well as engage in argument from evidence (Siry & Lang, 2010). Adults guide children to value other's ideas and use those ideas in combination with their own claims to revise their findings (Harlan & Rivkin, 2012; Head Start, 2014; Moulding et al., 2015). Communication provides reasons for children to represent experiences through many formats beyond words that are most relevant to their learning and understanding, such as drawings, journals, graphs, and models.

Communication allows adults to support children's learning at the necessary level of development that allows the curiosity of each child to lead the conversation about their results. They learn to make deductions and to predict future events (Piaget, 1980). This communication builds partnerships between children and adults, and with other children. Their feedback is valued and drives the planning and learning opportunities offered within the environment. These opportunities continue to provide interaction as a way of building language, social and emotional capabilities, and content knowledge.

"Argument in science goes beyond reaching agreements in explanations and design solutions. Whether investigating a phenomenon, testing a design, or constructing a model to provide a mechanism for an explanation, children are expected to use argumentation to listen to, compare, and evaluate competing ideas and methods based on their merits" (NGSS, 2013, pg. 13). Engaging in argument from evidence builds on prior experiences and continues through comparing ideas and representations about the natural and designed world (NGSS).

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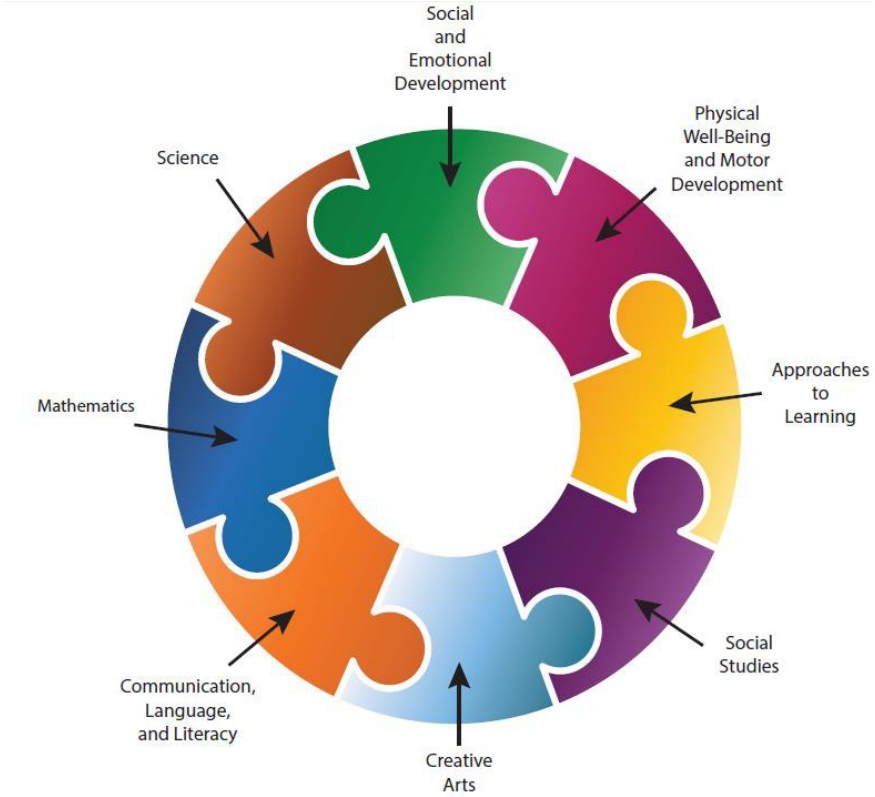
Standards, Benchmarks, Examples, and Adult Supports

Iowa Early Learning Standards - 3rd edition



IOWA
EARLY Learning
STANDARDS

Area 1: Social and Emotional Development

Self – Infant and Toddler (birth - 3 years)

Standard 1.1.IT Infants and toddlers display a positive sense of self.

Benchmarks: The infant or toddler…

1.1.IT.1 responds to familiar adults' and children's interactions using behaviors such as gazing, cuddling, and accepting assistance.

1.1.IT.2 explores his or her own body.

1.1.IT.3 shows awareness of self, such as responding to own image in mirror.

1.1.IT.4 shows preferences for toys and experiences.

1.1.IT.5 expresses reaction through facial expressions, sounds, and gestures.

Examples of Reaching an Infant/Toddler Benchmark:

Annie turns her head and smiles when her mother calls her name.

Alex kicks the sides of the crib. He looks at his feet and starts to suck on his toes. A caring adult says, "Alex has encontrado los dedos (you found your toes)."

Mai looks at the mirror. She smiles, reaches for her reflection, pats her reflection, and pats her face.

The toys in the room are accessible to all children. Fatima sees the stacking rings, which she really likes. She takes the stacking toy off a shelf, sits down on the floor, and takes off the rings.

Greg picks up a cube and tries to force it through the round hole of a sorting toy. He looks at the cube, looks at the lid, and then puts the cube through the square hole. He turns to the adult and smiles. A caring adult responds: "You did it, Greg! You found the square hole."

Drew tries to grab a toy from another child. A caring adult intervenes and models the words Drew can use to ask for the toy. The adult offers Drew two similar toys. He chooses one of the toys and begins to play.

Adult Supports - With children birth - 3 years, caring adults**:**

- observe each child and responds based on individual needs throughout daily routines.
- use each child's name often during play and interactions.
- point out and correctly names each child's body parts using their home language during daily routines, such as diapering, toileting, and bathing.
- give opportunities for each child to build an awareness of self and to become familiar through touch, photographs, mirrors, and video and sound recordings.
- provide opportunities for each child to choose toys and/or experiences during playtime.
- express active interest in the experiences and accomplishments of each child.
- support children's cultural identities by working with family members to support each child's needs.
- talk positively about each child's family culture.

Area 1: Social and Emotional Development

Self - Preschool (3 - 5 years)

Standard 1.1.PS Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences.

Benchmarks: The child…

1.1.PS.1 expresses a positive sense of self in terms of specific abilities.

1.1.PS.2 expresses needs, wants, opinions, and feelings in socially appropriate ways.

1.1.PS.3 demonstrates increasing confidence and independence in a variety of tasks and routines, and expresses pride in accomplishments.

1.1.PS.4 recognizes own power to make choices.

Examples of Reaching a Preschool Benchmark:

Rhonda rides her trike up to Julia and says, "Watch me. I can go fast."

Sage tells a caring adult, "I need to go to the bathroom."

Alea learns to put on all her winter outdoor clothes by herself. She smiles and tells a nearby adult, "Look, I did it all by myself."

Yesterday, Moses played in the block center and built a tower. Today, he played at the water table. When he was done at the water table, he stated, "I like the water table the best."

At lunch, a caring adult asks Kiera, "Would you like broccoli, carrots, or both with your sandwich?" Kiera responds, "Carrots are my favorite. I want carrots, please."

After finishing his cereal, Max carries his dishes to the sink and places them in the 'dirty' tub. He then goes to the sink and washes his hands. "I'm all cleaned up and ready to play!" he announces.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide opportunities for each child to develop a sense of his or her physical capabilities.
- talk with and listen respectfully to each child.
- provide each child with safe and stimulating settings, both indoors and outdoors, in which to explore.
- provide each child with opportunities to make meaningful choices and to express preferences throughout the day.
- encourage each child by giving specific feedback that links effort to outcomes and acknowledge achievements.
- model respect for diversity.
- provide each child with opportunities to solve problems on his or her own.
- provide opportunities for each child to express his or her thoughts and feelings about experiences through a variety of methods, including the use of words in his or her home language.
- support children's cultural identities by working with family members to support children's needs.
- encourage children's efforts and provide necessary supports when attempting new skills.

Area 1: Social and Emotional Development

Self-Regulation - Infant and Toddler (birth - 3 years)

Standard 1.2.IT Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways.

Benchmarks: The infant or toddler…

- 1.2.IT.1 indicates need for assistance through actions such as crying, gesturing, vocalizing, using words, or approaching familiar adults.
- 1.2.IT.2 comforts him or herself when distressed or tired by actions such as sucking, stroking a blanket, or hugging a toy.
- 1.2.IT.3 begins to express a range and variety of feelings and emotions through body language, facial expressions, actions, and/or verbal responses.
- 1.2.IT.4 shows increasing ability to recognize own feelings, including simple (such as mad, glad) and complex (such as excited, frustrated, disappointed) feelings.
- 1.2.IT.5 responds to emotions expressed by others, for example, by comforting another child or crying in response to the cries of others.
- 1.2.IT.6 begins to control behavior through following simple rules and limits in a variety of settings.
- 1.2.IT.7 begins to transition between feeling states with guidance from a caring adult.

Examples of Reaching an Infant/Toddler Benchmark:

Caitlin's mother leaves the room. Caitlin starts to pout and suck her thumb to calm herself. She walks over to a caring adult and holds her hands up. The adult hugs her and says, "It looks like you are sad that mom had to go. She will be back after work." Caitlin holds on to the adult. The adult speaks to her quietly and Caitlin begins to calm.

Jason is tired. He gets his blanket, lies down on his cot, and rubs the binding on the blanket.

Lisa starts to clap and smile when she finally gets one block to stack on top of another. Juan, who is sitting next to her playing with his keyboard, looks up, smiles, and claps with her.

Examples of Reaching an Infant/Toddler Benchmark (continued):

Jayden was backing away from a friend when he tripped over his caregiver's foot and fell. He started crying and looking around. The caregiver said, "Oh Jayden, did that hurt you or scare you?" Jayden looked at the floor, scrunched up his face, and stuck out his bottom lip. "Wait, did that make you mad?" Jayden nodded his head and relaxed his face.

La'Chara starts to climb on top of the table. A caring adult guides her down, saying, "You may sit on a chair or on the floor." La'Chara sits on the chair.

Minh's dad comes into the room. Minh starts jumping up and down. A nearby, caring adult asks, "Are you excited to see Daddy?" Minh nods her head yes.

Caera and Alex look at a birdhouse in the outdoor nature area and a bird suddenly flies out. Both children begin to cry and run away. The adult responds by hugging them and says, "Oh my, when that bird flew out you must have been frightened. You are both safe. Let's look in the trees to see if we can find the bird." Both children look relieved and begin to look for the bird.

Gustav does not get to ride the tricycle he wants. He begins stomping his feet and yells, "No, no, no. Mine!" A caring adult puts a hand on his shoulder to calm him, and then takes him by the hand and leads him to the sandbox to play. While walking to the sandbox, the adult says, "It's okay to feel frustrated that you cannot ride the trike now, but the sandbox is fun, too." Gustav calms down and begins to play in the sandbox.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a consistent, predictable, caring, and responsive environment for each child.
- respond promptly to each child's needs.
- model the expression of their own emotions in socially appropriate ways.
- encourage each child to express emotions in socially and culturally appropriate ways.
- set, discuss, remind, and follow through on simple rules and limits.
- provide consistent routines and expectations for daily activities and experiences.
- demonstrate an awareness of cultural differences for expressing feelings.
- respond to child distress by listening to the child while maintaining closeness and a calming, soothing voice.
- inform children when there is a change in routine using a variety of techniques, such as picture cues.
- use feeling words to acknowledge and label each child's emotions using terms that are familiar to the child.
- need to be aware of conditions that optimize early brain development and share information with caregivers.

Area 1: Social and Emotional Development

Self-Regulation - Preschool (3 - 5 years)

Standard 1.2.PS Children show increasing ability to regulate their behavior and express their emotions in appropriate ways.

Benchmarks: The child…

1.2.PS.1 demonstrates the ability to monitor his or her own behavior and its effects on others, following and contributing to adult expectations.

1.2.PS.2 persists with difficult tasks without becoming overly frustrated.

1.2.PS.3 begins to accept consequences of his or her own actions.

1.2.PS.4 manages transitions and changes to routines.

1.2.PS.5 states feelings, needs, and opinions in difficult situations without harming self, others, or property.

1.2.PS.6 expresses an increasing range and variety of emotions, and the transitions between feeling states become smoother.

Examples of Reaching a Preschool Benchmark:

While Able is playing a letter game on the classroom computer, he looks up and sees another child waiting for a turn on the computer. Able says, "It will be your turn next."

Rashmita is working on a difficult puzzle. She tries several times to fit each of the pieces together. Even though it is difficult, she keeps working to put it together.

Oscar left his art materials out at the table where he was working. An adult walks up to him and says, "Oscar, put away your materials before going to play somewhere else." Oscar begins to collect the materials.

After lunch, Hyejin washes her hands and lays down to nap without a reminder.

Tristan is angry because he cannot have his favorite tricycle. He says to a nearby adult, "I am so mad that Daphne has the trike."

Manuel is playing outside and does not want to go inside. At first, he avoids the adult, but when the adult talks to him calmly, he agrees to go inside.

Adult Supports - With children 3 - 5 years, caring adults**:**

- identify and explain adult expectations while offering each child the opportunity to contribute to express thoughts, feelings, and ideas concerning them.
- assist each child in understanding her or his feelings and the impact on others.
- model empathy and understanding.
- make each child aware of upcoming changes in schedule or routines.
- model self-control.
- give each child words and gestures to express emotions.
- learn key words and phrases in each child's home language, especially those related to emotions and behavior.
- express own emotions in socially appropriate ways.

Area 1: Social and Emotional Development

Relationship with Adults - Infant and Toddler (birth - 3 years)

Standard 1.3.IT Infants and toddlers relate positively with significant adults.

Benchmarks: The infant or toddler…

1.3.IT.1 distinguishes between familiar and unfamiliar adults; for example, is comforted by the sight of the familiar adult or the sound of the familiar adult's voice.

1.3.IT.2 accepts assistance and comfort from familiar adults.

1.3.IT.3 seeks and maintains contact with familiar adults; for example, by looking at the adult, hearing the adult's voice, or touching the adult.

1.3.IT.4 shows discomfort at separations from familiar adults.

1.3.IT.5 seeks help from familiar adults in unfamiliar situations.

1.3.IT.6 explores the environment, both indoors and outdoors, but may return to a familiar adult periodically for security.

1.3.IT.7 begins to imitate or portray roles and relationships.

1.3.IT.8 imitates adult behaviors.

Examples of Reaching an Infant/Toddler Benchmark:

Misha is playing with other children in her infant classroom. Several parents walk in together to pick up their children. Misha looks concerned at first, but then smiles when she sees her mother.

As Danny plays in the exam room, the doctor walks in, and Danny reaches for his dad. Dad gives Danny a hug and introduces the doctor. Danny stays close to his dad during the appointment.

Jonathan's mother leaves the room. He follows her to the door and cries.

Jerika picks up the stuffed bunny, rubs the bunny's back, and says, "It okay, it okay."

Miguel hands the box of crackers to the adult to get help opening it.

Josephine is at the community playground and goes to the sandbox to play. Every few minutes, she looks over her shoulder to make sure her grandmother is still there.

Adult Supports - With children birth - 3 years, caring adults**:**

- interact and intentionally play with each child daily.
- provide stable, consistent, responsive, and sensitive care to each child.
- talk to and hold each child affectionately during caregiving routines and play experiences.
- respond appropriately and responsively to each child's attempts to make contact.
- help each child transition between care provided by different adults.
- model healthy relationship skills.
- practice primary caregiving and ensure continuity of care.
- limit the number of adults providing care.
- use reflective practice to understand emotional response as the adult interacting with infants, toddlers and their families.
- share information about infant and family relationship development with families.
- support and reinforce parent/guardian strengths, emerging parenting competencies, and positive parent-child interactions.

Area 1: Social and Emotional Development

Relationship with Adults - Preschool (3 - 5 years)

Standard 1.3.PS Children relate positively with significant adults.

Benchmarks: The child…

1.3.PS.1 interacts comfortably with familiar adults.

1.3.PS.2 accepts guidance, comfort, and directions from a range of familiar adults in a variety of environments.

1.3.PS.3 expresses affection toward familiar adults.

1.3.PS.4 shows trust in familiar adults.

1.3.PS.5 seeks help, as needed, from familiar adults.

Examples of Reaching a Preschool Benchmark:

Dalton interacts with each of the adults in his classroom by talking with each of them about what he did over the weekend.

Terry is playing outdoors and hesitantly approaches the climber. He looks at a nearby adult, who says, "It's okay, I will not let you fall." Terry starts to climb the ladder.

Kia comes into the classroom slowly. Her eyes are downcast and she takes long, deep sighs. A caring adult asks her, "Kia, how are you feeling today?" Kia answers, "Grandma's in the hospital. I miss her." The adult responds, "It's hard for her to be gone." The adult rubs Kia's back, saying, "You like spending time with Grandma." Kia puts her arms around the adult.

Michael runs up to his parents when they come to his preschool and gives them a hug. He turns and with a smile, says, "Bye-bye, teacher. I'll see you tomorrow."

Mercedes wants to collect pinecones outdoors, but cannot find a container to hold them. She walks up to a caring adult and asks, "Can I have a bucket for these pinecones?"

Adult Supports - With children 3 - 5 years, caring adults**:**

- ensure that a small number of consistent, positive, and nurturing adults provide continuity of care and learning experiences.
- intentionally spend time daily with each child to support positive interactions and relationships to build an emotional connection.
- make it a priority to know each child well, and the people most significant in the child's life.
- provide feedback that is warm, positive, encouraging, and intentional.
- attempt to communicate with and foster relationships with each child, regardless of their ability to speak a child's home language.
- show affection and caring to each child.
- model healthy relationship skills with adults and children.
- regularly examine personal thoughts, feelings, strengths, and areas for growth.
- use reflective (thoughtful) practice to understand personal emotional response in working with infants, toddlers, and their families.
- support and reinforce parent/guardian strengths, emerging parenting competencies, and positive parent-child interactions.

Area 1: Social and Emotional Development

Relationship with Children - Infant and Toddler (birth - 3 years)

Standard 1.4.IT Infants and toddlers respond to and initiate interactions with other children.

Benchmarks: The infant or toddler…

1.4.IT.1 initiates interactions with other children through gestures, vocalizations, facial expressions, and/or body movements.

1.4.IT.2 accepts help from familiar adults in interactions with other children.

1.4.IT.3 begins to demonstrate empathy for others and responds to people's facial expressions, body language, and/or interactions.

1.4.IT.4 develops an awareness of his or her behavior and how it affects others.

1.4.IT.5 imitates other children's behaviors.

Examples of Reaching an Infant/Toddler Benchmark:

Robin scoots over to Delora and touches her gently on the head.

Kathy takes the truck away from Jamar. Jamar shouts, "No!" and grabs the truck back. Kathy screams, "Mine." A caring adult says, "Kathy, here is another truck you can use. Jamar is still playing with this one." Kathy and Jamar play with his or her own truck.

Zach is startled by a noise and begins to cry. Beth leans over and pats Zach's hand. They smile at one another.

Helena brings a ball over to Javier and says, "Javier play."

Ali takes a toy from Evangeline and Evangeline cries. Ali gives it back and finds another toy.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide opportunities for children to play with similar materials in the same area, for example, by placing babies on blankets near each other and using self-talk (describing what the adult is doing)and parallel talk (describing what the child is doing or seeing, without expecting a response from the child). This helps a child develop a relationship with the adult.
- assist children in taking turns.
- use active listening to resolve conflicts and to help ensure that each child's messages are understood by others.
- provide enough materials for several children to play with the same toy/activity.
- recognize and model sharing things with others.
- allow children to play with a toy as long as they desire.
- model relationship skills and caring behaviors.

Area 1: Social and Emotional Development

Relationship with Children - Preschool (3 - 5 years)

Standard 1.4.PS Children respond to and initiate appropriate interactions with other children, and form positive peer relationships.

Benchmarks: The child…

1.4.PS.1 initiates and sustains positive interactions with peers, and organizes play.

1.4.PS.2 wants to please and be like friends.

1.4.PS.3 negotiates with others to resolve disagreements.

1.4.PS.4 develops friendships with other children (peers); starts to demonstrate taking turns and sharing with others.

1.4.PS.5 expresses empathy to other children (peers), and demonstrates caring behaviors.

1.4.PS.6 accepts consequences of his or her actions.

1.4.PS.7 recognizes how behaviors can affect others.

1.5.PS.8 names friends.

Examples of Reaching a Preschool Benchmark:

Spencer walks up to Kyler carrying a board game and asks Kyler to play with him. The boys agree on who goes first and then take several turns moving their pieces.

Dashari repeatedly seeks out Margo to play with her.

Judy and Charlie both want to play with the blue truck. They both say, “Mine” and look at each other a few seconds. Judy says, “I’ll take the yellow one, and you take the blue one.”

Analese has a physical disability and the adult positions her on the floor to play. Heidi, another child, brings Analese’s pillow to support her back, and says, “Analese, here is your pillow.”

Jeffrey uses glue and paper shapes to make a picture. Arlo walks up to the art area and starts to make a picture his own. He says to Jeffrey, “May I have the glue next?” Jeffrey hands him the glue.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide time, space, and sufficient materials for children to interact with others during play experiences.
- create situations in which children can work cooperatively with both boys and girls.
- encourage each child, coaching him or her as needed, to resolve conflicts, to respect the rights of others, and to reach joint decisions.
- point out and draw attention to different perspectives, including children's literature and play materials.
- create opportunities that allow English language learners to engage with other children.
- model healthy relationship skills with adults and children.
- acknowledge positive interactions between children.

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EARLY Learning STANDARDS

Area 2: Physical Well-Being and Motor Development

Healthy and Safe Living - Infant and Toddler (birth - 3 years)

Standard 2.1.IT Infants and toddlers participate in healthy and safe living practices.

Benchmarks:

The infant…

2.1.IT.1 expresses satisfaction or dissatisfaction regarding care and play routines as well as participates in care routines based on appropriate developmental stages and family culture.

2.1.IT.2 establishes healthy eating and sleeping patterns with the assistance of a responsive adult.

2.1.IT.3 ingests breast milk or formula, progressing to solid foods, to self-feeding age-appropriate foods, and drinking from a cup.

The toddler…

2.1.IT.4 participates in healthy self-care routines, demonstrating increasing independence, such as washing hands and pouring own milk, with assistance from a caring adult.

2.1.IT.5 shows a willingness to try new foods and engages in food exploration such as basic cooking tasks or dramatic play activity.

2.1.IT.6 participates in safe behaviors regarding the environment, such as around stairs or hot surfaces, or accepts redirection from adults.

Examples of Reaching an Infant/Toddler Benchmark:

Andy snuggles into a caring adult's arms, gazes up at the adult, and coos.

Lunch is ready. Ricky walks to the bathroom, where the caring adult helps him wash his hands.

The caring adult puts a plate of food in front of Bieu. She picks up and eats the diced pieces of chicken and bread. She leaves the cooked carrots on her plate until she sees the caring adult eat some carrots. The adult says, "Mmm. I like carrots." Bieu eats a carrot.

Carrie points to the toilet while her diaper is changed. The caring adult says, "Do you want to sit on the potty?" The adult takes Carrie to the toilet and allows her to sit on the toilet.

Adult Supports - With children birth - 3 years, caring adults**:**

- place each infant on her or his back for sleeping in a safety-approved crib in a safe sleep environment.
- hold all infants for bottle feedings to encourage bonding with caregivers and opportunities for infants to communicate feeding cues.
- introduce new foods to children according to their physical, developmental, and cultural needs. It often takes 10-15 times before a child will accept a new food.
- model healthy eating by sitting with children during meal and snack time.
- use safe, healthy caregiving practices with each child during diapering, feeding, toileting, handwashing, and nose-wiping routines.
- gather information about specific health information (allergies, medications) and caregiving routines at home from families.
- share with families the importance of regular well-child visits and oral health/dental checkups.
- work with families to adjust to cultural variations in caregiving routines.
- ensure the environment is safe for each child by removing or limiting access to hazardous substances and situations, such as electrical outlets, hot surfaces, stairs, toxic substances, choking hazards, and recalled products.
- individualize strategies to assist each child to engage in safe and healthy practices, as independently as possible.
- use adaptive equipment to help children with special needs develop self-help skills.
- maintain First Aid and CPR certification.
- ensure children are followed by a health care provider through routine well-child health visits.

Area 2: Physical Well-Being and Motor Development

Healthy and Safe Living - Preschool (3 - 5 years)

Standard 2.1.PS Children show increasing awareness of healthy and safe living practices.

Benchmarks: The child…

2.1.PS.1 begins to recognize and select healthy foods.

2.1.PS.2 follows healthy self-care routines such as brushing teeth, washing hands, and using the bathroom.

2.1.PS.3 develops appropriate balance between rest and physical activity as part of a healthy lifestyle.

2.1.PS.4 demonstrates safe behaviors regarding environment (stranger, tornado, fire, traffic, bodies of water), toxic substances, objects, and climbing structures.

2.1.PS.5 communicates safety rules and the reasons for the rules for indoor and outdoor environments.

Examples of Reaching a Preschool Benchmark:

During lunch, all food is placed in the middle of the table in serving bowls. The caring adult helps herself to broccoli and passes it around the table. Abdul puts a spoonful on his plate saying, "They're little trees." The adult says, "Tell me why you think they look like trees." Abdul says, "They're green and leafy." The adult says, "You are right. Broccoli is green and leafy like trees." She takes a bite and says, "I like broccoli." Abdul takes a bite and says, "Me, too." The adult comments, "Broccoli helps our bodies grow." Abdul says, "I'm going to grow as big as my dad."

Use daily self-care activities such as handwashing, zipping jackets, and brushing teeth to support the development of children's fine motor skills. The child follows simple and clear verbal or picture card instructions. The child explores materials and complete tasks successfully because of enough time.

After an active morning and a healthy lunch, Grace rubs her eyes - a sign her body needs rest. A caring adult says, "Grace, it looks like you are ready to rest. You worked hard this morning." The adult sets out cots around the classroom, dims the lights, and plays soft music. Grace retrieves her blanket from her cubby, finds her assigned cot, and falls asleep.

The fire alarm alerts staff and children of a scheduled monthly drill. Li stops her activity and looks to an adult for guidance. She follows the group to the designated safe area outdoors. Li says to her friend, "When we hear the fire alarm, we need to get out so we don't get hurt."

Adult Supports - With children 3 - 5 years, caring adults**:**

- model mealtime behavior, sitting with children to guide interactions, model appropriate behaviors, and engage children in conversations.
- encourage each child to learn and develop self-help skills during mealtimes and food experiences, such as washing hands and cleaning up spills.
- plan and implement emergency and safety procedures, such as fire, disaster, tornado drills, and transportation.
- check fire alarms frequently to ensure they work properly.
- encourage safety through picking up toys and wiping up spills.
- provide children with the correct medication at the correct time, documenting the date, time, and dose.
- offer nutritious food several times, as it may take 10-15 exposures before new foods are accepted.
- include children in food preparation experiences, including basic cooking tasks, setting the table, or dramatic play.
- ensure children are followed by a health care provider through routine well-child health visits.
- provide periods of rest, as needed throughout the day, using dim lights and relaxing music to create a calm environment.
- use adaptive equipment to help children with special needs develop self-help skills.
- provide helmets for children when using riding toys.
- share the importance of regular well-child visits and dental checkups with families.

Area 2: Physical Well-Being and Motor Development

Large Motor Skills - Infant and Toddler (birth - 3 years)

Standard 2.2.IT Infants and toddlers develop large motor skills.

Benchmarks:

The infant…

2.2.IT.1 shows increasing balance, strength, and coordination in activities such as gaining control of the head and body by turning head from side to side, lifting the head off the floor, sitting, and standing.

2.2.IT.2 shows increasing control in large motor skills such as reaching, rolling over, crawling, standing, and walking.

The toddler…

2.2.IT.3 shows increasing control in motor skills such as rolling, throwing, and kicking a ball, and jumping.

2.2.IT.4 shows increasing balance in activities such as running, climbing stairs, marching, and moving a riding toy using his or her feet.

Examples of Reaching an Infant/Toddler Benchmark:

Sarah is on her tummy on the floor. She raises her head to look at a caring adult. The adult lies on the floor in front of Sarah. As the adult calls Sarah's name, Sarah lifts her head and makes eye contact with the adult.

Lani is sitting on the floor. She pulls herself up to stand at the table. She lets go with one hand, wobbles, and then grabs the table again.

Jorge climbs on a riding toy without pedals and moves it across the room using his feet.

A caring adult sits Joseph on the floor with a few toys within and out of reach to encourage Joseph to practice reaching and moving toward the toys.

During outside play, a caring adult plays a chasing game with Henry. The adult says, "I'm going to get you." Henry toddles off, screaming in delight.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of daily developmentally appropriate indoor and outdoor experiences and materials to stimulate each child's large muscle activities.
- provide help, as needed, for each child to practice large motor skills by using strategies and materials such as play gyms for reaching, surfaces to crawl over, stable surfaces to pull up, push toys, walk-along toys, and riding toys.
- encourage movement by each child by varying the height of toys offered.
- reposition non-mobile infants often throughout the day to experience various areas of the classroom and bring objects and activities to them.
- place infants in safe settings at least twice each day to facilitate physical activity and to not restrict movement for more than 15 minutes.
- play with children to model and encourage the development of large muscles with activities that include jumping, hopping, skipping, crawling, climbing, and dancing.
- provide adaptive large motor equipment to allow each child with varying abilities to practice large motor skills.
- provide complex natural environments to explore, such as fruit, vegetable, or butterfly gardens.
- ensure tummy time for infants occurs multiple times each day for supervised play while awake and alert, changing position as the infant becomes distressed.
- communicate identified motor development concerns with families or supervisors, and encourage follow-up with resources.

Area 2: Physical Well-Being and Motor Development

Large Motor Skills - Preschool (3 - 5 years)

Standard 2.2.PS Children develop large motor skills.

Benchmarks: The child…

2.2.PS.1 demonstrates control and balance in locomotor skills, such as walking, running, jumping, hopping, marching, galloping, and climbing stairs.

2.2.PS.2 demonstrates the ability to coordinate movements with balls, such as throwing, kicking, striking, catching, and bouncing.

2.2.PS.3 expresses enjoyment in participating in physical experiences and creative movement.

Examples of Reaching a Preschool Benchmark:

The children sit in a large circle. A caring adult plays music and asks, "How does this music make you want to move?" The adult starts moving children clockwise around the circle. Briana gallops while Tsama hops. The adult comments, "Look how Briana is using her feet - she's galloping." A few children start galloping. The adult then says, "Tsama has a good idea. He's hopping on one foot." A few more children hop. The adult maintains the experience based on the children's interests, talking about the movements the children demonstrate.

Nicholas, a child with less developed skills to handle objects, successfully participates and experiments in activities using materials of various sizes, shapes, textures, and weight.

Adrianna mimics movements of an animal after seeing a picture of an animal. Other children follow her actions and guess the animal.

Marjorie stands on one foot and 'freezes' for three seconds. She stands on the other foot and can also 'freeze.' She tries to stand on one foot with eyes closed, but is unable. She asks if she can try again.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide space, enough time, and materials for each child to explore and to practice large motor activities, such as balancing, running, jumping, climbing, throwing, catching, kicking, and bouncing.
- provide outdoor environments that allow children to explore and to investigate while using large muscle groups.
- play games with each child that involve catching, kicking, and bouncing balls, coaching each child and modifying the games to both challenge each child and to allow him or her to succeed.
- provide adaptive large motor equipment that allows each child with physical abilities to practice large motor skills.
- use routine times and transitions to facilitate physical activity, such as walking like a crab or jumping like a rabbit.
- provide adult-led structured and child-led unstructured opportunities for physical activities throughout the day.
- use additional active playtime to encourage or reward - rather than withhold active playtime as a punishment.
- communicate identified motor development concerns with families and supervisors, and encourage follow-up with resources.
- use modifications for children with varying abilities or those with less developed manipulative skills, such as lower targets, easy-to-see, bright objects to strike, or reducing the distance between the child and target.
- provide consistent and specific terminology, such as, “Look at the target before you throw.”

Area 2: Physical Well-Being and Motor Development

Small Motor Development - Infant and Toddler (birth - 3 years)

Standard 2.3.IT Infants and toddlers develop small motor skills.

Benchmarks:

The infant…

2.3.IT.1 uses hand-eye coordination to perform self-help and small motor tasks, such as eating food, picking up objects, placing objects on a surface, transferring objects from hand to hand, and fitting objects into a hole in a box.

The toddler…

2.3.IT.2 uses hand-eye coordination to perform self-help and small motor tasks such as eating with a fork or spoon, completing simple puzzles, stacking blocks, dressing with assistance, scribbling with crayons or markers, participating in finger plays, and using musical instruments.

Examples of Reaching an Infant/Toddler Benchmark:

A caring adult holds out a ball. Sawyer reaches for the ball.

Jamar sits at the table with a bowl of round cereal pieces. He picks up each piece by palming it, and then licks his hand clean.

Sarah sits on the floor holding a rattle in her hand. She uses her other hand to grab the rattle and lets go with her hand. She repeats the transfer between her hands again and again.

During bottle-feeding, a caring adult holds Tamara and allows her to hold the bottle as she chooses.

Delano is playing with blocks. He puts one block on top of another one. The nearby, caring adult says, “Delano, you stacked the blocks. Can you put another block on top?” Delano places another block on top. The adult says, “You stacked three blocks – 1, 2, 3. Let’s see how high you can go.”

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of experiences, and different objects for each child to manipulate, to explore and practice, and to stimulate the child's small motor skills, such as grasping, dropping, pulling, pushing, touching, and mouthing.
- provide help, as needed, for each child to succeed in small muscle experiences.
- assist children when tasks become frustrating, rather than doing the task for them.
- provide time, equipment, and encouragement for each child to develop self-help skills, such as undressing, feeding, and hand-washing.
- use strategies that allow each child to increase self-help and small motor skills.
- supervise and play with children to model and to encourage small motor skills.
- clear the environment of choking hazards.
- communicate identified motor development concerns with families and supervisors, and encourages follow-up with resources.

Area 2: Physical Well-Being and Motor Development

Small Motor Development - Preschool (3 - 5 years)

Standard 2.3.PS Children develop small motor skills.

Benchmarks: The child…

2.3.PS.1 uses hand-eye coordination to perform self-help and small motor tasks with a variety of manipulative materials, such as beads, pegs, shoelaces, puzzle pieces, and musical instruments.

2.3.PS.2 demonstrates increased skills using scissors and writing tools for various learning experiences.

Examples of Reaching a Preschool Benchmark:

Louis tears and folds paper, strings beads, cuts yarn, and rolls play dough. He successfully uses plastic tweezers, medicine droppers, and tongs to explore and look at various objects.

Jamar has cerebral palsy. The bowl slides away when he uses a spoon to eat applesauce. A caring adult puts a non-slip pad under the bowl and a rubber tube on his spoon. Jamar feeds himself.

Nieseem tries to zip his jacket, but he cannot get the two parts together. “I need help!” he shouts. A caring adult asks, “What’s wrong, Nieseem?” Nieseem responds, “I can’t get the zipper to work.” The adult says, “It is hard. Do you want me to start it for you?” Nieseem says, “Yes.” The adult puts the ends of the zipper together and starts the pull. “Here - you can finish it.” Nieseem pulls up the zipper and says, “Let’s go outside!”

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of small motor tools and materials such as beads, pegboards, scissors, crayons, paintbrushes, and hammers that are available and accessible for use during free-choice activities.
- coach each child to improve independence in self-help skills such as dressing, toileting, and buttoning.
- teach each child to use utensils during meals, snacks, and supervised cooking experiences.
- provide adaptive equipment that allows children with varying abilities to increase fine motor skills such as adding tabs to books for turning pages, placing tape on crayons and markers to make them easier to grip.
- supervise the use of small materials.
- provide a variety of opportunities for children to play and to explore their environment.
- communicate identified motor development concerns with families and supervisors, and encourages follow-up with resources.
- Provide activities to strengthen hand grasp, finger movements, and support eye-hand coordination.
- vary your language to accommodate different developmental levels
- provide adaptive equipment, as needed.

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EARLY Learning STANDARDS

Area 3: Approaches to Learning

Curiosity and Initiative - Infant and Toddler (birth - 3 years)

Standard 3.1.IT Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills.

Benchmarks: The infant or toddler…

3.1.IT.1 shows interest in people including other infants, objects, and events.

3.1.IT.2 uses his or her senses to choose, explore, and manipulate a variety of objects or toys in a variety of ways.

3.1.IT.3 actively plays with or near adults, other children, and materials.

Examples of Reaching an Infant/Toddler Benchmark:

A caring adult places her hands in front of her face. Shannon watches the adult move her hands, saying "Peek-a-boo." Shannon laughs. The adult repeats the action and Shannon laughs again.

Paola, who is 9 months old, is exploring 8-month-old Dionte. Paola touches Dionte and watches him lying on the floor. An adult is nearby to guide the interaction. Dionte smiles and touches Paola's hair.

Mehar sits on a log and watches as a small bird eats from a nearby birdfeeder. Mehar watches as it flies away and lands in tree. She runs to the tree and watches it, pointing, and shouting, "Pakshi, pakshi" (bird, bird).

Selena looks at the patterned carpet on the floor. She stands on a shape and begins to jump from shape to shape, saying, "Hop, hop, hop," each time she jumps.

Matthew picks up an oatmeal container and pushes it. It falls over, rolls away, and he laughs.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of familiar and new materials that have a variety of uses to encourage each child's choices, play, and exploration.
- watch children to discover their individual interests and needs, ask what is needed, and adapt experiences and routines to meet each child's needs and interests.
- respect the process of each child's exploration without expecting finished "products."
- support each child's exploration by smiling, nodding, and talking.
- clean and sanitize mouthed objects after each child.
- prepare a safe environment and protect each child's exploration through frequent equipment, toy, and material checks for hazards, including small parts, broken parts, and entanglement or strangulation hazards.
- directly supervise infants and toddlers by sight and hearing at all times, even when the children are going to sleep, sleeping, are beginning to wake up, or are indoors or outdoors.

Area 3: Approaches to Learning

Curiosity and Initiative - Preschool (3 - 5 years)

Standard 3.1.PS Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills.

Benchmarks: The child…

3.1.PS.1 chooses, deliberately, to explore a variety of materials and experiences, seeking out new challenges.

3.1.PS.2 participates in experiences with eagerness, flexibility, imagination, independence, and inventiveness.

3.1.PS.3 asks questions about a variety of topics.

3.1.PS.4 repeats skills and experiences to build competence and support the exploration of new ideas.

Examples of Reaching a Preschool Benchmark:

Chris stands in front of some blocks and says, "I'm going to build a fire station like the one we visited." "Good plan, Chris. We need fire stations so firefighters can put out fires," responds a caring adult. Chris builds four walls and puts the fire engines inside. He attempts to put blocks on top of the building, but they fall into the building. Chris says, "The roof keeps falling down." The caring adult says, "Why do you think that's happening?" "The pieces are too small. I could put those big pieces of cardboard for the roof," Chris says. He puts a piece of cardboard on top, stands back, and smiles. The adult smiles and says, "You figured it out and you built a fire station to hold the fire trucks."

While looking at the fish tank, Marika says, "Every day the water gets lower and lower in the fish tank." A caring adult says, "You're right, it does. Why do you think that happens, Marika?" Marika responds, "I think the fish are thirsty, and every day they drink more and more of the water."

Liam, while approaching a caring adult, holds a clipboard with paper and a pencil. Liam says, "Hi, I'm taking a survey. Do you like blue or green better?" The adult responds, "I prefer blue. Why are you doing this survey?" Liam says, "I wanted to know what color everyone likes because I'm going to draw a picture." The adult replies, "Let me know what you find out." Liam smiles and says, "I will!"

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a safe environment with a variety of experiences and materials for child-initiated exploration and play.
- encourage each child to express his or her own ideas and to exercise his or her imagination.
- share each child's excitement in discoveries and exploration of the environment.
- encourage each child to make choices and to plan interactions with people and materials.
- provide opportunities and enough time to explore a variety of developmentally appropriate experiences and materials, including those in their larger community environments.
- model curiosity and openness about new ideas.
- ask children open-ended questions about what they are doing, such as "What do you think will happen next?"
- directly supervise children by sight and hearing at all times, even when the children are going to sleep, sleeping, are beginning to wake up, or are indoors or outdoors.

Area 3: Approaches to Learning

Engagement and Persistence - Infant and Toddler (birth - 3 years)

Standard 3.2.IT Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines.

Benchmarks: The infant or toddler…

- 3.2.IT.1 holds attention of familiar adult; for example, through eye contact or vocalizations.
- 3.2.IT.2 repeats familiar and newly learned experiences.
- 3.2.IT.3 maintains focus, if interested, on people or objects, play experiences, or novel events.
- 3.2.IT.4 continues to try to succeed using challenging materials or during experiences.

Examples of Reaching an Infant/Toddler Benchmark:

Madeline smiles at her care provider during her diaper change. Madeline then says, "Ahgoo." The caring provider smiles and repeats, "Ahgoo." Madeline continues to make eye contact with the provider and they exchange several "Ahgoos."

Jose puts his head through the neck hole and pulls his shirt over his head. He puts one arm in each sleeve and says, "I did it!"

Raeann crawls over to the pop-up toy and pushes the buttons several times with little success. She looks to a nearby adult. The adult helps Raeann push two or three of the buttons. The adult moves away and Raeann continues to push buttons, with more success in opening the pop-ups.

Leilani lets go of the adult's hand, takes a wobbly step, and falls down. She pushes up and takes two steps before falling down again.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide protected spaces and adequate time for each child to choose developmentally appropriate toys and to play without being interrupted.
- introduce toys multiple times to determine each child's interest.
- allow each child to take the lead during play.
- provide additional support and assistance for each child to engage and to persist with toys.
- support children's choices by paying close attention to their actions and gestures, interpreting their preferences, and building on them.
- play and interact often with each child.
- talk about and model healthy and safe behaviors throughout the day.
- use words of encouragement to support children in their experiences and routines.

Area 3: Approaches to Learning

Engagement and Persistence - Preschool (3 - 5 years)

Standard 3.2.PS Children purposefully choose and persist in experiences and play.

Benchmarks: The child…

3.2.PS.1 maintains concentration on a task, despite distractions and interruptions.

3.2.PS.2 stays engaged and completes a variety of both adult-directed and self-initiated tasks, projects, and experiences of increasing degrees of difficulty.

3.2.PS.3 sets goals and follows a plan in order to complete a task.

3.2.PS.4 chooses to participate in play and learning experiences.

Examples of Reaching a Preschool Benchmark:

Dee plays with blocks. She carefully lays out a grid of long blocks, putting a series of blocks that are one, two, or three blocks high in the spaces of the grid. She then takes a car and drives it on the grid. Dee says, "Here's my school. See the parents bringing all the kids to school?" The adult says, "You worked a long time to make such a big town with so many streets, houses, and a school, too!" Dee points to a large building and says, "And here's the grocery store. Everyone goes there to get food for supper." The adult responds, "That is an important store in the town."

Mai chooses a puzzle. After a few minutes, she pushes away the partially completed puzzle. A caring adult says, "Mai, you look like you are frustrated. Let's turn over all the pieces so you can see each picture." Mai turns the pieces over and looks at the pieces. The adult points to a rounded shape in the border and says, "Look at this. Can you find a piece with this shape?" Mai fits the shape into the space and says, "I did it! It's a wheel. And here's another wheel." She continues to assemble the puzzle. "I did it!" Mai exclaims. "You got all the pieces into the puzzle," responds the adult. Mai smiles and says, "Let's do another one."

Geovanni is getting restless as the caring adult reads a story about a curious monkey. To re-engage him, the adult says, "Geovanni, what do you think the monkey will do with the newspapers?" Geovanni replies, "He'll read them." The adult says, "Let's see if your prediction is right." The adult turns the page, showing the children and continues to read.

Examples of Reaching a Preschool Benchmark (continued):

Alexander takes a small piece of playdough, shapes the dough into a ball, and flattens it by pushing it on top of the table. He tries to pull the flattened dough up but it pulls apart. He repeats the actions, but this time lifts the edges of the flattened piece first. He places it on a tray. He makes five more flattened pieces, putting each one on the tray until it is full. He tells a nearby adult, "Look I made cookies." The adult says, "I watched you work very hard to make those cookies. What ingredients did you put in your cookies?"

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a safe environment with a variety of developmentally appropriate experiences and materials for child-initiated exploration and play.
- provide defined learning spaces to decrease distraction and to provide some protection to encourage sustained involvement with other children and materials.
- provide learning experiences through routines and play, allowing sufficient time for children to continue in self-selected experiences.
- guide each child's learning and development by responding to questions, ideas, and requests for help, by being present with and fully attending to children, and by individualizing responses to children.
- provide assistance, as needed, to support the involvement by each child.
- provide adult-directed experiences that engage and support the learning in a developmentally appropriate and intentional manner.
- ask open-ended questions to support children's learning, such as, "What do you think will happen next?"
- provide a variety of planned play experiences, indoors and outdoors, including experiences that each child enjoys.

Area 3: Approaches to Learning

Reasoning and Problem Solving - Infant and Toddler (birth - 3 years)

Standard 3.3.IT Infants and toddlers purposefully demonstrate strategies for reasoning and problem solving.

Benchmarks: The infant or toddler…

3.3.IT.1 uses an object, action, or adult to accomplish tasks, such as pulling a blanket to reach a toy or pushing a button to hear a sound.

3.3.IT.2 experiments to find a solution to a problem.

3.3.IT.3 imitates an adult action to solve a problem.

3.3.IT.4 recognizes difficulties and adjusts actions, as needed.

3.3.IT.5 seeks and accepts help when encountering a problem beyond his or her ability to solve independently.

Examples of Reaching an Infant/Toddler Benchmark:

Akeelah is uncomfortable in her position on the floor. She squirms to change positions but is still uncomfortable. She then looks toward the adult near her and begins to cry. The adult helps reposition Akeelah and watches her face to see if she seems content.

Melissa tries to walk up the ramp. She loses her balance and sits down. She crawls up the ramp.

Antoine lies on a blanket on the floor. He reaches for a toy on the edge of the blanket. When he cannot reach it, he grasps the blanket and pulls it toward him until he can reach the toy.

Robin takes her snack plate to the trash to scrape off the crumbs. She shakes the plate but cannot make the crumbs fall off. The adult cleans other plates with a scraper. Robin reaches for the scraper and the adult lets her use it to scrape her plate.

Adaya has a small pile of stacking blocks with her on the floor. She connected several to build a tower. As she adds another block, she presses and the tower crumbles. She builds the tower again, with the same result. The third time she builds the tower, she holds the last block out to the adult.

Ben goes to the drawer where the sippy cup lids are stored and brings a lid to a caring adult. The adult says, “Ben, are you thirsty? Would you like a drink? Let’s get you some water.” Ben follows the adult to the sink.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide developmentally appropriate, open-ended toys and materials for children to use in different ways to encourage problem solving and exploration.
- acknowledge new learning by each child.
- wait for the child to signal for help.
- guide the learning process, rather than provide solutions. Talk through problems and how to find a solution.
- ask questions that prompt a child to think about cause and effect.
- stay near children to offer support and assistance as needed.

Area 3: Approaches to Learning

Reasoning and Problem Solving - Preschool (3 - 5 years)

Standard 3.3.PS Children demonstrate strategies for reasoning and problem solving.

Benchmarks: The child…

3.3.PS.1 shows interest in and finds a variety of solutions to questions, tasks, or problems.

3.3.PS.2 recognizes and solves problems through active exploration, including trial and error, and through interactions and m discussions with peers and adults.

3.3.PS.3 shares ideas or makes suggestions of how to solve a problem presented by another person.

Examples of Reaching a Preschool Benchmark:

José and Michael run their trucks up the slide while other children are going down the slide. A caring adult says, "It's not safe to have trucks and children on the slide at the same time." José explains, "But the trucks go faster when they go down the slide." The adult replies, "Yes, the trucks do go much faster when they go downhill. What else can we set up to make the trucks go faster?" José suggests, "We can make a slide with blocks." The adult says, "Let's see if that works." José and Michael take the trucks over to the blocks, where they stack four blocks, and tilt a board against the blocks. They run the trucks down the board. "See, they go really fast," says Michael. The adult replies, "Yes, you built a ramp where trucks can go very fast and it is away from the children who want to use the slide."

During story time, Damon says, "I can't see." A caring adult says, "What can you do so you can see better?" Damon looks around and then moves to a spot where he can see the book.

Gayle is at the water table, trying to fill a bottle by using a funnel to carry the water to the bottle. Most of the water runs out of the funnel before reaching the bottle. An adult says, "I see the water is running out of the hole at the bottom of the funnel. Is there anything else you can use to fill the bottle?" Gayle looks around, goes to the dramatic play center, and returns with a toy coffee pot.

William has a hard time zipping up his coat and gets frustrated. He starts to cry. A caring adult says, "William, why are you so sad?" He replies, "I can't get my coat zipped." The adult says, "Well, what can you do to get your coat zipped up?" William says, "I can ask you for help. Will you zip my coat?" The adult says, "Of course, I will help you. Let's get this zipper started and then see if you can zip it the rest of the way."

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide opportunities for each child to try new ways to use materials.
- create safe environments that offer an appropriate amount of stimulation and choice for each child to explore and play.
- provide different types of developmentally appropriate equipment and materials to promote creativity, self-expression, number, and emerging literacy skills.
- allow each child time to process experiences and information.
- talk through problems with children to model problem-solving with others and with the environment.
- hold group meetings to discuss issues that may occur and have children brainstorm solutions to the issues before it occurs.

Area 3: Approaches to Learning

Play and Senses - Infant and Toddler (birth - 3 years)

Standard 3.4.IT Infants and toddlers engage in play to learn.

Benchmarks: The infant or toddler…

3.4.IT.1 uses sights, smells, sounds, textures, and tastes to explore and experience routines and materials within the environment.

3.4.IT.2 chooses and participates in a variety of play experiences.

3.4.IT.3 imitates behaviors of others in play.

3.4.IT.4 repeats experiences with materials, adults, and peers to build knowledge and understanding of the world around them.

Examples of Reaching an Infant/Toddler Benchmark:

Kayla turns the pages of the touch-and-feel book. She touches the fur on the lamb and says, “Baaa.”

Cyndi pulls out the nesting cubes. She carefully takes each cube apart and makes a circle of them around her.

While reading a book to Amari in her home language, the adult uses a puppet to act out certain parts of the story. Amari crawls over to the puppet bin, and pulls one out. He fidgets for a moment to find the opening and slides it over his hand. Amari wiggles his hand inside, looks to the adult, and smiles.

A caring adult does the actions to the ‘Itsy Bitsy Spider’ song. Joseph watches and then imitates the actions with the adult as the adult sings the song again.

Adult Supports - With children birth - 3 years, caring adults**:**

- prepare the physical environment to encourage children's play by providing materials that are sufficient for the ages and the number of children.
- provide materials accessible to all children, facilitate development in all areas, and encourage use of the five senses.
- provide daily opportunities for play, including indoor and outdoor play, active and quiet play, and large and small motor play for each child.
- interact often with children during play; play with each child, and talk about the experience.
- adapt materials as needed so that each child can explore the environment through play.
- engage in turn-taking games such as making faces, vocalizing, and imitating actions with each child.
- match activities to the interests and abilities of each infant or toddler, occasionally showing the next steps.
- safeguard the health and safety of each child by introducing non-toxic, developmentally appropriate materials and experiences.

Area 3: Approaches to Learning

Play and Senses - Preschool (3 - 5 years)

Standard 3.4.PS Children engage in play to learn.

Benchmarks: The child…

3.4.PS.1 engages in a variety of indoor and outdoor play experiences.

3.4.PS.2 uses sights, smells, sounds, textures, and tastes to discriminate between and to explore experiences, materials, and the environment.

3.4.PS.3 engages in self-initiated, unstructured play.

3.4.PS.4 plans and executes play experiences alone and with others.

Examples of Reaching a Preschool Benchmark:

Three children make lunch at the play kitchen. Graham puts a hamburger on his hamburger bun, and says to the adult, "I don't like plain hamburgers!" The adult replies, "What other things do you want to add to make it taste the way you like it?" Graham says, "I will to put cheese, lettuce, and tomatoes on it." As he puts on the ingredients, he laughs, and says, "No pickles on my hamburger, but I noticed Samantha used pickles, but not cheese. She must not like cheese. I wonder if Ambros likes cheese."

Cyndi climbs on a play structure and announces, "I'm a pirate, and I'm climbing to the top of the mast." A caring adult says, "You are high in the air, Cyndi." Cyndi replies, "I'm at the top of the mast now. I can see China!" The adult asks, "What do you see?" Cyndi says, "I can see the tops of the trees, and the road, and many cars." The adult says, "You're so high in the air that you can see farther than I can!" Cyndi responds, "I'm on top of the world!"

Isabella and Eduardo play in the sandbox. Isabella says, "Let's pretend we're looking for dinosaur bones." Eduardo says, "Yeah!" He jumps out of the sandbox and comes back with twigs and acorns. He says, "Let's bury these. They will be the bones we find!"

Adult Supports - With children 3 - 5 years, caring adults**:**

- use indoor and outdoor environments as a vital part of each child's active and quiet learning.
- encourage each child to use all senses to explore and play with materials.
- provide easily accessible materials for each child in both indoor and outdoor environments.
- protect the health and safety of each child by using non-toxic, developmentally appropriate materials to encourage use of the senses.
- provide extended periods of time for children to self-select materials for play and exploration.
- interact with each child throughout each day and have conversations about what the child does and experiences.
- adapt materials, as needed, so every child can explore the environment through play.

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EARLY Learning STANDARDS

Area 4: Social Studies

Awareness of Family and Community - Infant and Toddler (birth - 3 years)

Standard 4.1.IT Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups.

Benchmarks: The infant or toddler…

4.1.IT.1 expresses enjoyment at being in a familiar setting or group.

4.1.IT.2 recognizes familiar adults and uses them to determine safety during exploration.

4.1.IT.3 explores and plays freely within familiar settings.

Examples of Reaching an Infant Toddler Benchmark:

Bobby plays outside with blocks. Mark walks over and sits beside Bobby. Bobby and Mark both play with a set of blocks.

Chavah begins to crawl toward an open door in the living room. She stops, turns her head back, and looks at her mother's questioning face. She turns around and crawls toward her mother.

Isabella plays on the floor and starts to cry. The nearby adult stops what he is doing and goes to Isabella saying, "Isabella, it sounds like you are sad. Are you ready for us to spend some time together? Let's sit and read a book." Isabella responds with a smile and coos as they sit to read together.

As Juan enters his classroom, he runs to the caring adult and hugs her. Juan turns to his father and waves goodbye.

Heather plays in an area and sees an unfamiliar face. She looks to her familiar adult primary caregiver to make sure the 'unfamiliar face' is safe.

Adult Supports - With children birth - 3 years, caring adults**:**

- arrange the room, adjust space, and provide materials so two or more children, including those with diverse abilities, can play beside each other.
- provide a labeled space where each child's possessions are kept.
- provide photographs of each child with his or her family prominently displayed at the child's eye level.
- talk with children in positive ways about familiar people and family members.
- create environments that welcome each family, program staff, and members of the community.
- encourage family members to participate in program experiences and daily routines.
- incorporate familiar items, language, and routines from each child's culture into program settings.
- play and interact with children often every day.

Area 4: Social Studies

Awareness of Family and Community - Preschool (3 - 5 years)

Standard 4.1.PS Children demonstrate an increasing awareness of belonging to a family and community.

Benchmarks: The child…

- 4.1.PS.1 demonstrates understanding communities are composed of groups of people who live, play, or work together.
- 4.1.PS.2 demonstrates ability to identify communities to which they belong.
- 4.1.PS.3 recognizes their family is an important group to which they belong.
- 4.1.PS.4 demonstrates responsibility as a member of a family or community.
- 4.1.PS.5 shows confidence in expressing individual opinions and thoughts while respecting the thoughts and opinions of others.
- 4.1.PS.6 participates in creating and following rules and routines.
- 4.1.PS.7 demonstrates an initial awareness of the concepts of fairness, individual rights, and welfare of family and community members.

Examples of Reaching a Preschool Benchmark:

A home visitor is at Sasha's house. Sasha tells her, "Daddy is not at home because he is in the army a long way away."

Pedro walks over to the wall where pictures of children's families are displayed. He points to a picture and says, "Here are my two mommies."

Adam, the lead teacher, helps his preschool group learn to discuss and establish rules for the classroom community. Adam says, "What rules do we need to follow to make our group safe and healthy?" Lacresha says, "We wash our hands every time we eat!" "And when we come in from outside!" adds Charles. Adam writes each contribution on the white board.

Paula draws several shapes on a piece of paper. A caring adult says, "Tell me about your picture." Paula smiles and says, "This is me and my mom and my grandma. We are a family. This is a picture of us having dinner together. I love them and they love me." The adult responds, "You love your family, Paula. I am part of a family too. In my family, I'm the mom."

Examples of Reaching a Preschool Benchmark (continued):

After returning to the classroom from outside, Natalie says, “I never get a turn on a trike.” Kareem says, “We were pretending to be on RAGBRAI. It’s a really, really long bike race.” Natalie says, “It’s not fair that you get the trikes so long.” An adult asks, “What would be a fair rule, Natalie?” Natalie suggests, “Everyone gets five minutes on a trike. We can use the timer like we do for the computers.” Kareem says, “But that’s not fair. We can’t do RAGBRAI in five minutes! It’s a long race.” The adult says, “Some children disagree with a five-minute limit. Any other solutions?” Marshall suggests, “We can take turns and have a sign-up sheet like we do for cooking. You can ride as long as you want. But when someone signs up, you have to get off in five minutes.” The adult responds, “We have two ideas. Everyone uses a timer and gets off in five minutes. Or you use the trike as long as you want, until someone signs up on the list. Then you have to get off in five minutes. How can we decide between the two ideas?” Emily replies, “We can vote.” The adult puts two columns on a board, explains the choices, and asks each child to choose. The adult concludes, “Marshall’s idea got more votes. Let’s try Marshall’s idea for a few days and then we’ll talk about how it’s working.”

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide each child with opportunities to explore the community through field trips or by inviting guests to share experiences and information.
- use project-based learning experiences to learn about families and community members.
- ensure that all environments and experiences are designed so all children, including those with diverse abilities, are included.
- conduct group meetings so each child can participate in discussions of justice, fairness, the welfare of the community and its members, and individual rights in the context of daily experiences.
- initiate conversations, as situations arise, to discuss individual children’s feelings and the feelings of others, how actions and words affect feelings, and to promote group interpersonal relationships.
- initiate conversations about differences and similarities.
- provide children with play experiences and materials to explore social roles in the family and workplace, following social rules, norms, and routines.
- invite families to share stories and songs from their culture.
- create an environment to welcome each family and encourages them to participate in program activities and daily routines.

Area 4: Social Studies

Awareness of Culture - Infant and Toddler (birth - 3 years)

Standard 4.2.IT Infants and toddlers demonstrate a strong sense of self within their culture.

Benchmarks: The infant or toddler…

4.2.IT.1 expresses enjoyment at being in a familiar setting or group.

4.2.IT.2 chooses and participates in familiar experiences, including songs and stories from his or her home culture.

4.2.IT.3 explores materials from various cultures.

Examples of Reaching an Infant/Toddler Benchmark:

An adult sings with the children. José, whose family speaks primarily Spanish at home, sings along. Brittany uses sign language. The adult alternates singing verses in English and Spanish while encouraging the children to watch Brittany. The adult talks about different ways to say the same words.

Chi's father, who grew up in Vietnam, visits the classroom during snack. He shows the toddlers how he uses chopsticks to eat food and lets them explore using child-sized chopsticks with their food. Chi beams.

Katie explores the features of a doll, including skin color, eye color, hair, and clothing.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide opportunities for each child to join in experiences such as finger plays or singing songs from the child's home language or culture.
- use words and materials to refer to families and family members that acknowledge how young children are raised in many different kinds of families.
- include staff or volunteers from each child's culture, race, or ethnicity.
- provide care routines that are similar to each child's family culture.
- learn words from each child's home language.
- speak to each child in his or her home language.
- talk positively about family members.
- use diverse materials during dramatic play, including books, posters, and other items.
- sing a song at naptime familiar to the child.
- read a book provided by the family, including books from other cultures.

Area 4: Social Studies

Awareness of Culture - Preschool (3 - 5 years)

Standard 4.2.PS Children demonstrate an increasing awareness of culture and diversity.

Benchmarks: The child…

4.2.PS.1 demonstrates an awareness of diversity such as family characteristics, adult roles within a family, and skin and hair color.

4.2.PS.2 demonstrates acceptance of persons from different cultures and ethnic groups.

4.2.PS.3 demonstrates a sense of belonging, feeling pride in his or her own culture while showing respect for others.

4.2.PS.4 uses respectful and descriptive language for human similarities and differences, demonstrating curiosity, comfort, ease and empathy with similarities and differences.

Examples of Reaching a Preschool Benchmark:

Jane visited Tony's home, where she watched Tony use chopsticks to eat chicken nuggets and carrots. Tony's mom gave Jane a fork and a set of chopsticks. Jane used her fingers to eat the chicken nuggets. Tony said to Jane, "At my home, I use chopsticks for food. I don't use my fingers. But at school, I use a fork or my fingers." Tony showed Jane how to use chopsticks. Later, she asked Tony's mom if she could take the chopsticks home. Jane took her chopsticks to show everyone that she can use chopsticks.

Sarine announces to her friends, Melissa and Tina, she will to have a birthday party. All three girls speak English but Tina is bilingual, and speaks Spanish and English. A caring adult is nearby and comments in Spanish about the girls' plans. Tina explains to her friends what the adult said. "You be the birthday boy," Sarine says to the adult. He sits down at the table in the play kitchen and the girls adorn him with scarves and jewelry. The adult says, "Tina and I can teach you how to sing *Happy Birthday* in Spanish." Tina and the adult sing the song all the way through. Then they sing each phrase of the song and encourage Melissa and Sarine to repeat each phrase with them.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide each child with a variety of opportunities and materials to build his or her understanding of diversity in culture, family structure, ability, language, age, and gender in ways that do not stereotype and use project-based strategies.
- initiate conversations about differences and similarities.
- provide children with opportunities and materials, especially books, that reflect a variety of races, cultures, types of families, and gender roles.
- include staff or volunteers from each child's culture, race, or ethnicity.
- invite families to share stories and songs from their culture.
- learn words, phrases, and sentences from each child's home language and use this language in interactions and play experiences.
- provide materials such as photographs, books, posters, games, clothes, foods, and dolls, as well as experiences that reflect each child's family, community, or culture.
- create an environment that welcomes each family and encourages them to participate in program activities and daily routines.

Area 4: Social Studies

Exploration of the Environment - Infant and Toddler (birth - 3 years)

Standard 4.3.IT Infants and toddlers explore new environments with interest and recognize familiar places.

Benchmarks: The infant or toddler…

4.3.IT.1 demonstrates interest and curiosity within familiar and unfamiliar settings.

4.3.IT.2 explores and plays with new, as well as familiar objects, in the environment using all five senses.

4.3.IT.3 chooses and participates in unfamiliar experiences.

Examples of Reaching an Infant/Toddler Benchmark:

Ari, a newborn, moves his eyes in the direction of his father's voice when his father enters the room.

Sabira toddles down a clinic hallway as her mother waits for her well-baby checkup.

Seth picks up a new board book and chews on the corner.

A caring adult gives Demario a bowl and wooden spoon. Demario bangs the bowl with the spoon.

Kai notices new play mats and a ramp in the corner of the room. He walks to the mats, pushes them together, and climbs up the ramp. Kai feels the smoothness of the mat with his hands, sits on his bottom, and slides down the ramp.

A caring adult sets Payton, a young infant, on the floor. Payton rolls slightly from side to side and sees a small stuffed toy. She reaches for the toy, grasps it, holds it over her head, and turns it in her hands while she looks at it.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of developmentally appropriate experiences and materials to explore and for play.
- name objects in the environment.
- talk through routines to help children feel safe, as well as build their understanding of what is happening or will happen.
- provide opportunities to experience a variety of settings both indoors and outdoors.
- model curiosity and observation by commenting and engaging children in conversation.
- play games that encourage engagement with others and the environment, such as peek-a-boo or hide-and-seek.
- ensure all children receive vision and hearing screenings.
- share information with families about how to provide safe environments that allow for infants and toddlers to explore and to get messy, without getting hurt.
- encourage families to take infants and toddlers on outdoor walks and field trips to public settings such as parks, zoos, farms, skywalks, and grocery stores.
- model healthy and safe behaviors for children and families.

Area 4: Social Studies

Awareness of the Relationship Between People and the Environment in Which They Live - Preschool (3 - 5 years)

Standard 4.3.PS Children demonstrate an increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment.

Benchmarks: The child…

- 4.3.PS.1 interacts with the world, first with familiar settings and then with less familiar ones; first in simple ways and then in more complex, exploratory ways.
- 4.3.PS.2 constructs meaning about himself or herself and the world through relevant and meaningful experiences with objects and the environment.
- 4.3.PS.3 recognizes aspects of the environment, such as roads, buildings, trees, gardens, bodies of water, or land formations.
- 4.3.PS.4 recognizes that people share the environment with other people, animals, and plants.
- 4.3.PS.5 understands that people can take care of the environment through activities and experiences, such as cleaning, conserving, reusing, and recycling.
- 4.3.PS.6 recognizes a variety of jobs and the work associated with them.

Examples of Reaching a Preschool Benchmark:

A caring adult decides to add new materials to the art area for the children to become familiar with and use. The adult adds a variety of skin-colored papers, crayons, and colored pencils. Maya moves to the art area and notices the new materials. She says to the adult, "These are new. May I use them to make a picture?" The adult replies, "Yes, go ahead and take them to the table." Maya begins to select some paper and crayons and says, "These colors are more like our skin than the other paper we used to have."

Brian takes a walk with a caring adult. Brian says, "That tree looks like the one in the front yard." The adult responds, "Let's go look at the tree and get a closer look."

The adult notices as Shandra is cleaning up her snack area, she stops and looks at the trash can and the recycling bin. Shandra decides to rinse her plastic cup out and put it in the recycling bin. She then throws away the rest of the items in the trash can.

Examples of Reaching a Preschool Benchmark (continued):

An adult and several children work together to plant a garden. Angie asks, “Can we plant red flowers?” A caring adult responds, “Of course.” “My garden at my house has red flowers!” yells Luke. A squirrel sits in the garden. “Why is that squirrel here?” asks Angie. Luke answers, “He lives here. Squirrels live outside like the other animals.”

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide opportunities and materials to play and explore within the inside and outside environments.
- provide opportunities to visit new places like museums, parks, and a variety of settings so they can observe and interact with things such as roads, buildings, trees, gardens, bodies of water, and land formations.
- encourage each child, through conversation, to make meaning of experiences with the inside environment and the outside world.
- ensure that outdoor play is part of everyday experiences.
- thoughtfully design spaces and environments that are inviting to children and full of interesting things to watch and do, as well as safe to explore.
- acquaint children with various community helpers.
- give each child meaningful jobs, such as watering plants, feeding animals, or cleaning tables.
- model appropriate behaviors in caring for the inside and outside environment.

Area 4: Social Studies

Awareness of Past - Preschool (3 - 5 years) *

Standard 4.4.PS Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community.

Benchmarks: The child…

4.4.PS.1 differentiates between past, present, and future.

4.4.PS.2 represents events and experiences that occurred in the past through words, play, and art.

4.4.PS.3 uses past events to construct meaning of the world.

4.4.PS.4 understands that events happened in the past and that the events relate to oneself, family, community, and culture.

Examples of Reaching a Preschool Benchmark:

An adult reads a story about a boy on a trip. Sarah says, "I went in a car with my family to visit my grandma last summer. It was a long ride. We were gone six whole days."

Josiah works on drawing a picture in the art area. He asks an adult to come and look at what he is doing. The adult says, "Tell me about what you are drawing." Josiah answers, "This is a picture of the raft I went on in the river with my uncle and my brother last year. It was so much fun. The water splashed me and I got wet. I had to wear a helmet on my head, too."

Abigail has a pile of photographs and blank paper. "What are you making?" asks a caring adult. Abigail responds, "I'm making a photo album. See? I have pictures of when I was a little baby. That was a long time ago. And here is one from yesterday. And I'll take more pictures tomorrow and next year at my birthday and add them to my photo album."

"I got a puppy yesterday," says Marla. "I had a dog," Martin adds, "but he went to live on a farm. That was a long time ago, I was little then." Spencer says, "My mom says I can get a dog, but not until I'm bigger."

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide opportunities for each child to explore materials that can encourage the retelling of stories and past experiences such as dramatic play props, puppets, books, and art materials.
- guide children to recall past experiences by asking them open-ended questions.
- encourage children to connect their present experiences with their past experiences.
- encourage children to bring photographs to share with others to demonstrate past events and experiences.
- allow flexibility in program or service goals so the goals can reflect and respond to a child's past experiences or the past experiences of her or his family.
- engage children often in conversations related to events and experiences in their lives.
- take pictures of children's experiences and make the pictures accessible to encourage conversation about past events.

*** preschool standard only - awareness of past events is not developmentally appropriate for infants and toddlers**

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EARLY Learning STANDARDS

Area 5: Creative Arts

Art - Infant and Toddler (birth - 3 years)

Standard 5.1.IT Infants and toddlers participate in a variety of sensory and art-related experiences.

Benchmarks:

The infant…

5.1.IT.1 gazes at a picture, photo, or mirror images.

5.1.IT.2 manipulates and explores play materials within the environment.

The older infant and toddler also…

5.1.IT.3 expresses interest in art-related experiences and media.

5.1.IT.4 engages in experiences that support creative expression.

5.1.IT.5 chooses and experiments with a variety of art materials such as playdough, crayons, chalk, water, markers, and paint.

Examples of Reaching an Infant/Toddler Benchmark:

Tran, during tummy time, picks up his head and turns towards his smiling reflection in the mirror.

Paolo picks up the marker. First, he makes vertical marks on the paper, then horizontal. He also makes dots. Then, he puts the marker on the side and rolls it back and forth.

Pat places her finger in the red finger paint and touches the paper. She swirls her finger on the paper, making a mark. She then puts her hand in the paint and places it on the paper. “Sun!” she exclaims.

Joathim paints sidewalk designs with a short-handled four-inch brush and a small pail of green-colored water.

Tristen pounds her fist on top of a small ball of playdough chanting, “Roll it. Pat it. Mark it with a T.”

Elijah explores the applesauce on his highchair tray, moving the applesauce with his fingers.

Adult Supports - With infants and toddlers, caring adults**:**

- provide supervised daily opportunities for creative expression that reflect the home cultures of the families served.
- use descriptive words to point out colors, shapes, and textures during play and art experiences.
- establish safe environments and use age appropriate materials for children's exploration within the inside and outside environment.

With toddlers, adults:

- provide a variety of safe, hazard-free art materials such as crayons, markers, paper, and paint brushes for each child to explore while supervised.
- prepare a safe, hazard-free environment with a variety of developmentally appropriate materials that are non-toxic and not harmful if mouthed or swallowed, and approved by the Art and Creative Materials Institute (ACMI).
- encourage each child to explore all art materials in a variety of ways, rather than focusing on finished 'products' such as toilet roll butterflies, pre-patterned art, or coloring books.
- provide creative arts experiences in the outdoor environment.
- model and encourage children to practice hand washing before and after each use of sensory materials.

Area 5: Creative Arts

Art - Preschool (3 - 5 years)

Standard 5.1.PS Children participate in a variety of art and sensory-related experiences.

Benchmarks: The child…

5.1.PS.1 uses a variety of drawing and art materials, such as drawing utensils, paint, clay, and wood to create original works, form, and meaning.

5.1.PS.2 expresses ideas about his or her own artwork and the artwork of others, relating artwork to what is happening in the environment or life experiences.

5.1.PS.3 demonstrates care and persistence when involved in art projects.

5.1.PS.4 plans and works cooperatively to create drawings, paintings, sculptures, and other art projects.

Examples of Reaching a Preschool Benchmark:

Keith dips a brush into yellow paint. He moves the brush across the paper up and down, then side to side. He dips the other brush in blue paint, then paints large slashes back and forth. A caring adult says, "Tell me about your painting, Keith." Keith replies, "I used lots of yellow and blue." Pointing to a green triangular shape, he says "Hey look—there's a Christmas tree!" The adult says, "I see the tree, too—and it is green, like a Christmas tree. When yellow and blue are mixed together, they make green."

While outside, Ashley gathers a few wooden blocks and arranges them into neat piles. She then collects several small stones and sticks. Ashley carefully arranges the stones and sticks on top and looks at the structure for a moment. She announces, "I made a sculpture!"

Ana approaches Cecilia and asks, "Do you want to do art with me?" Cecilia responds, "Sure. We can draw a picture. I'll get crayons." Ana says, "I'll get paper to draw on." Both girls sit at the table and begin to color on a sheet of paper.

Oliver, Aurora, Isla, and Ben made puppets from fabric, paper towel tubes, pipe cleaners, and markers to tell the story they wrote about weather. Oliver used his puppet to talk about his fear of thunderstorms.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of art and sensory materials in indoor and outdoor environments.
- encourage each child to express his or her own ideas in artwork without providing models, directions, or pre-made components.
- display a variety of children's artwork at the eye level of the children.
- provide a supportive atmosphere where each child is encouraged to share his or her art experiences.
- prepare a safe, hazard-free environment with a variety of developmentally appropriate materials that are non-toxic and not harmful if mouthed or swallowed, and approved by the Art and Creative Materials Institute (ACMI).
- model and encourage each child to practice good hand hygiene before and after use of sensory materials.
- talk with children about their creations and discoveries, introducing new vocabulary when applicable.

Area 5: Creative Arts

Music, Rhythm, and Movement - Infant and Toddler (birth - 3 years)

Standard 5.2.IT Infants and Toddlers participate in a variety of rhythm, music, and movement experiences.

Benchmarks:

The infant or toddler…

5.2.IT.1 shows interest in songs, tones, rhythms, voices, and music.

5.2.IT.2 experiments with a variety of age-appropriate instruments and sound-making objects.

5.2.IT.3 enjoys exploring ways of interacting with others through touch and motion.

The toddler also…

5.2.IT.4 chooses and participates in music and movement experiences.

5.2.IT.5 sings simple songs and participates in finger plays.

5.2.IT.6 sings daily songs to recognize the patterns throughout their day.

Examples of Reaching an Infant/Toddler Benchmark:

An adult plays music. Andy starts moving his feet to the music, bobbing up and down as the adult claps his hands.

Charlie enjoys playing with a sound-making toy by pushing the buttons to make the musical sound.

Vivian has the necessary time to discover and engage with instruments and sound-making objects. She watches, grasps, mouths, shakes, rolls, transfers, drops the instrument, and experiences all the physical effects of those actions on the objects.

An adult plays music or sings a song and helps Marley experience the steady beat through patting, moving, clapping, bouncing, or playing musical instruments to the beat.

As the adult and children sing, Hyun-Joo joins in by saying, “The wheels on the bus go round and round.” She moves her hands in a circular motion while singing.

Examples of Reaching an Infant/Toddler Benchmark (continued):

An adult helps Solomon experience steady beat of "Pat -a - Cake" while bouncing Solomon on the adult's lap. The adult also does the actions with the words "roll it" and "pat it." The adult bounces Solomon to the beat while singing "Pop Goes the Weasel" and then does a quick lift in the air with the final line of the song.

An adult sings the "ABC" song every day while children wash their hands for snack time and lunchtime, so they have ample time to scrub their hands.

An adult sings the same song every day, as a ritual, before they begin eating.

Chris is crying and restless. An adult plays soothing music from Chris' native language. Chris calms down and stops crying.

Lily plays rhythm sticks as the caring adult sings a song or to a recording. The adult encourages Lily's actions and challenges her with more ways to play the sticks such as play up high or down low, or play softly or loudly.

Spencer enjoys moving his body up and down while singing "The People on the Bus Go Up and Down." He flies around the room while doing a rhyme about an airplane. He mimics the appropriate number of fingers while reciting "Five Little Monkeys Jumping on the Bed." He knows and asks for his favorite songs regularly.

As the caring adult sings, Georgia makes sound effects.

Louie repeats rhythmic phrases or motions during a story.

Adult Supports - With children birth - 3 years, caring adults**:**

- join each child daily in singing and movement experiences.
- incorporate rhymes into daily routines, providing rituals and a predictable pattern for the day.
- use songs to transition from one activity to another.
- provide toddlers with opportunities to discover, engage with, listen to, and experience various age-appropriate instruments.
- provide each child with opportunities to participate in musical experiences and traditions reflecting the home cultures of the families served, in both indoor and outdoor environments.
- incorporate large and small motor movement with a mixture of quiet and active music experiences for each child.
- provide ample space, both indoors and outdoors, for children to dance and to move freely.
- regularly introduce and model new movement experiences.

Area 5: Creative Arts

Music, Rhythm, and Movement - Preschool (3 - 5 years)

Standard 5.2.PS Children participate in a variety of music and movement experiences.

Benchmarks: The child…

5.2.PS.1 participates in a variety of musical and rhythmic experiences, including singing, dancing, listening, playing simple rhythmic and pitched instruments, and creating and singing chants, rhymes, and finger plays from diverse cultures.

5.2.PS.2 demonstrates meaningful creative and imaginative responses, including taking on pretend roles, when listening to music to reflect the expressive elements of music.

5.2.PS.3 notices differences in high and low sounds (pitch), long and short sounds (rhythm), loud and quiet sounds (dynamics), fast and slow sounds (tempo), and differences between instruments or sounds (timbre).

5.2.PS.4 recognizes patterns in songs and rhymes and repeats them, using songs, chants or instruments, including the development of ability to keep beat.

5.2.PS.5 demonstrates an awareness of music and sound as part of daily life indoors and outdoors.

Examples of Reaching a Preschool Benchmark:

Stacey listens to a song on a CD player. She picks up some scarves nearby and begins to move to the music. A caring adult asks, "What does the music make you want to do?" "I'm flying," replies Stacey. The adult says, "You're using your arms to fly. Tell me more about the music." Stacey responds, "It makes me fly fast." "The music does have a fast tempo," says the adult.

A caring adult is singing "Old Macdonald Had a Farm" with Tykisha. The adult says, "What other animal can we sing about?" Tykisha replies, "An elephant." The adult says, "What sound does an elephant make?" Tykisha makes a sound and they keep singing together.

Children use maracas they created and sing a song about rain. The adult says, "Now it's raining just a little bit, just a sprinkle. What will it sound like?" The children play the maracas very softly. The adult says, "Now it's beginning to rain a little harder." The children play a little louder. The adult says, "Now it's raining very hard!" The children play very loudly. The adult says, "Now the rain is slowing." The children begin to play gradually slower.

Examples of Reaching a Preschool Benchmark (continued):

Samantha plays a drum and as she explores the different sounds, the caring adult asks open-ended questions such as “What's another way to play the drum?” and “How would you describe that sound?” and “Which sound do you like best?” Samantha answers the questions and makes different sounds on the drum.

Kole listens to a story about animals and imitates the movements of animals such as hops like a rabbit, jumps like a frog, and gallops like a horse. He decides to experiment with different instruments to find one that sounds like a galloping horse.

Norah dances to a ‘move and freeze’ song, dancing with a ribbon when she hears the music, and freezing every time the music stops.

A caring adult plays two different instruments such as a jingle bell and a triangle behind or under a blanket. Sarah identifies the instrument based on hearing the sound (timbre), without seeing it.

Freddy uses his imagination to pretend to be a dinosaur, stomping around when he hears low-pitched music with a slow beat.

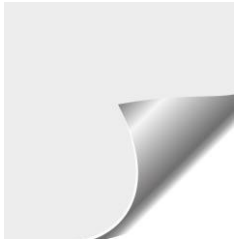
Isabel is dancing to fast music and changes her movements as the music changes to a slower song (tempo).

During instrument exploration time, the caring adult hands out rhythm sticks and notices Liam creates a variety of sounds, including loud and soft, and fast and slow with the sticks. The caring adult asks Liam which sound is his favorite. He says he enjoys loud sounds and demonstrates this.

Emma enjoys swings during outside time and sings a song while swinging. She then hears a bird singing and tells a caring adult, “I hear a bird singing!”

Selah sings a hello song with her class to start their day. She recognizes her feelings and says, “This music makes me feel happy.”

Adult Supports next page



Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of music materials daily, keeping the materials accessible to support child choice during play experiences.
- provide a variety of music, such as lively music to encourage movement, and quiet, soothing music to calm and relax the children, and includes a variety of music from children's cultures.
- model and encourage each child to express herself or himself through music-related experiences throughout each day, both indoors and outdoors.
- incorporate various forms of music and movement into circle or group time, encouraging children to dance and to move their bodies in various ways such as clapping, tapping, rocking, swaying, walking, galloping, hopping, skipping, and marching.
- incorporate finger plays and rhymes with small manipulatives or finger puppets that focus on small muscle movements.
- adapt activities and materials to involve children with varying abilities in music and movement activities.
- encourage children to create a variety of sounds that help bring life to musical concepts such as loud or soft, fast or slow, and long or short.
- provide ribbon, scarves, shakers, drums, rhythm sticks, maracas, and other age-appropriate instruments and props to encourage different movement experiences.
- provide shared and interactive musical experiences that make children feel part of a group and develop social experiences through circle songs and singing games.
- talk about children's rhythms and musical sounds using open-ended questions such as "How would you describe that sound?" or "Which sounds do you like best? or "What's another way you could play or sing that?"
- sing with children throughout each day, making music a part of routines and rituals.

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Area 5: Creative Arts

Dramatic Play - Infant and Toddler (birth - 3 years)

Standard 5.3.IT Infants and toddlers engage in dramatic play experiences.

Benchmarks:

The infant and toddler…

5.3.IT.1 imitates the sounds, facial expressions, gestures, or behaviors of another person.

5.3.IT.2 imitates the actions and sounds of animals, people, and objects.

The toddler also…

5.3.IT.3 engages in dramatic play in both indoor and outdoor environments.

Examples of Reaching an Infant/Toddler Benchmark:

Jason is lying down. A caring adult pats his back. Toni watches the adult, then comes over and pats Jason's back.

Amy mouths a toy telephone. She hears the real phone ring and puts the toy phone receiver to her ear.

Maria rocks the baby doll in her child-sized rocker. She hums a tune and says, "Love you baby," while bending down to kiss the doll. She looks to a nearby adult and says, "You kiss baby, too." The adult kisses the baby.

Mary Sue picks up a block and pretends to drink from it. She hands it to the adult, who also pretends to drink from the block. Mary Sue takes the block and holds it to the teddy bear's mouth, saying "Drink, teddy."

While playing in the sandbox, a child finds a play plate, puts sand on it, and brings it to the teacher saying, "I made you some soup."

Adult Supports - With children birth - 3 years, caring adults**:**

- provide space, time, and materials from children's home cultures to use in imitating actions and simple roles in dramatic play experiences for both indoor and outdoor environments.
- play with each child in dramatic play to model healthy behaviors.
- prepare a safe, hazard free environment with a variety of developmentally appropriate materials.

With toddlers, caring adults:

- provide opportunities for each child to play and to interact with others during dramatic play such as washing the baby dolls.
- provide developmentally appropriate materials that encourage healthy behaviors, such as fresh fruit and vegetable play foods, and safety equipment such as helmets, for use in dramatic play.

Area 5: Creative Arts

Dramatic Play - Preschool (3 - 5 years)

Standard 5.3.PS Children engage in dramatic play experiences.

Benchmarks: The child…

5.3.PS.1 shows creativity and imagination when using materials.

5.3.PS.2 assumes different roles in dramatic play situations.

5.3.PS.3 interacts with peers in dramatic play experiences that become more extended and complex.

Examples of Reaching a Preschool Benchmark:

Kegan, Hunter, and Diego play in the dramatic play corner. They put on firefighter hats and yellow slickers, and aim a short hose at the playhouse. Diego says, "We need lots of water to put out the fire." Hunter adds, "We can throw buckets of water at the fire, too." They start throwing buckets of pretend water at the playhouse. Jessica watches nearby. A caring adult notices and says, "Jessica, do you want to help the firefighters?" Jessica nods. The adult says, "Tell them you want to help fight the fire." Jessica approaches the boys and says, "I want to fire fight." "You could drive the fire truck," responds Kegan. Jessica runs to put on a hat and yellow slicker, and gets behind the large steering wheel.

Children ride trikes and Nikko decides to use the plastic blocks to make a convenience store next to the trike path. He asks Caroline to get him some sticks for "beef sticks" and tree leaves for "cookies." Nikko calls to the other children on trikes, "Come over to the store, and get some gas and some snacks!"

Oliver, Aurora, Isla, and Ben wrote a story about weather. They decided to make puppets to tell their story. Oliver used his puppet to talk about fear of thunderstorms.

An old rowboat was buried in the dirt in the corner of the playground. Fishing poles, an old tackle box, and paper worms attached to pipe cleaner hooks are in the boat. Gorja sees the boat and says, "Sammy, come in the boat with me, we have to catch a fish for dinner." Sammy gets in and they pretend to fish. Jimmy and Callie come to the boat to get the fish and take the fish to the playhouse to "cook" for dinner.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide an environment, both indoors and outdoors, with sufficient space, time, props, and materials for each child to play and interact with peers, to 'try on' and to 'carry out' different roles, both familiar and unfamiliar.
- encourage each child, with coaching as needed, to interact with peers in dramatic play experiences.
- make themselves available to play with children, extending play by adding conversation and materials to scenarios or ideas the children already created.
- encourage children to write or to draw stories, then to act out the stories.
- provide props representing the diverse cultures of the children, community, and world.

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EARLY Learning STANDARDS

Area 6: Communication, Language, and Literacy

Language Understanding and Use - Infant and Toddler (birth - 3 years)

Standard 6.1.IT Infants and toddlers understand and use communication and language for a variety of purposes.

Benchmarks:

The infant or toddler, in home language and in English…

6.1.IT.1 responds to the vocalizations and communications, verbal and nonverbal, of familiar adults.

6.1.IT.2 uses vocalizations and gestures to gain attention from others.

6.1.IT.3 uses vocalizations and gestures to communicate wants and needs.

6.1.IT.4 increases both listening (receptive) and speaking (expressive) vocabulary.

The toddler also…

6.1.IT.5 progresses to using words and then to simple sentences to communicate.

6.1.IT.6 participates in conversations that include taking turns, using both receptive (listening) and expressive (speaking) language skills.

6.1.IT.7 answers simple questions.

6.1.IT.8 follows simple directions.

Examples of Reaching an Infant/Toddler Benchmark:

Gail stands by the couch, watching a caring adult read a book to Sandi. Gail says, "Me read." The adult asks, "Would you like to join us, Gail? You can sit right here." Gail smiles and climbs on to the couch next to the adult.

Kaili is sitting near a familiar adult. She begins to wave her hands. The adult smiles at her and responds, "Hi Kaili. Te veo (I see you)." Kaili waves her hands more vigorously and smiles. The adult waves his hands, still smiling, and says, "Estamos jugando (We're playing)". Kaili continues to wave her hands and giggles. The adult joins in the laughter.

Carrie looks at the small kitten that Alyssa brought today. Carrie says, "Puppy." The caring adult says, "Yes, this is furry and has four legs like your puppy, but we call that a kitten. See, it has whiskers." Carrie looks and says, "Kitten."

Examples of Reaching an Infant/Toddler Benchmark (continued):

Joshua sits in a chair. He watches a caring adult move around the room while the adult describes what she is doing. The adult asks, "Are you looking for me? Here I am getting lunch for us." Joshua coos and pounds the table. She responds with, "Oh, are you hungry? It will be time to eat soon."

While playing outside in the sandbox. Julian holds up a bucket with sand in it. A familiar adult says, "Oh, you found a bucket with sand. The sand is smooth. Can you fill the bucket with more sand?"

During snack time, Ana signs "more." A caring adult responds with sign language for more and verbalizes, "More? Do you want more crackers, Ana?"

Adult Supports - With children birth - 3 years, caring adults**:**

- describe children's routines, experiences, and play in English and in each child's home language.
- repeat and expand each child's vocalizations, introducing new vocabulary as appropriate.
- respond promptly to children's vocalizations and communication.
- take intentional action to learn from family members, how and when home languages are used with children, valuing and respecting each child's home language.
- learn key words, phrases, and sentences in each child's home language.
- intentionally support bilingualism through experiences such as reading stories in the home language of each child.
- incorporate the diversity of families' languages and culture into the environment.
- help families understand the benefits of learning two languages.
- make eye contact with each child while speaking or listening, with considerations for cultural practices and special needs.
- individualize strategies to facilitate communication with each child.
- acknowledge and expand each child's response or comments to demonstrate understanding and prompt more conversation.
- place themselves at the child's eye level when speaking with him/her whenever possible.

Area 6: Communication, Language, and Literacy

Language Understanding and Use - Preschool (3 - 5 years)

Standard 6.1.PS Children understand and use communication and language for a variety of purposes.

Benchmarks:

The child…

6.1.PS.1 demonstrates a steady increase in listening (receptive language) and speaking (expressive language) vocabulary.

6.1.PS.2 initiates, listens, and responds in relationship to the topics of conversations with other children (peers) and adults.

6.1.PS.3 speaks in phrases and sentences of increasing length and complexity.

6.1.PS.4 follows oral directions that involve several actions.

6.1.PS.5 asks and answers a variety of questions.

6.1.PS.6 demonstrates knowledge of the rules of conversations such as taking turns while speaking.

The child, who is an English language learner, also…

6.1.PS.7 uses her or his home language, sometimes in combination with English, to communicate with people.

6.1.PS.8 demonstrates ongoing development and improvement in vocabulary and complexity in use of home language.

6.1.PS.9 demonstrates engagement at home or the classroom in literacy activities to relate to her or his home language.

6.1.PS.10 demonstrates receptive (listening) and expressive (speaking) English language skills to be able to comprehend the English language.

6.1.PS.11 demonstrates engagement in English literacy activities to understand and respond to books, storytelling, and songs presented in English.

Examples of Reaching a Preschool Benchmark:

Drew and a caring adult are eating lunch. Drew says, “My shirt is green like the peas.” The adult responds, “Yes, both your shirt and the peas are green. What else is green?” Drew replies, “Grass and snakes.”

Tamra says, “Look, a gold button.” A nearby adult says, “It is big gold button, Tamra. We call this big, gold, shiny button a badge. The police officer wears a badge.” Tamra responds, “A gold badge.”

A caring adult approaches a child who is painting. The adult asks, “Are you painting?” The child replies, “I do arboles.” The adult responds “Arboles? Trees?” The child states, “He go on tree. He climb.” The adult uses a gesture and says, “He is climbing.”

A caring adult makes sandwiches from pita bread for snack. The adult asks, “What is different about this bread?” Nelly responds, “The pita bread is like an envelope.” Maya adds, “This bread is different. There’s no crust.” After snack, the adult reads the book, *Bread, Bread, Bread*, to the children. Together, they make a list of all the different kinds of bread in the book and add others they ate before that weren’t in the book. The adult and children also discuss other names for bread.

While reading "*Where’s Spot,*" a caring adult asks a variety of questions. “Did Spot have a good hiding place?” Andy searches through his communication book and finds the symbol for “no” and a picture of a tree and puts them in his sentence strip. Andy holds the strip up and shakes his head ‘no’ and then points to the tree. The adult says, “Andy, you think Spot didn’t have a good hiding place. You think behind the tree is a better hiding place.” Andy smiles and shakes his head, “Yes”.

A small group of children plays a game outside. Maria takes a turn taking action picture cards from a bag and arranges them in the sequence she wants the others to follow. After she arranges the pictures, Maria says, “Hop on one foot, turn around, then sit down.” The children perform the actions.

While on a walk through the neighborhood, Sam discovers a feather. A caring adult walking with Sam asks, “Where do you think the feather came from?” Sam says, “Feathers come from birds. Does it hurt them when they lose their feathers?” The adult says, “No, it’s like hair falling out when you wash it.”

During a home visit, the adult watches as Beatriz and her grandmother have a long conversation in Spanish.

Vinh tells a caring adult about what he did with his family at a cultural festival. He uses Vietnamese words to describe food he ate and the dances he saw.

Adult Supports next page

Adult Supports - With children 3 - 5 years, caring adults**:**

- model and intentionally teach new vocabulary, by explaining the meaning of new words in conversations, books, songs, and rhymes, and use the new vocabulary repeatedly by incorporating the vocabulary into play, other experiences, and learning materials.
- provide many daily opportunities to engage children in conversations by making comments, by asking questions, and by responding.
- create opportunities for children to practice following simple directions.
- position themselves, whenever possible, at children's eye level when speaking with children.
- ask a variety of open-ended, including who, why, how, and what if questions based on each child's language skills so all children have opportunities to contribute to conversations and discussions.
- understand and accept the current stage of language development of English language learners, and tailor interactions to meet their needs such as predictable and repetitive speech and phrases; make sure speech matches the item or example in the conversation; serve as an interpreter when needed; use gestures, facial expressions, pictures, and props such puppets or other visuals.
- intentionally promote inclusion of all children of varying abilities or are English language learners.
- pair children with varying abilities or dual language learners with helpful peers (other children) who can serve as good language and peer models.
- use adaptive strategies and equipment such as communication boards, computers, hearing aids, and auditory trainers to assist communication with children with diverse abilities.
- learn key words, phrases, and sentences in each child's home language and use the words, phrases, and sentences with the children.
- promote the value of bilingualism (speaking in more than one language) and strive to maintain the home language.
- provide materials and resources, to families whose home language is not English, and support the use of home language, so family members can provide rich reading experiences to their children in the home language.
- have parents, or others speaking each child's home language, record songs, stories, or rhymes for use in the early care and education setting.

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Area 6: Communication, Language, and Literacy

Early Literacy - Infant and Toddler (birth - 3 years)

Standard 6.2.IT Infants and toddlers engage in early reading experiences.

Benchmarks:

The infant and toddler…

6.2.IT.1 explores or shows interest in books by picking them up, mouthing them, carrying them, or flipping through pages.

6.2.IT.2 focuses on a book or the reader when hearing stories read to him or her.

6.2.IT.3 gazes at or points to pictures in books.

6.2.IT.4 responds to or engages in songs, rhyming games, or finger plays with a familiar adult.

The toddler also…

6.2.IT.5 points to, labels, and/or talks about objects, events, or people within books.

6.2.IT.6 enjoys and repeats songs, rhymes, or finger plays.

6.2.IT.7 answers simple questions related to books.

Examples of Reaching an Infant/Toddler Benchmark:

Kai and Ben are sitting by a caring adult listening to a book. Kai points to a picture and says, "Butterfly." The adult responds, "Right, Kai—that's a butterfly. It is bright orange."

A caring adult begins to chant, "Pat a cake, pat a cake, baker's man. Make me a cake as fast as you can." Tiwanna, a two year-old, imitates the patting motions and joins in with the adult for at least a portion of the rhyme.

Becca looks at an animal book with a familiar adult. The adult names the animals and turns the pages after a few seconds. Becca grabs the page and turns back saying, "Dog!" The adult says, "Yes, it is a brown dog." She pauses for a short while for Becca to continue looking at the page. Becca then turns the page.

While outside, an adult reads a book about leaves and how they change colors in the fall. The adult points to or shows the children leaves and talks about the colors.

Adult Supports - With children birth - 3 years, caring adults**:**

- talk with each child during routines, such as diapering and mealtime, and during play experiences, using English and words from the child's home language.
- read books daily, individually or in small groups of children.
- respond to children's interests in book; talk about pictures and actions, with repeated exchanges between child and adult; and point to print on occasion.
- provide a variety of books, including both fiction and non-fiction books, for each child to explore.
- provide opportunities daily for each child to participate in finger plays, rhymes, and songs, including those in sign language, the home language, or representing children's home cultures.
- provide outdoor experiences with books and stories.

Area 6: Communication, Language, and Literacy

Early Literacy - Preschool (3 - 5 years)

Standard 6.2.PS Children engage in early reading experiences.

Benchmarks: The child…

6.2.PS.1 expresses an interest and enjoyment in listening to books and attempts to read familiar books (print motivation).

6.2.PS.2 displays book handling knowledge by turning the book right side up, turning one page at a time, recognizing familiar books by the cover, pointing to words as they talk about or retell stories using books, and using left to right sweep (print awareness).

6.2.PS.3 shows an awareness of print such as pointing to familiar words or letters (print awareness).

6.2.PS.4 understands sentences are made of words and words are made of individual letters (concepts of print).

6.2.PS.5 understands increasingly and uses a variety of words (vocabulary).

6.2.PS.6 shows increasing comprehension of a story through retelling the story and/or recognizing story elements such as the plot or characters (comprehension and story retelling).

6.2.PS.7 recognizes increasingly and names more of the letters in their first and last name and letters they see frequently (letter knowledge).

6.2.PS.8 recognizes most upper and lower case letters (letter knowledge).

6.2.PS.9 produces the sound of some of the letters she or he knows (phonics).

6.2.PS.10 identifies words that rhyme from a group of three words: cat, rug, hat (phonological awareness - rhyme).

6.2.PS.11 identifies the beginning sound in words, such as identifying two words that start with the same sound (phonological awareness – alliteration).

6.2.PS.12 identifies the syllables in his or her name and in familiar objects or words by clapping and segmenting the syllables (phonological awareness – segmenting syllables).

6.2.PS.13 blends syllables to identify a word, object, or picture (phonological awareness – blending syllables).

Examples of Reaching a Preschool Benchmark:

A caring adult reads *"The Very Hungry Caterpillar"* to Dara. Before reading the book, the adult talks about the title and the author, and asks, "What do you think the story is about?" Dara replies, "I think it is about a caterpillar, like those fuzzy ones I found yesterday." (Print motivation, Story comprehension)

Rosita shows interest in listening to one of her family's favorite stories in Spanish when her mother visits Rosita's preschool. (Print motivation)

Lilly writes her name at the bottom of her drawing with help from a nearby adult. The adult says the letter names and Lilly writes them. (Print awareness and Letter knowledge)

On the floor of the classroom, a caring adult has made an upper and lower case "J" on the floor. After reading *"Jamberry"* by Bruce Degen and talking about the upper and lower case letters, some of the children can jump on the uppercase "J" and jiggle on the lowercase "j" as the story mentions. (Letter knowledge)

When the class sings a nursery rhyme, Henry completes the last word of the line: "Twinkle, twinkle little star, how I wonderwhat you_____" with the correct word 'are'. (Phonological Awareness - rhyme)

A caring adult says, "I want everybody whose name starts with a \k\ sound to stand up." Chris, Candi, and Katie stand up. (Phonological Awareness - alliteration)

A small group of children stands and stomps the number of syllables in a word. They listen to each child's name. The adult says Tamea's name (Ta-me-a) slowly, and models stomping and counting syllables by saying, "I heard three sounds in Ta-me-a. I stomped my foot three times. Let's try this together." (Phonological Awareness - syllable awareness)

Hans imitates the sounds as the caring adult sounds out the individual sounds in the word bat as /b/ - /a/ - /t/ and then puts them together to say the single word, "bat."

While reading the book *"Who Took the Cookies from the Cookie Jar?"* by Bonnie Lass and Philemon Sturges, the adult points to a picture of a bird in the story (the raven) and asks what it is. Vinh, who listened carefully to the story and heard the adult define the unfamiliar words in the story, says, "raven." (Vocabulary)

Betty Sue and Aislinn roll a cube with six pictures of children expressing different emotions. As they roll the cube back and forth, they both shout the name of the feeling - mad, happy, angry, etc. - and demonstrate the feeling. (Vocabulary)

Examples of Reaching a Preschool Benchmark (continued):

After telling the *"Three Little Pigs,"* the caring adult tapes pictures of houses, pigs, and a wolf to blocks or other sturdy objects to create story retelling pieces. The teacher asks "What kind of house did the first pig build?" Amanda goes over and picks up the picture of the house of straw. (Story re-telling and comprehension)

Adult Supports - With children 3 - 5 years, caring adults**:**

- display, draw attention to, and read a variety of print using signs, posters, clothing, books, children's magazines, big books, and recipes many times during the day.
- read and provide access to different types of books such as picture storybooks, participation books, predictable books, wordless books, poetry books, nursery rhyme and rhyming books, alphabet books, counting books, narratives, informational books, and folktales.
- provide access to printed materials, labels, and a variety of books in English and home languages, that represent fiction and non-fiction.
- invite children to use the "reading corner" where they can choose from a variety of books and explore the book on their own.
- incorporate sounds and words from each child's home language in daily conversations, activities, and book reading.
- provide books representing each child's culture.
- introduce new words daily to build children's vocabulary.
- encourage each child to talk about life experiences and opportunities to retell stories after listening to books.
- provide many opportunities for each child to hear, say, and sing rhymes in finger plays, books, and songs.
- encourage each child to identify initial sounds in words such as finding all the objects on a tray that start with the "b" sound.
- add letter forms to the sandbox for exploratory play outdoors.
- take books outside for children to read.

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Area 6: Communication, Language, and Literacy

Early Writing - Infant and Toddler (birth - 3 years)

Standard 6.3.IT Infants and toddlers engage in early writing experiences.

Benchmarks:

The infant…

6.3.IT.1 grasps and/or manipulates a variety of objects in his or her environment.

The older infant and toddler also…

6.3.IT.2 scribbles spontaneously, usually using a fist grip.

6.3.IT.3 shows increasing skill in manipulating objects such as stacking several items, using pegboards, and mastering the use of eating utensils.

Examples of Reaching an Infant/Toddler Benchmark:

The caring adult feeds Lanxton applesauce. Lanxton reaches for the spoon and pulls it out of the caring adult's hand. He grasps it tightly and guides the spoon to his mouth.

At the lunch table, Thela picks up her fork and holds it upside down, poking at the peas on her plate. She looks at the fork for a moment and turns it around. Thela tries poking at her peas again and gets a few on her fork. She eats them.

Tami picks up the crayon in her fist, turns it to the paper, and makes several scribble marks.

Collin uses his fingers to poke the playdough. He picks up a plastic utensil and makes cutting marks in the playdough.

While outside, Sayomi uses a piece of chalk to mark lines across a large rock. Then she picks up several small pebbles and arranges them on the top surface of the rock.

Adult Supports - With infants, caring adults:

- encourage children to spend time on their stomachs to build back, arm, and shoulder muscle strength and coordination.
- provide experiences for children to use small motor movements and wrist rotation by playing with and exploring a variety of materials and experiences such as water play, stacking blocks, or dumping and filling tubs.

With toddlers, caring adults:

- give each child supervised opportunities to use pincer grasp (finger-thumb) skills in a variety of activities such as eating or grasping.
- provide daily access to writing tools, such as crayons or markers.
- provide opportunities for children to observe adult writing.
- encourage each child to explore ways to practice scribbling or early drawing by breaking down the skill, adding prompts, or providing repetition.
- allow each child to choose which hand to use for writing and to use a grip most comfortable for the child.

Area 6: Communication, Language, and Literacy

Early Writing - Preschool (3 - 5 years)

Standard 6.3.PS Children engage in early writing experiences.

Benchmarks: The child…

6.3.PS.1 attempts to communicate with others using scribbles, shapes, pictures, letter-like forms and/or letters in writing.

6.3.PS.2 experiments with a variety of writing tools such as pencils, crayons, brushes, markers, and digital tools.

6.3.PS.3 uses expressive (speaking) language to share intended meaning of drawings and writing.

6.3.PS.4 starts to demonstrate interest in learning to write letters, especially the letters in his or her name.

6.3.PS.5 uses invented spelling consisting of beginning sounds to represent a whole word.

Examples of Reaching a Preschool Benchmark:

The children went to the post office. When they return, many decide to send letters to friends and parents. Some children choose to use pencils to write. Others use markers to draw and the adult writes a note about the drawing.

The caring adult watches Jessie paint. The adult asks, "Do you want me to write your name on your painting, Jessie, or do you want to write it?" Jessie responds, "You do it." The adult prints "J-e-s-s-i-e", saying the letters as he prints them. Jessie looks at her name, picks up the pencil, and tries to copy it. She writes the letters, reversing the 'S' and putting the 'E' below the 'I' because she ran out of room on the paper.

Marco decides to write a book after learning about authors. He gathers several sheets of paper and draws on each page. Underneath each picture he writes one or two letters to describe what is in the picture. Marco calls a caring adult over to read his book. He points to the first picture with 'C' written underneath it and says, "Once there was a cat."

Ty and Piper play in the kitchen dramatic play area. He sees three baskets, each labeled as fruit, cheese, and vegetables. The caring adult asks Ty and Piper while pointing to the basket label, "What do you like best? Fruit, cheese, or vegetables?" Both children say "cheese," and point to the basket with the cheese label.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of writing materials and digital tools for exploration within the inside and outside environments.
- encourage each child to participate in a variety of writing experiences such as on an easel, whiteboard, sidewalk, paper or digital screen.
- Model writing throughout the day with chart, labels, messages, invitations, and notes.
- guide each child to hold and use writing tools with the three-point grip, but letting the child decide which hand is most comfortable for writing.
- encourage each child to copy his or her name.
- provide adaptive writing tools and materials to aid children with varying abilities.
- encourage children to share and to discuss paintings and drawings.
- provide materials and opportunities for each child to learn writing in his or her home language.
- respond to children's interests in writing and learning letters.
- take dictation from a child by writing exactly what the child says. Read the dictation back to the child while tracking the words with your finger.
- promote fine motor skills (see "Adult Supports" under Standard 2.3: Small Motor Development).

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EARLY Learning STANDARDS

Area 7: Mathematics

Comparison and Number - Infant and Toddler (birth - 3 years)

Standard 7.1.IT Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting.

Benchmarks:

The infant…

7.1.IT.1 begins to notice characteristics of objects such as size, color, shape, or quantity.

The toddler…

7.1.IT.2 matches and sorts objects by size, color, shape, or quantity.

7.1.IT.3 begins to use simple counting in play and interactions, although numbers may occur out of order.

7.1.IT.4 makes simple comparisons between two objects using words like big, small, more, etc.

Examples of Reaching an Infant/Toddler Benchmark:

At snack time, Carlos eats his crackers. He turns to the caring adult and holds up his plate, saying, "All gone." The adult says, "Do you want more crackers, Carlos?" Carlos says and signs, "More." The adult puts some crackers on his plate.

The adult helps Mandi put on her mittens and says, "One, two." Mandi holds up her hands, one at a time, and repeats, "One, two."

Brandon uses large pegboard. He puts all the blue pegs in one row, then all the red pegs in another row.

A caring adult sets a box of children's socks on the floor. The adult says, "Can you help me find the socks that match?" She pulls out one sock and Aydan reaches into the box to find the matching sock.

Adult Supports - With children birth - 3 years, caring adults**:**

- describe the groups of objects the child makes.
- provide space and materials for play and exploration (indoors and out) with multiple colors, shapes, and sizes for sorting and grouping.
- use numbers with each child to label actions such as counting shoes, toes, or crackers in routine dressing, feeding, and play experiences.
- use counting finger plays, rhymes, and songs with each child such as “One, two, buckle my shoe.”
- uses mathematics vocabulary during naturally occurring activities throughout the day, such as big, small, more, all gone, etc.

Area 7: Mathematics

Numbers and Operations - Preschool (3 - 5 years)

Standard 7.1.PS Children understand counting, ways of representing numbers, and relationships between quantities and numerals.

Benchmarks: The child…

7.1.PS.1 recognizes small quantities (1 to 5) without counting them (subitizing).
7.1.PS.2 counts to 20 verbally.
7.1.PS.3 points and counts 10-20 objects accurately.
7.1.PS.4 makes sets of 6-10 objects and describes parts.
7.1.PS.5 uses language such as more, less or the same amount to compare quantities.
7.1.PS.6 identifies numerals to 10 by name.

Examples of Reaching a Preschool Benchmark:

Amy, Tricia, and Alex play in the dramatic play area. Nadia decides to join them. Amy says, "You can't play here now, Nadia—only three can be here." She points to the sign in the interest center with the numeral '3' and three stick figures. Amy points to each of the three children in the area while saying "One, two, three - that's us. You're four. You have to wait." Nadia goes to the block area.

During morning meeting, the attendance helper counts the number of children. Paul counts all children and announces, "We have 20 children here today"

While playing a bingo game, the teacher holds up the next number and the children in the small group shout out, "That's a 7," before finding the numeral 7 on the game board.

Jorge and the caring adult play a board game. Jorge rolls a die, looks at the spots on the die, and announces, "I got four." Jorge moves his marker four spaces.

Craig sorts his crackers into a line on his plate. He pushes them to one side of the plate one by one, counting aloud, "1, 2, 3, 4, 5, 6." Phillip hears Craig and says, "You got six? No fair. You got more than me." The caring adult says, "Let's count your crackers and see how many you have, Phillip." He moves his crackers and counts, "1, 2, 3, 4, 5, 6." "Oh," says Phillip, "I have six like Craig. I guess we have the same."

Examples of Reaching a Preschool Benchmark (continued):

While outside, children closely observe a bird feeder. Jacob and Sarah decide to build a bird feeder at the outdoor workbench. As the two children begin to work, the caring adult notices Amira, who speaks limited English, watching them. The adult approaches her and explains what's going on by using birds from the dramatic play area. He gestures and points to the feeder as he leads her closer to the work area. Amira points to the feeder and her fingers to show how many birds are there. Amira changes the number of fingers as the number of birds change. Jacob and Sarah join her. Communicating with gestures and words, they decide to build the feeder big enough for two birds and get two birds from dramatic play to measure for size.

Adult Supports - With children 3 - 5 years, caring adults**:**

- use counting finger plays, books, and number rhymes repeatedly. *(Communication, Connections)**
- post the numerals 1-10 and simple pictures (icons) to show quantity. *(Representation)**
- use daily routines to incorporate meaningful experiences involving counting, one-to-one correspondence and identifying quantity, such as setting the table and counting how many items are needed. *(Problem Solving, Reasoning, Communication, Connections)**
- provide daily experiences with puzzles and manipulative materials that link numerals to pictures to represent quantity. *(Problem Solving, Representation)**
- provide cooking experiences with recipes that link numerals to pictured objects. *(Connections, Representation)**
- teach children to count in the languages of the children and families in the classroom. *(Communication, Connections)**
- encourage children and families to share finger plays, songs, or rhymes in their home language. *(Communication, Connections)**
- encourage children to count objects in nature. *(Communication, Connections)**
- provide several opportunities for play and exploration of a variety of collections such as shells, rocks, keys buttons, bottle caps, milk tops; and encourage children to share their findings with the other children. *(Communication, Reasoning, Connections, Representation, Problem Solving)**
- interact with children during play and routine experiences using open ended questions and 'math talk' as the opportunities arise. *(Problem Solving, Reasoning, Communication, Connections , Representation)**

Italicized words reference the mathematical processes that are most likely addressed through these adult supports. A full definition of the five mathematical processes is found on page 228 (Alignment Overview) or access at https://iowacore.gov/content/standards-mathematical-practice.

Area 7: Mathematics

Patterns - Infant and Toddler (birth - 3 years)

Standard 7.2.IT Infants and toddlers begin to recognize patterns.

Benchmarks:

The infant…

7.2.IT.1 demonstrates expectations for familiar sequences of routines and experiences such as crying when it is near feeding time.

The toddler…

7.2.IT.2 shows recognition of sequence in events or objects.

7.2.IT.3 repeats actions in sequence, such as finger plays.

7.2.IT.4 notices patterns and objects in the environment.

7.2.IT.5 organizes objects into groups during play and exploration.

Examples of Reaching an Infant/Toddler Benchmark:

Amni sees the adult putting food on the table. She gets her bib and crawls to the table. The adult says, "Pretty soon lunch will be ready, Amni. After you wash your hands, we can eat."

An adult and some children see a spider web in the tree. The adult describes the web shape and they sing "Eensy, Weensy Spider." Meneacka repeats the appropriate action during each phrase.

Mei-Mei takes the nesting cubes apart and places one small cube on top of one large cube, and puts a different small cube on top of another large cube.

Chloe plays 'patty cake' with her infant Alex. Alex shows he enjoys the music by smiling and attempting to clap along.

Emma falls down, stands, and does not cry. Natalie, Emma's mom, applauds and says, "Yay!" Emma falls down again and receives the same response (pattern).

Adult Supports - With children birth - 3 years, caring adults**:**

- label patterns in objects for each child.
- use language to describe patterns or sequences of events, such “First we put your coat on, then we’ll go outside.”
- use finger plays and songs with action patterns that repeat.
- provide materials that vary in characteristics such as colored blocks, pop beads, and pinecones, to help children explore and to organize objects.
- provide materials such as nesting cubes, bowls, and stacking rings that help children notice differences and to begin to arrange objects in a series.

Area 7: Mathematics

Patterns - Preschool (3 - 5 years)

Standard 7.2.PS Children understand patterns.

Benchmarks: The child…

7.2.PS.1 recognizes, reproduces and creates patterns moving from simple to complex.

7.2.PS.2 extends patterns by predicting what comes next.

7.2.PS.3 describes patterns seen in natural and designed settings.

Examples of Reaching a Preschool Benchmark:

Ryan strings beads. He talks to himself while stringing and says, "First comes red, then white, then red, then white." A caring adult says, "You made a pattern, Ryan." Ryan says, "Yep. It's red, white, red - just like the stripes on the flag." The adult responds, "Yes, you have the same colors as the stripes on the American flag: first red, next white. What's the last color you'll use?" Ryan says, "Red, the flag stripes start and end with red."

During a trip to the zoo, a caring adult asks, "Does anyone notice patterns around us?" José says, "The zebra is a pattern. His stripes are black and white." "And the tiger, too, with orange and black," exclaims Jenny. "What about the bricks on that building?" asks Natasha. "Some are long and some are short. We did that with the blocks yesterday."

As children gather for a story, the adult claps a pattern such as clap, clap, pause, clap, clap, pause). Children join in the pattern as they arrive. The adult asks, "What was my pattern?" Several children call out, "clap, clap, stop." The adult says, "Who wants to make a pattern for us?" and selects a volunteer. Allie pounds her fists on the floor in a series of three, pauses, and pounds the fists three more times. The other children join in and she asks the children, "What's my pattern?" Sam says, "Hit, hit, hit, pause. Now my turn."

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of collections of materials, both natural and designed (human-made), throughout the environment to use in meaningful and purposeful ways to create patterns. (*Representations, Problem Solving, Reasoning)**
- extend patterns by saying "What comes next?" *(Communication, Reasoning, Problem Solving) **
- use English and each child's home language to describe patterns. (*Connections, Communication)**
- ask challenging questions to stimulate a child's thinking, such as "Tell me about your pattern?" or "What if it started here? How would the pattern change?" or "What can do if you run out of one of the materials in your pattern?" (*Communication, Problem Solving, Reasoning)**
- provide opportunities and point out natural settings to children in daily living experiences such as fruit in the produce aisle, sound of windshield wipers, stripes on clothing, or the crunch of snow during a walk. *(Communication, Connections)**

Italicized words reference the mathematical processes that are most likely addressed through these adult supports. A full definition of the five mathematical processes is found on page 228 (Alignment Overview) or access at https://iowacore.gov/content/standards-mathematical-practice.

Area 7: Mathematics

Shapes and Spatial Relationships - Infant and Toddler (birth - 3 years)

Standard 7.3.IT Infants and toddlers show increasing understanding of spatial relationships.

Benchmarks:

The infant…

7.3.IT.1 takes objects apart.

7.3.IT.2 fills and empties containers.

The toddler…

7.3.IT.3 takes objects apart and attempts to put them together.

7.3.IT.4 shows awareness of his or her own body space.

7.3.IT.5 matches similar shapes.

7.3.IT.6 follows simple direction related to positions such as in, on, under, up, or down.

Examples of Reaching an Infant/Toddler Benchmark:

Rekha fills the container with water, empties it, and then repeats the action.

Riley works with a four-piece puzzle. He takes out the apple, and then puts it back in its hole.

The adult sings, "Head, Shoulders, Knees, and Toes" while she shows the actions. The next time, Matt touches each body part as it is named.

Taylor snaps two interlocking blocks together, takes them apart, and then puts them back together.

Isabella cries every time another child gets near her space.

Tammy goes to the shelf and dumps out several toys, sometimes several times each day. The caring adult says, "Tammy, help me put some of these toys back in their tub."

Marika puts one square with another square.

Caring adults give simple directions throughout the day such as "Put your cup on the table." or "Throw your napkin in the garbage."

Adult Supports - With children birth - 3 years, caring adults**:**

- describe spatial relationships, such as in, out, beside, on, and under, while each child explores the environment.
- give simple directions using positional words such as above, around, behind, or beside.
- supply simple multi-part toys, such as nesting toys, stacking rings, blocks, simple puzzles, and natural materials, such a pinecones and leaves.
- provide multiple containers of various size and shape to fill and empty with toys, and for use in sand or water play.
- determine areas indoors and outdoors to allow each child, including those with movement limitations, to experience personal space for movement and exploration.
- play with children and label items by their shape, such as “The door is a rectangle,” or “The top of the waste basket looks like a circle.”

Area 7: Mathematics

Shapes and Spatial Relationships - Preschool (3 - 5 years)

Standard 7.3.PS Children understand shapes and spatial relationships.

Benchmarks: The child…

7.3.PS.1 demonstrates understanding of spatial words such as up, down, over, under, top, bottom, inside, outside, in front, and behind.

7.3.PS.2 identifies and describes two- and three-dimensional shapes.

7.3.PS.3 notices characteristics, similarities, and differences among shapes such as corners, points, edges, and sides.

7.3.PS.4 notices how shapes fit together and can be taken apart to form other shapes.

Examples of Reaching a Preschool Benchmark:

A caring adult reads aloud a book about shapes. Katy says, "I know where there is a triangle outside." The adult says, "Where?" Katy replies, "On the roof." The adult comments, "Let's look for it when we're outside." While they are outside, several children look for Katy's triangle. One child says, "Is this it?" Katy says, "Oh, I see that triangle, but it's not the one I was looking at." Finally, she points the children to the gable on the roof. "There's my triangle," says Katy. The adult asks, "Are there other triangles outside?" The children look around and begin to find other triangles.

Maliyah plays with blocks. She says to a nearby adult, "Look, two squares make a rectangle and two triangles make a square."

While playing in the sandbox, Max says, "I'm filling the cubes with sand!"

Sharaya and Grant help set the table for lunch. Each child places placemats on the table, in front of each chair. The adult asks, "What will you put on the placemat, Sharaya?" Sharaya picks up one plate and places it on the placemat. The adult says, "You put the plate in the middle of the placemat. What else do we need on the placemat?" Grant brings a glass and places it above the plate. The adult says, "Grant, you put the glass above the plate." The children announce, "What's next?" Sharaya brings a napkin. A caring adult shows Sharaya and Grant how they can fold the square napkin into a triangle. Sharaya and Grant fold the napkins into triangles.

Clara works on a puzzle. She carefully puts pieces next to each other to see if they fit together. She struggles fitting a piece in the puzzle. A caring adult says, "Clara, look at the colors on the piece. Do you see green anywhere else in your puzzle?" Clara says, "I see green right here." She places the puzzle piece into the correct space.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of books and materials for play and experiences related to shapes and spatial reasoning, such as three-dimensional figures and or blocks.
- use shape and spatial words in English and in each child's home language to describe the environment, both indoors and outdoors. *(Communication, Connections)**
- provide three dimensional objects and containers for exploration and play.
- provide puzzles or toys to arrange items in sequence (seriation) for children to explore how objects fit together.
- assist children to recognize shapes in the environment and encourage them to draw what they see and to identify the shapes. *(Communication, Representation, Connections)**
- join in play and assist children in exploration and reasoning with objects to name and describe different shapes, how they are similar and different, and how the objects can go together. *(Communication, Problem solving, Reasoning)**

Italicized words reference the mathematical processes that are most likely addressed through these adult supports. A full definition of the five mathematical processes is found on page 228 (Alignment Overview) or access at https://iowacore.gov/content/standards-mathematical-practice.

Area 7: Mathematics

Measurements - Preschool (3 - 5 years)*

Standard 7.4.PS Children understand comparisons and measurements.

Benchmarks: The child…

7.4.PS.1 sorts, classifies, and puts objects in series using a variety of properties.

7.4.PS.2 makes comparisons between several objects based on one or more attributes, such as length, height, weight, and area using words such as taller, shorter, longer, bigger, smaller, heavier, lighter, full, empty, length, height, and weight.

7.4.PS.3 measures objects using non-standard units of measurement, such as using blocks to determine how tall a child is.

7.4.PS.4 explores objects using standard measuring tools such as rulers, measuring cups, and balance scales.

7.4.PS.5 begins to demonstrate knowledge that measurement requires a 'fair' comparison starting at the same baseline or measuring the same property such as length, height, and volume.

7.4.PS.6 develops an awareness of simple time concepts within his or her daily life such as day, night; and sequence of usual daily events, such as breakfast, lunch, dinner, bedtime; outdoor time follows snack; and brushing teeth after a meal.

Examples of Reaching a Preschool Benchmark:

Jeffrey and Miguel are eating graham crackers. Miguel breaks his cracker in half and says, "Now I've got more than you—you've got one and I've got two." Jeffrey breaks his cracker into many small pieces and says, "Now I've got more—I've got lots." A caring adult says, "Tell me how they're different." Jeffrey says, "I've got more." Miguel says, "But mine are bigger." The adult says, "And if you put them back together they make the same cracker."

Brittany and Kyung are each building a tower with blocks. Brittany says, "Mine's taller than yours." Kyung adds a block and says, "Now mine's taller." Brittany adds a block, but her tower collapses, taking Kyung's down also. Brittany suggests, "Let's build towers that are the same!" They start to build their separate towers, matching block for block.

Mahvan and Eli disagree over whose shoes are bigger. "Let's measure them!" shouts Eli. A caring adult suggests using crayons to measure the shoes. The children each take off a shoe and then lay the crayons end-to-end along the side of the shoes. "Mine is bigger," announces Mahvan. "How do you know?" asks the adult. "Eli's shoe is two crayons long and mine is two crayons and a little more."

Examples of Reaching a Preschool Benchmark (continued):

A caring adult wrote, "How many people are in your family?" on the dry erase board, with columns for 2, 3, 4, 5, 6, and more than 6. During center time, each child draws a picture of all the people in his or her family, counts them (with help), and places his or her name card in the column under the corresponding number for his or her family. During group time, the adult asks, "What can we tell about our families from the chart?" Jan responds, "Lots of names are under the 3." Jason adds, "My name is under the 4; so is Teddy's." Camara says, "Mine is the only card under the last one." The adult asks, "Which one has the most names?" Jan says, "3 - look how many: 1…2…3…4…5…6. There are six names under 3." The adult says, "So six children here have families with three people in them."

Adisa and Barbara play at the sand table and both of them fill a medium-sized container. Adisa uses a 1-cup measuring cup to fill his container. He says it takes two cups to fill his container. Barbara says it takes 5 cups to fill her container. The caring adult talks with the children about filling the cup to the top, before dumping the sand into a large container. The adult talks about this being a fair comparison. Each child take turns filling the 1-cup measuring cup. Each agrees that the other filled it to the top. They take turns dumping a cup of sand into the large container, counting the number of cups - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 to fill the large container to the top.

During Morning Meeting, the children look at the picture schedule for the day. The teacher shows them the pictures and talks with them about the order of the class schedule. Mr. Z. says, "What comes after Morning Meeting, Julio?" Julio points to the Choice Time picture. Julio says, "We get to choose which center to play in." Mr. Z. says, "Yes, Julio, after Morning Meeting is Choice Time." Maria says, "Are we going outside today?" Mr. Z says, "What does our schedule say?" Olivia says, "Yes, here is the picture for going outdoors. We'll go outdoors after snack."

Adult Supports - With children 3 - 5 years, caring adults**:**

- model the use of language involving comparisons, such as more, less, and same amount as. *(Communication, Problem Solving, Reasoning)**
- provide a variety of developmentally appropriate objects and materials for each child to compare and measure by direct and indirect comparison. *(Communication, Problem Solving)**
- display information in graph form so that each child can compare activities and experiences. *(Representation)**
- encourage thinking by asking open-ended questions. *(Communication, Connections, Problem Solving)**
- provide lengthy amounts of uninterrupted time for active exploration and play with materials that are easily accessible.
- provide opportunities to measure and weigh with non-standard and standard measuring tools.
- provide a variety of standard measuring tools for children to use such as yardsticks, rulers, measuring tapes, measuring cups, balance scales, and thermometers
- model use of various measurement tools and describe what the tools measure. *(Connections, Communication)**

Italicized words reference the mathematical processes that are most likely addressed through these adult supports. A full definition of the five mathematical processes is found on page 228 (Alignment Overview) or access at https://iowacore.gov/content/standards-mathematical-practice.

*** preschool standard only - measurements is not developmentally appropriate for infants and toddlers**

Area 7: Mathematics

Data Analysis - Preschool (3 - 5 years)*

Standard 7.5.PS Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers.

Benchmarks: The child…

7.5.PS.1 sorts collections of objects into sets such as lines, piles, or groups by color, size, shape, or kind.

7.5.PS.2 sorts and resorts sets in a variety of ways.

7.5.PS.3 compares and orders such as most to least, same amount as, and least to most.

7.5.PS.4 sorts data into two groups such as big and not big, green and not green, and pets and not pets.

7.5.PS.5 asks questions, collects, records, and organizes data to find answers to questions.

Examples of Reaching a Preschool Benchmark:

D'Andre sorts a collection of rocks into four piles. Ms. Lavender says, "Tell me about your groups." D'Andre points to one pile and says, "They are rough." He points to another pile and says, "These are smooth." Ms. L asks, "What about these rocks?" D'Andre says, "Those are big rocks." Ms. L. asks, "Which group has the most?" D'Andre looks and points to the smooth pile. Ms. L says, "I wonder how you can find out which group has the most?" D'Andre begins putting the smooth rocks in a straight line. Next, he puts the rough rocks in a line beside the line of smooth rocks. He made sure that there was one smooth rock for each rough rock, until he ran out of rough rocks. He smiles and looks at Ms. L. "See, there are more smooth rocks then rough rocks, just like I said." Next, he lines up the small rocks beside the rough rocks. Finally, he lines up the big rocks beside the small rocks. Then he looks and says, "See, I put them in lines. The smooth rocks have the most, then the rough rocks, then the small rocks, then the big rocks." Ms. L says, "You put the rocks in order from most to least", while she points at each row. "Can you sort them a different way?" D'Andre begins grouping them into two groups of brown and not brown.

Ms. Bethany shows the children a chart with pictures of two favorite books. She asks the children to vote on the book they want her to read during group time. Each child takes his or her name card and puts it on the side, under the book they want her to read. After each of 15 children voted, Ms. Bethany asks the children to read the chart. Maria says, "There are 10 votes for *"The Mitten"* and only five votes for *"A Snowy Day*." Ms. Bethany writes the numeral 10 on the side with 10 votes and the numeral 5 on the side with 5 votes. Julio says, "Ten is more than five." Ms. Bethany says, "So which book should I read today?" The children say altogether, *"The Mitten"* because it has the most."

Adult Supports - With children 3 - 5 years, caring adults**:**

- encourage children to organize (sort) collections of objects by using a variety of attributes (characteristics). *(Reasoning, Communication)*
- purposely describe collections in multiple ways. *(Reasoning, Communication)*
- ask children to group by classification groups ((sorting by characteristics). *(Reasoning)*
- use classroom opportunities for children to vote for preferences, respond to a question of the day, indicate attendance, etc. *(Representation, Communication)*
- encourage language development through the use fact-finding and preference surveys and recording responses. *(Communication, Representation)*
- create graphs with objects or pictures to represent data. *(Representation, Communication)*
- ask questions such as "Which group has more?" or "Which group has fewer?" or "You said these are all green. Can you find something that is not green?" or "Could this object go in your group? Why? Why not?" or "Is there another name for these objects?" *(Problem solving, Communication)*
- use symbols to represent data. *(Representation, Communication)*

*** preschool standard only - data analysis is not developmentally appropriate for infants and toddlers**

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EARLY Learning STANDARDS

Area 8: Science

Scientific Investigations - Infant and Toddler (birth - 3 years)

Standard 8.1.IT: Infants and toddlers observe and wonder about the environment around them.

Benchmarks:

The infant or toddler…

8.1.IT.1 begins to notice objects and events in the indoor and outdoor environments.

8.1.IT.2 engages in a variety of play experiences and exploration when provided open-ended materials, such as toys or household items that can be taken apart/put together, a container of water and various objects, seeds of different sizes/textures/shapes).

8.1.IT.3 uses one or more senses to make observations of their environment.

8.1.IT.4 reacts to changes in the environment.

8.1.IT.5 attempts to manipulate/understand his or her environment through repetitive play.

8.1.IT.6 identifies and interacts with new objects placed in his or her environment.

The toddler also…

8.1.IT.7 asks simple questions about observations of the environment using language (may be home language), behavior, and interactions.

Examples of Reaching an Infant/Toddler Benchmark:

Evelyn picks up a ball and inserts it in a tube. The ball easily slides through and onto the tray of her wheelchair. She smiles, picks up a larger ball, and pushes it against the end of the tube. She twists the ball and pushes harder, but it doesn't go into the tube. She picks up a larger tube, drops the ball inside and it slides through. She says, "Yay!"

Todd notices the windsock on the playground is blowing to the left. He grabs the windsock and pulls the other direction. He shrieks with excitement when he lets go and it goes back to the left. He repeats several times and chooses to repeat this again the next day.

Axel observes a beetle in a container at the sensory table. He turns on the light and the beetle digs down into the dirt. Axel says "Oh, the light scared him!"

Arieliz spends a majority of her choice time playing with sponges in the water table for several minutes. When it is time to clean up, she notices and comments to a trusted adult, "My fingers are all wrinkled up!"

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of items that will appeal to the children that use texture, sounds, smells, and light; and encourage them to safely touch, smell, shake, and explore the items.
- observe children's interactions with objects and events, and model the use of language to label objects and events.
- move them to various spaces to provide opportunities to safely explore the environment, such as mats, and appropriate small steps and climbers.
- provide a variety of items made of larger and smaller pieces, or smaller items in larger containers, so they can explore structure, space, function, and sound.
- encourage infants and toddlers to make observations and to ask questions; and use words such as "I notice..." and "I wonder…." to support these skills.
- set up and frequently change or modify learning centers for children to explore a variety of objects and materials, such as blocks of all sizes and shapes, tubes, ramps, pulleys, ropes, and boxes; and provide learning centers that match topics in which children indicated interest.
- involve infants and toddlers in activities that include transformation of materials, such as cooking and painting.
- draw attention of infants and toddlers to aspects of the natural and designed world, and ask open-ended questions to promote children's awareness such as "What do you think happened to the snowball we left on the table?"
- model and describe their actions while using simple tools to investigate and/or observe various objects, such as using a magnifying glass to look at a shell.
- use outdoor space as a learning environment; bring materials outside that enable children to investigate their natural world, such as cups, shovels, wind chimes and wind socks, and containers to gather insects or soils; and allow children to bring items indoors to begin investigations.
- read aloud from a variety of books ,including both fiction and nonfiction, that feature aspects of the natural world or involve using science to solve a problem.

Area 8: Science

Scientific Investigations - Preschool (3 - 5 years)

Standard 8.1.PS Children gather information and conduct investigations to address their wonderings and test solutions to problems.

Benchmarks: The child…

- 8.1.PS.1 asks questions about his or her environment, and begins to identify and look for information that will help answer those questions or solve problems.
- 8.1.PS.2 plans and conducts simple investigations alone or in collaboration with other children to answer questions or to design solutions to scientific or engineering problems.
- 8.1.PS.3 begins to use appropriate scientific tools and technology to conduct investigations, including scales, tape measure, magnifying glass, tweezers, and eye dropper.
- 8.1.PS.4 observes, investigates, and describes objects, materials, and other physical science phenomena in the classroom and outdoor environments such as shadows or reflections.
- 8.1.PS.5 observes, investigates, and describes the characteristics, behavior, and habitats of living things.
- 8.1.PS.6 asks questions based on observations of weather-related phenomena and begins to notice relationships and patterns over time, such as it is warmer in the summer and colder in the winter.
- 8.1PS.7 develops an awareness of nature through the exploration of natural environments and materials or through caring for animals or plants.

Examples of Reaching a Preschool Benchmark:

Roberta blows bubbles with pipe cleaners. She asks the caring adult, “Can I blow a square bubble, if I make the pipe cleaner into a square?” The adult encourages her to change the shape of the pipe cleaner and to try again. “It still doesn’t work!” stated Roberta, “How can I make it work?” The adult asks Roberta “What do you think we need?” Roberta says, “Something hard and less bendy so the shape stays strong.” Together they looked for the desired tool to dip.

Children plant seeds in cups with wet paper towels. After five days some have roots, others have roots and stems, and some haven't done anything. The adult asks children to compare the different cups and, John says "Four of them didn't grow yet" and Marianne says, "Three have strings coming from the bottom but nothing on top.”

Examples of Reaching a Preschool Benchmark (continued):

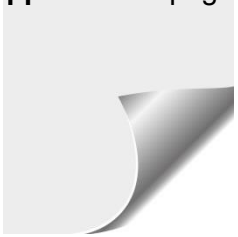
Daniel notices and comments on the presence of a spider web on the playground. The caring adult encourages Daniel to make a drawing of the spider web. Daniel is disappointed because he can tell there are smaller pieces to the web, but cannot see them. His adult models the use of a magnifying glass. Daniel then uses the magnifying glass to investigate a spider web and to revise his drawing. The next day, Daniel notices there are bits of what looks like a bug in the spider web and asks, "I wonder why there is a bug in the spider web?"

Maria uses molding and wooden balls. She lines up the molding and sets the ball on top. The ball does not move. Maria watches the other children using ramps, she decides to prop the ramp against a chair rung and tries again. This time the ball rolls down. The adult tells Maria "What did you discover? Now what can you do?" Maria says, "I will make it longer!"

While making playdough with the adult, Anna said, "It doesn't stick together like our other playdough did." With the adult's help, they looked at the recipe and realized they needed to add oil and water to the mixture. They added the wet ingredients and stirred the mixture again. Michael said, "Now it sticks. We had to use all the ingredients to make it work."

While out for a walk with other children, Caden notices when he moves his arm the dark spot on the ground moves too. He tells the group "Look at this. When I move, my shadow moves, too". The adult uses Caden's excitement and asks, "What do you notice about *how* your shadow moves?" Caden says, "I think my shadow copies everything I do! Look, I bet if I jump, my shadow will jump too! We can all jump and see if all our shadows so the same thing."

Adult Supports next page



Adult Supports - With children 3 - 5 years, caring adults**:**

- provide multiple opportunities for children to observe, ask questions, experiment, play, and develop their own understandings of living things and nonliving objects in their indoor and outdoor environments.
- observe what children notice, point to, or handle as children work to find an answer to a question or a solution to a problem, and ask questions such as "What did you notice when…?."
- provide a variety of tools such as balances, rulers, measuring cups, magnifying glasses, divided trays, and technology, and model and encourage the use of the tools for exploration.
- supply a variety of open-ended materials such unit blocks, tracks, locking blocks, and loose parts for children to design and engineer their own technology as they tinker and play with the materials.
- encourage each child to engage in scientific exploration and investigations, and to use adaptive devices, as needed, to help each child participate.
- foster children's creative and critical thinking, and problem solving through everyday tasks such as cooking, constructing, doing chores, completing tasks, gardening, or planning a trip.
- use the outdoors as a classroom and provide frequent opportunities for science learning and engineering at school and in the community through outdoor play, participation in summer programs, or trips to parks, museums, zoos, and nature centers.
- involve children and their families to gather collections of materials they find in their natural or designed world such as something that spins.

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Area 8: Science

Scientific Reasoning - Infant and Toddler (birth - 3 years)

Standard 8.2.IT: Infants and toddlers use reasoning to make sense of information in their environment.

Benchmarks:

The infant or toddler…

8.2.IT.1 uses trusted relationships to gain understanding of the living and non-living world.

8.2.IT.2 explores cause and effect relationships by engaging in problem solving through trial and error.

The toddler also…

8.2.IT.3 shows understanding of object permanence (that people exist when they cannot be seen and objects exist even when out of sight).

8.2.IT.4 makes a choice to reach a desired outcome.

Examples of Reaching an Infant/Toddler Benchmark:

A basket of pinecones is set out for exploration. Alyson is not sure of the item and looks to a trusted adult for support. The adult picks up the pinecone and explains to Alyson that the pinecone is from a tree, and is bumpy and smooth. The adult offers the pinecone to Alyson. Alyson, still unsure, resists. The trusted adult sets the pinecone on the ground for Alyson to pick up on her own. Alyson looks up at the trusted adult again, and with additional support and encouragement, picks up the pinecone.

Farheem pushes the large button on his toy and the toy lights up and plays a short tune. He giggles and pushes the button again.

Dylan is at the easel with red and yellow paint in front of him. He paints a red line, a yellow circle and then chooses to mix the red and yellow paint. When he makes the next line, he excitedly exclaims, “Orange!”

Miguel plays in the sensory table. He pours a large container of water into a small container and the water overflows. Miguel pours the water from the small container into the large container, and it does not spill. He continues to fill the large container using water from the small container.

Cho Wei rolls a ball across the floor and watches it go under a cupboard. He looks under the cupboard to find the ball.

Lisa plays with the outdoor scale. She tries to make one side touch the ground. There are two rocks still on the ground - one big and one small. She sets the small rock in the scale bucket. It does not lower the bucket. She adds the final rock and the bucket moves.

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of materials for play which invite open-ended exploration and problem solving.
- allow children to grapple with useful problems instead of solving problems for them.
- allow and encourage repetitive activities, such as dropping and picking up objects, or playing games such as “Peek-a-boo” with each child.
- allow free exploration, with supervision, of safe, natural, culturally appropriate materials such as leaves, grass, snow, or food materials.
- describe natural events, such as a squirrel running on the lawn or climbing a tree, or a bird flying overhead.
- encourage curiosity by providing a variety of play experiences within inside and outside environments, and taking indoor activities outside and taking outdoor activities inside.
- describe children’s actions and discoveries to help them understand thought processes.

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Area 8: Science

Scientific Reasoning - Preschool (3 - 5 years)

Standard 8.2.PS Children use reasoning to make sense of information and design solutions to problems in their environment.

Benchmarks: The child…

- 8.2.PS.1 begins to make comparisons and to categorize nonliving things based on characteristics she or he can observe, such as texture, color, size, shape, temperature, sound, odor, usefulness, and weight.
- 8.2.PS.2 uses information from investigations to identify similarities and differences in characteristics and behavior of living things and to make inferences about needs and how to meet needs such as caterpillars eat leaves.
- 8.2.PS.3 uses prior experiences and/or data from observations to identify patterns in how living and nonliving things stay the same or change over time and/or when conditions change such as plants grow with the proper amounts of water and light; combine substances; heat/cool an item; and baby animals generally resemble their parents.
- 8.2.PS.4 begins to identify ways humans positively and negatively impact the environment such as beginning awareness of conservation and respect for the environment, based on investigations.
- 8.2.PS.5 describes and compares the properties and motions of objects in terms of speed and direction, based on exploration, such as faster, down, and beside; and begins to notice cause and effect relationships such as a ball rolls faster on a steeper incline.
- 8.2.PS.6 begins to notice patterns such as differences in weather in different seasons, and how different types of weather influence people and the environment, based on long-term explorations of weather and observations of the earth and sky.

Examples of Reaching a Preschool Benchmark:

Trevon and Tanajah roll a large glass marble and a rubber ball of roughly the same diameter down a ramp, trying to knock down a block at the bottom. When Trevon rolls the marble, it knocks the block over, but when he rolls the ball, it bounces off the block. Trevon says, “I think the marble knocked the block down because it’s heavier than the ball.” Tanajah suggests, “Let’s weigh them and see.” Together, they take the marble and the ball to the balance scale.

Examples of Reaching a Preschool Benchmark (continued):

Annalee and Jamal run outdoors. They stop by an adult and say, "We've been running fast!" The adult says, "I can tell. I'm sure all that running made your heart beat fast. Can you feel it?" The caring adult shows them where to place their hands on their chests to feel their heart beating. The adult says, "I wonder what other things you can do to make your heart beat fast?" Jamal said, 'Maybe jumping like this." Annalee adds, "Or we could skip like this."

Cruz and an adult pick green beans to fill one bucket and cucumbers to fill another bucket. Cruz notices the cucumber bucket is heavier than the green bean bucket even though there are only a few cucumbers in it. He asks the adult, "Why is the cucumber bucket so heavy?" The adult pulls out one green bean and one cucumber, and hands them to Cruz to compare. The adult asks several questions and Cruz says, "The cucumber is a lot heavier than the green bean. I'm so strong I bet I could carry a whole bucket full of cucumbers. You can carry the green bean bucket because it will be lighter."

Everly brings three rocks from home. She gives them to the adult. The adult picks six other rocks from the rock basket in the discovery center and together they identify patterns such as size, color, and texture, and sort the rocks by one of the patterns.

Robby and Sarah play outside with their toy cars. They notice the cars go faster on the sidewalk and slower in the grass. They decide to test their idea that cars will move faster on the wood around the sandbox than they will in the sandbox. They try their idea and talk to an adult about their discoveries.

Adult Supports - With children 3 - 5 years, caring adults**:**

- provide a variety of natural materials such as shells, rocks, and seeds, and living things such as plants and animals, and encourage each child to explore, to compare, to describe, and to classify them.
- provide opportunities for children to make predictions, to test the predictions, and to compare what happens with what they thought would happen.
- encourage children to think and talk about prior experiences they had with objects, materials, and organisms in other settings and situations.
- encourage children to express their ideas about how and why things happen the way they do, and to use their ideas, whether scientifically correct or incorrect, as the basis for ongoing investigation.
- model a variety of strategies to solve problem and encourage each child to use problem solving strategies.
- refrain from solving a problem for a child that is within the child's ability to solve on his or her own.

Area 8: Science

Scientific Communication - Infant and Toddler (birth - 3 years)

Standard 8.3.IT: Infants and toddlers share information and understanding about experiences in their environment.

Benchmarks:

The infant or toddler…

8.3.IT.1 produces questions using gestures and/or facial expressions.
8.3.IT.2 expresses vocalizations and gestures to gain attention from others.
8.3.IT.3 shows repetitive actions to demonstrate new learning experiences.

The toddler also…

8.3.IT.4 composes simple verbal questions in English or home language.
8.3.IT.5 responds verbally to other's questions or statements in English or home language.
8.3.IT.6 draws pictures to represent his or her observations of objects and/or of changes to objects or the environment.

Examples of Reaching an Infant/Toddler Benchmark:

Ainsley points and looks at the caring adult when she sees a shadow. As Ainsley moves, the shadow moves. As she continues to watch the shadow move, she shrugs her shoulders and looks back at the adult as if asking, "What is that?"

Aiden giggles and points as he throws the ball and sees it light up. Aiden makes noise to gain attention from the adult.

Cora discovers she can turn the light on and off by pushing the switch up and down. After she makes this discovery, she repeatedly pushes the switch up and down to communicate her new learning.

While outside, Destiny hears a noise and asks the adult, "What is that knocking noise?" The adult asks her, "What types of things might make that noise?" Destiny responds by mentioning "a hammer," or "a tree branch on the side of a building," or "a friend hitting a stick on the swing set." The adult responds, "Yes, it may be one of those things. Do you think it could be a bird?" In checking each of the possibilities, Destiny also looks to the trees near her. She sees the bird in one of the trees, turns back to the adult, and says, "Look! It is a bird in the tree!" The adult responds, "Yes, that bird is called a woodpecker. It pecks at the tree, which makes that sound. We can find out more about woodpeckers in a book we have in our classroom."

Adult Supports - With children birth - 3 years, caring adults**:**

- provide a variety of age-appropriate materials for play to invite open-ended language opportunities.
- describe natural events, such as a squirrel running on the lawn or climbing a tree, or a bird flying overhead.
- intentionally engage with each child many times throughout the day in opportunities for extended dialogue by describing their discoveries and experiences.
- model observation and comparison using verbal descriptions, drawings, and labels of those drawings.
- assist children's acquisition and use of basic science terms and science vocabulary about topics through access to nonfiction books, audio materials, video materials, and electronic media.
- provide daily activity reflections with families and encourage families to visit about the topics with their children.

Area 8: Science

Scientific Communications - Preschool (3 - 5 years)

Standard 8.3.PS Children share information and understanding about experiences in their environment.

Benchmarks: The child…

8.3.PS.1 shares observations and ideas about the properties and behavior of nonliving and living things through a variety of modalities such as language, drawing, modeling, gesturing, and dramatizing.

8.3.PS.2 obtains, evaluates, and uses age-appropriate text and online resources, with support, to gather information related to a topic of study and makes connections to observations and experiences such as when studying butterflies, children may evaluate a variety of books and begin to identify which books are most useful for learning about real butterflies.

8.3.PS.3 begins to ask questions of others to seek more information on a topic, and participates in generating questions to ask a visiting expert on a topic of interest.

8.3.PS.4 offers evidence to explain the thought process he or she used to make conclusions or claims, and listens to the claims, conclusions, and evidence of others to begin to identify areas of agreement and disagreement.

8.3.PS.5 participates in creating a final product such as a panel, classroom book, or newsletter that communicates what was learned during one exploration or during the study of a topic over time, and contributes through language, drawing, writing, or choosing items to include.

Examples of Reaching a Preschool Benchmark:

Diego walks through the park and notices the pond with squirrels running around it. He mentions to an adult in the group and asks, "Where do the squirrels sleep at night?" Then he notices a turtle, "Does the turtle sleep in the same house? I wonder if squirrels and turtles have a bed like I do? Do we have any books about squirrels and turtles in our classroom? I want to read one!"

Suzanna digs in the dirt outside and finds three worms. She takes the worms to an adult and says, "Look I have three worms. They are all wiggly. They are a family." When they go back inside, Suzanna uses some brown pipe cleaners to show her classmates how the worms moved and wiggled.

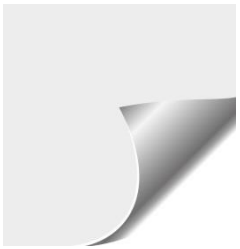
Malea and Amaad notice a bird eating from the bird feeder. Amaad asks the caring adult, “What is that bird called?” The adult replies, “I don’t know. I wonder how we can find out?” Amaad said, “My grandpa works at the zoo and knows all about birds. Maybe we can ask him.”

Children observe butterfly life cycles and dramatize the concept using their bodies. The children model the caterpillar by wiggling around on the ground and then climb into a long play tunnel to represent the chrysalis. Inside, they put on two scarves and emerge from the tunnel as a butterfly. This remains as a station for several days so children can continue to perform this dramatization alone and with other children. The children evaluate several books and begin to identify which books are most helpful to learn about butterflies.

Children explore a variety of changes, including ice melting into water, mixing baking soda and vinegar to create a ‘volcano,’ mixing the ingredients and baking cupcakes, and taking two colors and mixing to make a different color. After each child receives the opportunity to explore these changes, the group discusses their observations. The adult assists the children to create a book to describe their observations about how and why things change.

Francisco asks the construction foreman how cement is mixed to make a sidewalk and how it gets hard so he can walk or ride his bicycle on it. He asks if parking lots are made the same way.

Adult Supports next page



Adult Supports - With children 3 - 5 years, caring adults**:**

- provide age-appropriate books and online resources to inspire and extend children's direct investigations.
- ask questions and engage in discussions about how different types of local environments provide homes for different kinds of living things.
- facilitate conversations between children and encourage children to share their experiences, observations, and ideas with others in 'science talks' and to use photos, drawings, models, and demonstration.
- break down complex questions or describe children's actions and thinking to support language use and to support each child's participation in all aspects of investigation.
- engage in discussion and raise questions about how humans uses local resources to meet their needs and the impact of people's activities, both positive and negative, on the local environment.
- support children to express and communicate experiences, observations, and ideas in a variety of ways including using language, demonstration, and props, photos, and/or their own drawings.
- compare the external body parts of animals, including humans, and parts of plants, using descriptions and drawings, to create explanations about how the parts help the animal or plant get its needs met.
- discuss ideas, using evidence, about what makes an object roll, slide, or stay in place, and how to control some movements.
- model thinking out loud and talking about ideas and observations.
- Introduce and use rich vocabulary, including nouns, verbs, and descriptive words, to talk with children about the children's observations and discoveries.
- provide a variety of ways for children to record data, including drawing, painting, making three-dimensional structures, writing, and developing group charts and lists; and introduce and use science notebooks for children to record observations over time.
- use adaptive devices, as needed, to allow each child to participate in conversations.
- provide support for children to create a final product, such as a panel, a class book, or a newsletter, to communicate what was learned while observing snails or building tower of straws, etc.
- invite visitors with a science or engineering-related vocation or hobby to discuss or demonstrate what they do and what equipment or tools they use.

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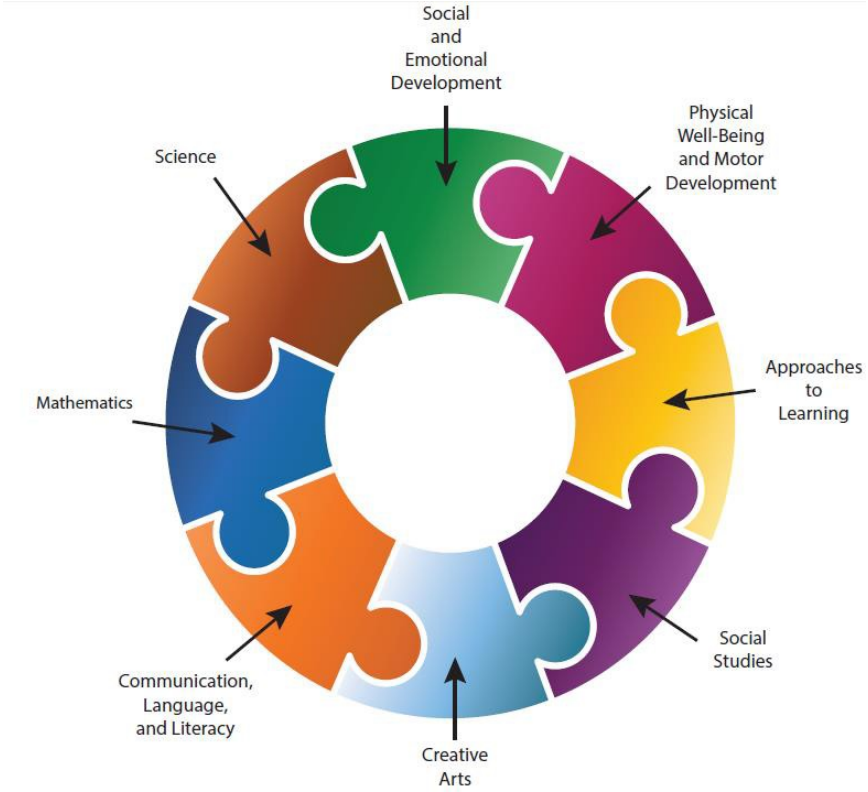
Alignment with the Iowa CORE

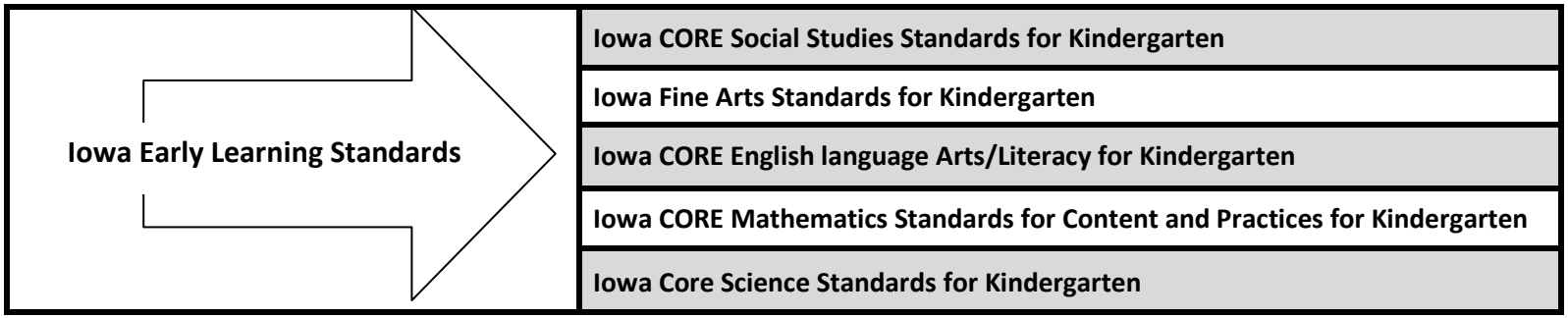
Iowa Early Learning Standards - 3rd edition



Iowa Early Learning Standards - 3rd Edition and the Iowa CORE Alignment Overview

The alignments of the Iowa Early Learning Standards 3rd edition (IELS) to the Iowa CORE (www.iowacore.gov) provide a broad framework for curriculum, instruction, and assessment practices for children from birth through kindergarten. The alignments connect the age-appropriate expectations for infants, toddlers, and preschool children to knowledge that children should master by the **end of kindergarten**. In addition, the alignments provide an illustration of how learning at the earliest ages builds increasingly to support academic and social success for children as they enter the K-12 educational system.

Five alignment documents show how the IELS serve as introductory learning for the expectations of the Iowa kindergarten content standards:



Three columns in the following alignment documents contain the two age groups in the Iowa Early Learning Standards 3rd edition and the kindergarten standards of the Iowa CORE. The left column provides the infant/toddler standards, the middle column provides the preschool standards, and the right column provides the kindergarten standards from the Iowa CORE:

Infant/Toddler Birth – 3 Years	Preschool 3 – 5 Years	End of Kindergarten

Note: **The alignments do not show a one-to-one match of standards between the 2017 IELS and the Iowa CORE for kindergarten. Instead, the accumulating effect of what an infant/toddler learns creates the foundation; then the preschooler's learning builds upon the foundation; and ultimately, what a child discovers from birth to five years directly supports learning during the kindergarten year.**

Iowa CORE Standards for Kindergarten				
Social Studies Standards	**Fine Arts Standards***	**English Language Arts/ Literacy Standards**	**Mathematics Standards**	**Science Standards**
• Behavioral Sciences • Civics/Government • Economics • Financial Literacy • Geography • History	• Visual Arts • Theatre • Music • Dance • Media Arts	• Reading Standards for Literature (fiction) • Reading Standards for Informational Texts (nonfiction) • Reading Standards: Foundational Skills (concepts of print, the alphabetic principle, basic writing conventions) • Writing Standards • Language Standards (English grammar usage) • Speaking and Listening Standards	• Counting and Cardinality • Operations and Algebraic Thinking • Number and Operations in Base Ten • Measurement and Data • Geometry *See **Standards for Mathematical Practices** below.*	• Motions and Stability: Forces and Interactions • Energy • From Molecules to Organisms: Structures and Processes • Earth's Systems • Earth and Human Activity • Engineering Design

* Given the extensive scope of the **Iowa Fine Arts Standards for Kindergarten**, the concepts, knowledge, and skills represented in all areas of the Iowa Early Learning Standards are viewed as critical and contributing foundational components for learning in early elementary grades. Therefore, specific IELS areas and benchmarks are not listed in the alignment document for the Iowa Fine Arts Standards.

In addition to the Standards for Mathematical Content, the Iowa CORE also identifies Standards for Mathematical Practices. The eight mathematical practices represent abstract, conceptual knowledge that children gain through repeated learning opportunities with problem solving, reasoning, and communication skills. It is important to know these are practices, rather than skills to measure.

The Standards for Mathematical Practices in the Iowa CORE are:

1. MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM.	5. USE APPROPRIATE TOOLS STRATEGICALLY.
2. REASON ABSTRACTLY AND QUANTITATIVELY.	6. ATTENTION TO PRECISION.
3. CONSTRUCT VIABLE ARGUMENTS AND CRITIQUE THE REASONING OF OTHERS.	7. LOOK FOR AND MAKE USE OF STRUCTURE.
4. MODEL WITH MATHEMATICS.	8. LOOK FOR AND EXPRESS REGULARITY IN REPEATED REASONING.

The Standards for Mathematical Practices are provided in a table format at the end of the alignment document for mathematics. The table illustrates how the infant/toddler and preschool Iowa Early Learning Standards are embedded within each of the Standards for Mathematical Practices. Examples are also provided as to how the mathematical practices might be demonstrated by children in the two age groups.

Iowa Early Learning Standards 3rd edition alignment with Iowa CORE Social Studies

Infant/Toddler Birth - 3 Years	Preschool 3 - 5 Years	End of Kindergarten
Social and Emotional Development (Area 1) **Approaches to Learning (Area 3)** **Social Studies (Area 4)** **Creative Arts (Area 5)** **Communication, Language, and Literacy (Area 6)** **Mathematics (Area 7)** **Science (Area 8)**	**Social & Emotional Development (Area 1)** **Approaches to Learning (Area 3)** **Social Studies (Area 4)** **Creative Arts (Area 5)** **Communication, Language, and Literacy (Area 6)** **Mathematics (Area 7)** **Science (Area 8)**	**access the Iowa CORE at www.iowacore.gov**
Area 1: Social and Emotional Development	**Area 1: Social and Emotional Development**	
Standard 1.1.IT Self Infants and toddlers display a positive sense of self. (p 90) **Benchmarks:** *The infant or toddler:* 1. responds to familiar adults' and children's interactions using behaviors such as gazing, cuddling, and accepting assistance. 2. explores his/her own body. 3. shows awareness of self, such as responding to own image in mirror. 4. shows preferences for toys and experiences. 5. expresses reaction through facial expressions, sounds, and gestures. 6. begins to recognize own power by showing interest in making choices or expressing preferences.	***Standard 1.1.PS Self*** Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences. (p 92) **Benchmarks:** *The child:* 1. expresses a positive sense of self in terms of specific abilities. 2. expresses needs, wants, opinions, and feelings in socially appropriate ways. 3. demonstrates increasing confidence and independence in a variety of tasks and routines, and expresses pride in accomplishments. 4. recognizes own power to make choices.	**INQUIRY STANDARD** **SS.K.1.** Recognize a compelling question. **<u>Constructing Supporting Questions:</u>** **SS.K.2.** Identify the relationship between compelling and supporting questions. **<u>Communicating and Critiquing Conclusions:</u>** **SS.K.3** Construct responses to compelling questions using examples. **<u>Taking Informed Action:</u>** **SS.K.4** Take group or individual action to help address local, regional, and/or global problems. **SS.K.5** Use deliberative and democratic procedures to make decisions about and act on civic problems in their classrooms.

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	
Standard 1.2.IT Self-Regulation Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways. (p 94) **Benchmarks:** *The infant or toddler:* 1. indicates need for assistance through actions such as crying, gesturing, vocalizing, using words, or approaching familiar adults. 2. comforts him or herself when distressed or tired by actions such as sucking, stroking a blanket, or hugging a toy. 3. begins to express a range and variety of feelings and emotions through body language, facial expressions, actions, and/or verbal responses. 4. shows increasing ability to recognize own feelings, including simple (e.g., mad, glad) and complex (e.g., excited, frustrated, disappointed) feelings. 5. responds to emotions expressed by others, for example, by comforting another child or crying in response to the cries of others. 6. begins to control behavior through following simple rules and limits in a variety of settings. 7. begins to transition between feeling states with guidance from a caring adult.	***Standard 1.2.PS Self-Regulation*** Children show increasing ability to regulate their behavior and express their emotions in appropriate ways. (p 96) **Benchmarks:** *The child:* 1. demonstrates the ability to monitor his/her own behavior and its effects on others, following and contributing to adult expectations. 2. persists with difficult tasks without becoming overly frustrated. 3. begins to accept consequences of his/her own actions. 4. manages transitions and changes to routines. 5. states feelings, needs, and opinions in difficult situations without harming self, others, or property. 6. expresses an increasing range and variety of emotions, and transitions between feeling states become smoother.	**BEHAVIORAL SCIENCES** **<u>Recognize the Interaction Between the Individual and Various Groups:</u>** **SS.K.6.** Describe students' roles in different groups of which they are members including their family, school, and community. **<u>Examine Factors that Led to Continuity and Change on Human Development and Behavior:</u>** **SS.K.7.** Describe ways in which students and others are alike and different within a variety of social categories.

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	
Standard 1.3.IT Relationships with Adults Infants and toddlers relate positively with significant adults. (p 98) **Benchmarks:** *The infant or toddler:* 1. distinguishes between familiar and unfamiliar adults; for example, is comforted by the sight of the familiar adult or the sound of the familiar adult's voice. 2. accepts assistance and comfort from familiar adults. 3. seeks and maintains contact with familiar adults; for example, by looking at the adult, hearing the adult's voice, or touching the adult. 4. shows discomfort at separations from familiar adults. 5. seeks help from familiar adults in unfamiliar situations. 6. explores the environment, both indoors and outdoors, but may return to a familiar adult periodically for security. 7. begins to imitate or portray roles and relationships. 8. imitates adult behaviors.	***Standard 1.3.PS Relationships with Adults*** Children relate positively with significant adults. (p 100) **Benchmarks:** *The child:* 1. interacts comfortably with familiar adults. 2. accepts guidance, comfort, and directions from a range of familiar adults in a variety of environments. 3. expresses affection toward familiar adults. 4. shows trust in familiar adults. 5. seeks help, as needed, from familiar adults.	**CIVICS/GOVERNMENT** **<u>Interpret Processes, Rules, and Laws:</u>** **SS.K.8.** Determine a procedure for how people can effectively work together to make decisions to improve their classrooms or communities. (21st century skills) **SS.K.9.** Compare and contrast rules from different places. (21st century skills)

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	
Standard 1.4.IT Relationships with Children Infants and toddlers respond to and initiate interactions with other children. (p 102) **Benchmarks:** *The infant or toddler:* 1. initiates interactions with other children through gestures, vocalizations, facial expressions, and/or body movements. 2. accepts help from familiar adults in interactions with other children. 3. begins to demonstrate empathy for others and responds to people's facial expressions, body language, and or interactions. 4. develops an awareness of his/her behavior and how it affects others. 5. imitates other children's behaviors.	***Standard 1.4.PS Relationships with Children*** Children respond to and initiate appropriate interactions with other children, and form positive peer relationships. (p 104) **Benchmarks:** *The child:* 1. initiates and sustains positive interactions with peers, organizes play. 2. wants to please and be like friends 3. negotiates with others to resolve disagreements. 4. develops friendships with other peers; starts to demonstrate turn taking and sharing with others. 5. expresses empathy to peers, demonstrates caring behaviors 6. accepts consequences of his/her actions. 7. recognizes how behaviors can affect others. 8. names friends.	**ECONOMICS** **<u>Engage in Economic Decision Making</u>:** **SS.K.10.** Give examples of choices that are made because of scarcity.

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.1.IT Curiosity and Initiative Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills. (p 122) **Benchmarks:** *The infant or toddler:* 1. shows interest in people including other infants, objects, and events. 2. uses their senses to choose, explore, and manipulate a variety of objects or toys in a variety of ways. 3. actively plays with or near adults, other children, and materials.	***Standard 3.1.PS Curiosity and Initiative*** Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills. (p 124) **Benchmarks:** *The child:* 1. deliberately chooses to explore a variety of materials and experiences, seeking out new challenges. 2. participates in experiences with eagerness, flexibility, imagination, independence, and inventiveness. 3. asks questions about a variety of topics. 4. repeats skills and experiences to build competence and support the exploration of new ideas.	**FINANCIAL LITERACY** **Analyze Credit and Debt Levels:** **SS.K.11.** Explain the difference between buying and borrowing. (21st century skills) **Create a Saving and Spending Plan:** **SS.K.12.** Distinguish between appropriate spending choices. (21st century skills)

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.2.IT Engagement and Persistence Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines. (p 126) **Benchmarks:** *The infant or toddler:* 1. holds attention of familiar adult; for example, through eye contact or vocalizations. 2. repeats familiar and newly learned experiences. 3. if interested, maintains focus on people or objects, play experiences, or novel events. 4. demonstrates persistence with challenging materials and experiences.	***Standard 3.2.PS Engagement and Persistence*** Children purposefully choose and persist in experiences and play. (p 128) **Benchmarks:** *The child:* 1. maintains concentration on a task despite distractions and interruptions. 2. stays engaged and completes a variety of both adult-directed and self-initiated tasks, projects, and experiences of increasing degrees of difficulty. 3. sets goals and follows a plan in order to complete a task. 4. chooses to participate in play and learning experiences.	**GEOGRAPHY** **Create Geographic Representations:** **SS.K.13.** Create a route to a specific location using maps, globes, and other simple geographic models. **Evaluate Human Environment Interaction:** **SS.K.14.** Compare environmental characteristics in Iowa with other places. **Analyze Human Population Movement and Patterns:** **SS.K.15.** Explain why and how people move from place to place.

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.3.IT Reasoning and Problem Solving Infants and toddlers demonstrate strategies for reasoning and problem solving. (p 130) **Benchmarks:** *The infant or toddler:* 1. uses an object, action, or adult to accomplish tasks, such as pulling a blanket to reach a toy or pushing a button to hear a sound. 2. experiments to find a solution to a problem. 3. imitates an adult action to solve a problem. 4. recognizes difficulties and adjusts actions, as needed. 5. seeks and accepts help when encountering a problem beyond his/her ability to solve independently.	***Standard 3.3.PS Reasoning and Problem Solving*** Children demonstrate strategies for reasoning and problem solving. (p 132) **Benchmarks:** *The child:* 1. shows interest in and finds a variety of solutions to questions, tasks, or problems. 2. recognizes and solves problems through active exploration, including trial and error, and through interactions and discussions with peers and adults. 3. shares ideas or makes suggestions of how to solve a problem presented by another person.	**HISTORY** **Analyze Change, Continuity, and Context:** **SS.K.16.** Distinguish at least two related items or events by sequencing them from the past to the present. **SS.K.17.** Compare life in the past to life today. **Critique Historical Sources and Evidence:** **SS.K.18.** Given context clues, develop a reasonable idea about who created the primary or secondary source, when they created it, where they created it, or why they created it. **Iowa History:** **SS.K.19.** Compare and contrast local environmental characteristics to that of other parts of the state of Iowa.

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.4.IT Play and Senses Infants and toddlers engage in play to learn. (p 134) **Benchmarks:** *The infant or toddler:* 1. uses sights, smells, sounds, textures, and tastes to explore and experience routines and materials within the environment. 2. chooses and participates in a variety of play experiences. 3. imitates behaviors of others in play. 4. repeats experiences with materials, adults, and peers to build knowledge and understanding of the world around them.	***Standard 3.4.PS Play and Senses*** Children engage in play to learn. (p 136) **Benchmarks:** *The child:* 1. engages in a variety of indoor and outdoor play experiences. 2. uses sights, smells, sounds, textures, and tastes to discriminate between and explore experiences, materials, and the environment. 3. engages in self-initiated, unstructured play. 4. plans and executes play experiences alone and with others.	

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.1.IT Awareness of Family and Community Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups. (p 140) **Benchmarks:** *The infant or toddler:* 1. expresses enjoyment at being in a familiar setting or group. 2. recognizes familiar adults and uses them to determine safety during exploration. 3. freely explores and plays within familiar settings.	***Standard 4.1.PS Awareness of Family and Community*** Children demonstrate an increasing awareness of belonging to a family and community. (p 142) **Benchmarks:** *The child:* 1. demonstrates understanding that communities are composed of groups of people who live, play, or work together. 2. demonstrates ability to identify communities to which they belong. 3. recognizing that their family is an important group to which they belong. 4. demonstrates responsibility as a member of a family or community. 5. shows confidence in expressing individual opinions and thoughts while respecting the thoughts and opinions of others. 6. participates in creating and following rules and routines. 7. demonstrates an initial awareness of the concepts of fairness, individual rights, and welfare of family and community members.	

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.2.IT Awareness of Culture Infants and toddlers demonstrate a strong sense of self within their culture. (p 144) **Benchmarks:** *The infant or toddler:* 1. expresses enjoyment at being in a familiar setting or group. 2. chooses and participates in familiar experiences, including songs and stories from his or her home culture. 3. explores materials from various cultures.	***Standard 4.2.PS Awareness of Culture*** Children demonstrate an increasing awareness of culture and diversity. (p 146) **Benchmarks:** *The child:* 1. demonstrates an awareness of diversity such as family characteristics, adult roles within a family, and skin and hair color. 2. demonstrates acceptance of persons from different cultures and ethnic groups. 3. demonstrates a sense of belonging, feeling pride in his/her own culture while showing respect for others. 4. uses respectful and descriptive language for human similarities and differences, demonstrating curiosity, comfort, ease, and empathy with similarities and differences.	

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.3.IT Exploration of the Environment Infants and toddlers explore new environments with interest and recognize familiar places. (p 148) **Benchmarks:** *The infant or toddler:* 1. demonstrates interest and curiosity within familiar and unfamiliar settings. 2. explores and plays with new, as well as familiar objects, in the environment using all five senses. 3. chooses and participates in unfamiliar experiences.	***Standard 4.3.PS Exploration of the Environment*** Children demonstrate an increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment. (p 150) **Benchmarks:** *The child:* 1. interacts with the world, first with familiar settings and then with less familiar ones; first in simple ways and then in more complex, exploratory ways. 2. constructs meaning about him/herself and the world through relevant and meaningful experiences with objects and their environment. 3. recognizes aspects of the environment, such as roads, buildings, trees, gardens, bodies of water, or land formations. 4. recognizes that people share the environment with other people, animals, and plants. 5. understands that people can take care of the environment through activities and experiences, such as cleaning, conserving, reusing, and recycling. 6. recognizes a variety of jobs and the work associated with them.	

Area 4: Social Studies	Area 4: Social Studies	
	Standard 4.4.PS Awareness of the Past Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community. (p 152) **Benchmarks:** *The child:* 1. differentiates between past, present, and future. 2. represents events and experiences that occurred in the past through words, play, and art. 3. uses past events to construct meaning of the world. 4. understands that events happened in the past and that the events relate to oneself, family, community, and culture.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.1.IT Art Infants and toddlers participate in a variety of sensory and art-related experiences. (p 156) **Benchmarks:** *The infant or toddler:* 1. gazes at a picture, photo, or mirror images. 2. manipulates and explores play materials within the environment. *The older infant and toddler also:* 3. expresses interest in art-related experiences and media. 4. engages in experiences that support creative expression. 5. chooses and experiments with a variety of art materials such as playdough, crayons, chalk, water, markers, and paint.	***Standard 5.1.PS Art*** Children participate in a variety of art and sensory-related experiences. (p 158) **Benchmarks:** *The child:* 1. uses a variety of drawing and art materials, such as drawing utensils, paint, clay, and wood to create original works, form, and meaning. 2. expresses ideas about his/her own artwork and the artwork of others, relating artwork to what is happening in the environment or life experiences. 3. demonstrates care and persistence when involved in art projects. 4. plans and works cooperatively to create drawings, paintings, sculptures, and other art projects.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.2.IT Music, Rhythm, and Movement Infants and toddlers participate in a variety of rhythm, music, and movement experiences. (p 160) **Benchmarks:** *The infant or toddler:* 1. shows interest in songs, tones, rhythms, voices, and music. 2. experiments with a variety of age-appropriate instruments and sound-making objects. 3. enjoys exploring ways of interacting with others through touch and motion. *The toddler also:* 4. chooses and participates in music and movement experiences. 5. sings simple songs and participates in finger plays. 6. sings daily songs to recognize the patterns throughout their day.	***Standard 5.2.PS Music, Rhythm, and Movement*** Children participate in a variety of music and movement experiences. (p 162) **Benchmarks:** *The child:* 1. participates in a variety of musical and rhythmic experiences, including singing, dancing, listening, playing simple rhythmic and tonal instruments, and creating and singing chants, rhymes, and finger plays from diverse cultures. 2. demonstrates meaningful creative and imaginative responses, including taking on pretend roles, when listening to music to reflect the expressive elements of music. 3. notices differences in high and low sounds (pitch), long and short sounds (rhythm), loud and quiet sounds (dynamics), fast and low sounds (tempo), and differences between instruments or sounds (timbre). 4. recognizes patterns in songs and rhymes and repeats them, using songs, chants or instruments, including the emergence of steady beat. 5. demonstrates an awareness of music and sound as part of daily life indoors and outdoors.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.3.IT Dramatic Play Infants and toddlers engage in dramatic play experiences. (p 166) **Benchmarks:** *The infant or toddler:* 1. imitates the sounds, facial expressions, gestures, or behaviors of another person. 2. imitates the actions and sounds of animals, people, and objects. *The toddler also:* 3. engages in dramatic play in both indoor and outdoor environments.	***Standard 5.3.PS Dramatic Play*** Children engage in dramatic play experiences. (p 168) **Benchmarks:** *The child:* 1. shows creativity and imagination when using materials. 2. assumes different roles in dramatic play situations. 3. interacts with peers in dramatic play experiences that become more extended and complex.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.1.IT Language Understanding and Use Infants and toddlers understand and use communication and language for a variety of purposes. (p 172) **Benchmarks:** *The infant or toddler, in home language and English:* 1. responds to the vocalizations and communications, verbal and nonverbal, of familiar adults. 2. uses vocalizations and gestures to gain attention from others. 3. uses vocalizations and gestures to communicate wants and needs. 4. increases both listening (receptive) and speaking (expressive) vocabulary. *The toddler also:* 5. progresses to using words then simple sentences to communicate. 6. participates in conversations that include turn-taking, using both receptive (listening) and expressive (speaking) language skills. 7. answers simple questions. 8. follows simple directions.	***Standard 6.1.PS Language Understanding and Use*** Children understand and use communication and language for a variety of purposes. (p 174) **Benchmarks:** *The child:* 1. demonstrates a steady increase in listening (receptive language) and speaking (expressive language) vocabulary. 2. initiates, listens, and responds in relationship to the topics of conversations with peers and adults. 3. speaks in phrases and sentences of increasing length and complexity. 4. follows oral directions that involve several actions. 5. asks and answers a variety of questions. 6. demonstrates knowledge of the rules of conversations such as taking turns while speaking. *The child, who is an English language learner, also:* 7. uses their home language, sometimes in combination with English, to communicate with people.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
	Standard 6.1.PS Language Understanding and Use Children understand and use communication and language for a variety of purposes. [cont'd] (p 174) 8. demonstrates ongoing development and improvement in vocabulary and complexity in use of home language. 9. demonstrates engagement at home or the classroom in literacy activities to related to her or his home language. 10. demonstrates receptive (listening) and express (speaking English language skills to be able to comprehend the English language. 11. demonstrates engagement in English literacy activities to be able to understand and respond to books, storytelling, and songs presented in English.	

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.1.IT Comparison, Number, and Operation Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting. (p 190) **Benchmarks:** *The infant:* 1. begins to notice characteristics of objects such as size, color, shape, or quantity. *The toddler:* 2. matches and sorts objects by size, color, shape, or quantity. 3. begins to use simple counting in play and interactions, although numbers may occur out of order. 4. makes simple comparisons between two objects using words like big, small, more, etc.	***Standard 7.1.PS Comparison, Number, and Operation*** Children understand counting, ways of representing numbers, and relationships between quantities and numerals. (p 192) **Benchmarks:** *The child:* 1. recognizes small quantities (1 to 5) without counting them (subitizing). 2. counts to 20 verbally. 3. points and counts 10-20 objects accurately. 4. makes sets of 6-10 objects and describes parts. 5. uses language such as more, less or the same amount as to compare quantities. 6. identifies numerals to 10 by name.	

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.2.IT Patterns Infants and toddlers begin to recognize patterns. (p 194) **Benchmarks:** *The infant:* 1. demonstrates expectations for familiar sequences of routines and experiences such as crying when it is near feeding time. *The toddler:* 2. shows recognition of sequence in events or objects. 3. repeats actions in sequence, such as finger plays. 4. notices patterns and objects in the environment. 5. organizes objects into groups during play and exploration.	***Standard 7.2.PS Patterns*** Children understand patterns. (p 196) **Benchmarks:** *The child:* 1. recognizes, reproduces and creates patterns moving from simple to complex. 2. extends patterns by predicting what comes next. 3. describes patterns seen in natural and designed settings	

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.3.IT Shapes and Spatial Relationships Infants and toddlers show increasing understanding of spatial relationships. (p 198) **Benchmarks:** *The infant:* 1. takes objects apart. 2. fills and empties containers. *The toddler:* 3. takes objects apart and attempts to put them together. 4. shows awareness of his/her own body space. 5. matches similar shapes. 6. follows simple direction related to positions (in, on, under, up and down).	***Standard 7.3.PS Shapes and Spatial Relationships*** Children understand shapes and spatial relationships. (p 200) **Benchmarks:** *The child:* 1. demonstrates understanding of spatial words such as up, down, over, under, top, bottom, inside, outside, in front, and behind. 2. identifies and describes two- and three-dimensional shapes. 3. notices characteristics, similarities, and differences among shapes, such as corners, points, edges, and sides. 4. notices how shapes fit together and can be taken apart to form other shapes.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.4.PS Measurement Children understand comparisons and measurement. (p 202) **Benchmarks:** *The child:* 1. sorts, classifies, and puts objects in series, using a variety of properties. 2. makes comparisons between several objects based on one or more attributes, such as length, height, weight, and area, using words such as taller, shorter, longer, bigger, smaller, heavier, lighter, full, empty, length, height, and weight. 3. measures objects using non-standard units of measurement, such as using blocks to determine how tall a child is. 4. explores objects using standard measuring tools (e.g., rulers, measuring cups, and balance scales. 5. begins to demonstrate knowledge that measurement requires a 'fair' comparison starting at the same baseline or measuring the same property such as length, height, and volume.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.4.PS Measurement Children understand comparisons and measurement. [cont'd] (p 202) 6. develops an awareness of simple time concepts within his/her daily life such as day, night, sequence of usual daily events such as breakfast, lunch, dinner, bedtime; outdoor time follows snack; and brushing teeth after a meal.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.5.PS Data Analysis Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers. (p 204) **Benchmarks:** *The child:* 1. sorts collections of objects into sets such as lines, piles, or groups by color, size, shape, or kind. 2. sorts and resorts in a variety of ways. 3. compares and orders such as most to least, same amount as, or least to most. 4. sorts data into two groups such as big and not big; green and not green; and pets and not pets. 5. asks questions, collects, records, and organizes classroom data to find answers to questions.	

Area 8: Science	Area 8: Science	
Standard 8.1.IT Scientific Investigations Infants and toddlers gather and interpret information from the environment around them. (p 208) **Benchmarks:** *The infant or toddler:* 1. begins to notice objects and events in the indoor and outdoor environments. 2. engages in a variety of play experiences and exploration when provided open-ended materials (i.e. toys or household items that can be taken apart/put together, a container of water and various objects, seeds of different sizes/textures/shapes). 3. uses one or more senses to make observations of their environment. 4. reacts to changes in the environment. 5. attempts to manipulate/understand their environment through repetitive play. 6. identifies and interacts with new objects placed in their environment. *The toddler also:* 7. asks simple questions about observations of the environment using language (may be home language), behavior, interactions, etc.	***Standard 8.1.PS Scientific Investigations*** Children gather information and conduct investigations to address their wonderings and test solutions to problems. (p 210) **Benchmarks:** *The child:* 1. asks questions about his/her environment, and begins to identify and look for information that will help answer those questions or solve problems. 2. plans and conducts simple investigations alone or in collaboration with peers to answer questions or design solutions to scientific or engineering problems. 3. begins to use appropriate scientific tools/ technology in conducting investigations such as scales, tape measure, magnifying glass, tweezers, and eye dropper. 4. observes, investigates, and describes objects, materials, and other physical science phenomena such as shadows and reflections in the classroom and outdoor environments. 5. observes, investigates, and describes the characteristics, behavior, and habitats of living things.	

Area 8: Science	Area 8: Science	
	Standard 8.1.PS Scientific Investigations Children gather information and conduct investigations to address their wonderings and test solutions to problems. [cont'd] (p 210) 6. asks questions based on observations of weather-related phenomena and begins to notice relationships and patterns over time such as it is warmer in the summer and colder in the winter. 7. develops an awareness of nature through the exploration of natural environments and materials or through caring for animals or plants.	

Area 8: Science	Area 8: Science	
Standard 8.2.IT Scientific Reasoning Infants and toddlers use reasoning to make sense of information in their environment. (p 214) **Benchmarks:** *The infant or toddler:* 1. uses trusted relationships to gain understanding of the living and nonliving world. 2. explores cause and effect relationships by engaging in problem solving through trial and error. *The toddler also:* 3. shows understanding of object permanence (that people exist when they cannot be seen, and objects exist even when out of sight). 4. makes a choice to reach a desired outcome.	***Standard 8.2.PS Scientific Reasoning*** Children use reasoning to make sense of information and design solutions to problems in their environment. (p 217) **Benchmarks:** *The child:* 1. begins to make comparisons and categorize nonliving things based on characteristics they can observe such as texture, color, size, shape, temperature, sound, odor, usefulness, and weight. 2. uses information from investigations to identify similarities and differences in characteristics and behavior of living things and make inferences about their needs and how they get met such as caterpillars eat leaves. 3. uses prior experiences and/or data from observations to identify patterns in how living and nonliving things stay the same or change over time and/or when conditions change such as plants grow when they get the proper amounts of water and light; combine substances, heat/cool an item; baby animals generally resemble their parents.	

Area 8: Science	Area 8: Science	
	Standard 8.2.PS Scientific Reasoning Children use reasoning to make sense of information and design solutions to problems in their environment. [cont'd] (p 217) 4. begins to identify ways humans positively and negatively impact the environment such as beginning awareness of conservation and respect for the environment, based on investigations. 5. describes and compares the properties and motions of objects, based on exploration, in terms of speed and direction such as faster, down, beside and begin to notice cause and effect relationships such as a ball rolls faster on a steeper incline. 6. begins to make patterns based on long-term explorations of weather and observations of the earth and sky begins to notice patterns such as differences in weather in different seasons and how different types of weather influence people and the environment.	

Area 8: Science	Area 8: Science	
Standard 8.3.IT Scientific Communication Infants and toddlers share information and understanding about experiences in their environment. (p 219) **Benchmarks:** *The infant or toddler:* 1. produces questions using gestures and/or facial expressions. 2. expresses vocalizations and gestures to gain attention from others. 3. shows repetitive actions to demonstrate new learning experiences. *The toddler also:* 4. composes simple verbal questions in English or home language. 5. verbally responds to other's questions, statements in English or home language. 6. draws pictures to represent his/her observations of objects and/or of changes to objects/the environment. 7. engages in scientific conversations, using both receptive (listening) and expressive (speaking) language skills.	***Standard 8.3.PS Scientific Communication*** Children share information and understanding about experiences in their environment. (p 221) **Benchmarks:** *The child:* 1. shares observations and ideas about the properties and behavior of nonliving and living things through a variety of modalities such as language, drawing, modeling, gesturing, and dramatizing. 2. obtains, evaluates, and uses age-appropriate text and online resources, with support, to gather information related to a topic of study and makes connections to observations and experiences. For example, when studying butterflies, children may evaluate a variety of books and begin to identify which ones are most useful for learning about real butterflies. 3. begins to ask questions of others to seek out more information on a topic. Participates in generating questions to ask a visiting expert on a topic of interest.	

Area 8: Science	Area 8: Science	
	Standard 8.3.PS Scientific Communication Children share information and understanding about experiences in their environment. [cont'd] (p 221) 4. offers evidence to explain the thought process he/she used to make conclusions/ claims and listens to the claims, conclusions, and evidence of others to begin to identify areas of agreement and disagreement. 5. participates in creating a final product such as a panel, classroom book, or newsletter that communicates what was learned during one exploration or during the study of a topic over time. Individual children may contribute through language, drawing, writing, or choosing items to be included.	

Iowa Early Learning Standards 3rd edition alignment with Iowa Fine Arts Standards

Infant/Toddler Birth - 3 Years	Preschool 3 - 5 Years	End of Kindergarten
All eight IELS areas contain standards that align to Iowa Fine Arts Standards.	**All eight IELS areas contain standards that align to Iowa Fine Arts Standards.**	**access the Iowa Fine Arts Standards at https://www.educateiowa.gov/pk-12/content-areas/fine-arts**
Area 1: Social and Emotional Development	**Area 1: Social and Emotional Development**	
Area 2: Physical Well-Being and Motor Development	**Area 2: Physical Well-Being and MotorDevelopment**	
Area 3: Approaches to Learning	**Area 3: Approaches to Learning**	
Area 4: Social Studies	**Area 4: Social Studies**	
Area 5: Creative Arts	**Area 5: Creative Arts**	
Area 6: Communication, Language, and Literacy	**Area 6: Communication, Language, and Literacy**	
Area 7: Mathematics	**Area 7: Mathematics**	
Area 8: Science	**Area 8: Science**	
All Iowa Early Learning Standard areas/ benchmarks for infants/toddlers contribute to the foundation of knowledge and skills needed to meet the Fine Arts Standards for the end of Kindergarten.	All Iowa Early Learning Standard areas/ benchmarks for preschool-aged children contribute to the foundation of knowledge and skills needed to meet the Fine Arts Standards for the end of Kindergarten.	**VISUAL ARTS** **<u>Creating</u>** VA:Cr1.1.K Engage in exploration and imaginative play with materials. VA:Cr1.2.K Engage collaboratively in creative art-making in response to an artistic problem.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		VA:Cr2.1.K Through experimentation, build skills in various media and approaches to art-making. VA:Cr2.2.K Identify safe and non-toxic art materials, tools, and equipment. VA:Cr2.3.K Create art that represents natural and constructed environments. VA:Cr3.1.K Explain the process of making art while creating. Performing**/Presenting/**Producing VA:Pr4.1.K Select art objects for personal portfolio and display, explaining why they were chosen. VA:Pr5.1.K Explain the purpose of a portfolio or collection. VA:Pr6.1.K Explain what an art museum is and distinguish how an art museum is different from other buildings.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		Responding VA:Re7.1.K Identify uses of art within one's personal environment. VA:Re7.2.K Describe what an image represents. VA:Re8.1.K Interpret art by identifying subject matter and describing relevant details. VA:Re9.1.K Explain reasons for selecting a preferred artwork. **Connecting** VA:Cn10.1.K Create art that tells a story about a life experience. VA:Cn11.1.K Identify a purpose of an artwork.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		THEATRE **Creating** TH:Cr1.1.K a. With prompting and support, invent and inhabit an imaginary elsewhere in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). b. With prompting and support, use non-representational materials to create props, puppets, and costume pieces for dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). TH:Cr2.1.K a. With prompting and support, interact with peers and contribute to dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). b. With prompting and support, express original ideas in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama).

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		TH:Cr3.1.K a. With prompting and support, ask and answer questions in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). **Performing/**Presenting/Producing TH:Pr.4.1.K a. With prompting and support, identify characters and setting in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). TH:Pr.5.1.K a. With prompting and support, understand that voice and sound are fundamental to dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). b. With prompting and support, explore and experiment with various technical elements in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama).

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		TH:Pr.6.1.K a. With prompting and support, use voice and sound in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). **<u>Responding</u>** TH:Re.7.1.K a. With prompting and support, express and emotional response to characters in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). TH:Re.8.1.K a. With prompting and support, identify preferences in dramatic play, a guided drama experience (e.g., process drama, story drama, creative drama), or age-appropriate theatre performance. b. With prompting and support, name and describe settings in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama).

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		TH:Re.9.1.K a. With prompting and support, actively engage with others in dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama). **<u>Connecting</u>** TH:Cn.10.1.K a. With prompting and support, identify similarities between characters and oneself in dramatic play, a guided drama experience (e.g., process drama, story drama, creative drama). TH:Cn.11.1.K a. With prompting and support, identify skills and knowledge from other areas in dramatic play, a guided drama experience (e.g., process drama, story drama, creative drama). TH:Cn.11.2.K a. With prompting and support, identify stories that are different from one another in dramatic play, a guided drama experience (e.g., process drama, story drama, creative drama). b. With prompting and support, tell a short story in dramatic play, a guided drama experience (e.g., process drama, story drama,

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		MUSIC **Creating** MU:Cr1.1.K a. With guidance, explore and experience music concepts (such as beat and melodic contour). b. With guidance, generate musical ideas (such as movements and motives). MU:Cr2.1.K a. With guidance, demonstrate and choose favorite musical ideas. MU:Cr3.1.K a. With guidance, apply personal, peer, and teacher feedback in refining personal musical ideas. MU:Cr3.2.K a. With guidance, demonstrate a final version of personal musical ideas to peers. **Performing/**Presenting/Producing MU:Pr4.1.K a. With guidance, demonstrate and state personal interest in varied musical selections.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		MU:Pr4.2.K a. With guidance, explore and demonstrate awareness of music contrasts (such as high/ low, loud/soft, same/different) in a variety of music selected for performance. MU:Pr4.3.K With guidance, demonstrate awareness of expressive qualities (such as voice quality, dynamics, and tempo) that support the creators' expressive intent. MU:5.1.K a. With guidance, apply personal, teacher, and peer feedback to refine music making. b. With guidance, use suggested strategies in rehearsal to improve expressive qualities of music. MU:Pr6.1.K a. With guidance, perform music with expression. b. Perform appropriately for the (formal or informal) audience.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		Responding MU:Re7.1.K a. With guidance, list personal interests and experiences and demonstrate reasons behind musical preference. MU:Re7.2.K a. With guidance, demonstrate how a specific music concept (such as beat or melodic direction) is used in music. MU:Re8.1.K a. With guidance, demonstrate awareness of expressive qualities (such as dynamics and tempo) that reflect creators'/performers' expressive intent. MU:Re9.1.K a. With guidance, apply personal and expressive preferences in the evaluation of music. **Connecting** MU:Cn10.0.Ka Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		Embedded within: MU:Cr3.2.Ka With guidance, demonstrate a final version of personal musical ideas to peers. MU:Pr4.1.Ka With guidance, demonstrate and state personal interest in varied musical selections. MU:Pr4.3.Ka With guidance, demonstrate awareness of expressive qualities (such as voice quality, dynamics, and tempo) that support the creators' expressive intent. MU:Cn11.0.Ka Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life. **Embedded within**: MU:Pr4.2.Ka With guidance, explore and demonstrate awareness of music contrasts (such as high/low, loud/soft, same/different) in a variety of music selected for performance. MU:Re7.2.Ka With guidance, demonstrate how a specific music concept (such as beat or melodic direction) is used in music. MU:Re9.1.Ka With guidance, apply personal and expressive preferences in the evaluation of music.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		MUSIC—HARMONIZING INSTRUMENTS STRAND Proficiency levels for this strand represent expectations beginning in later elementary grades. **MUSIC—TRADITIONAL AND EMERGING ENSEMBLES STRAND** Proficiency levels for this strand represent expectations beginning in later elementary grades. **MUSIC—COMPOSITION AND THEORY STRAND** Proficiency levels for this strand represent expectations beginning in high school. **MUSIC—MUSIC TECHNOLOGY STRAND** Proficiency levels for this strand represent expectations beginning in high school.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		DANCE **Creating** DA:Cr2.1.K a. Improvise dance that has a beginning, middle, and end. b. Express an idea, feeling, or image, through improvised movement moving alone or with a partner. DA:Cr3.1.K a. Apply suggestions for changing movement through guided improvisational experiences. b. Depict a dance movement by drawing a picture or using a symbol. **Performing/**Presenting/Producing DA:Pr4.1.K a. Make still and moving body shapes that show lines (for example, straight, bent, and curved), changes levels, and vary in size (large/small). Join with others to make a circle formation and work with others to change its dimensions. b. Demonstrate tempo contrasts with movements that match to tempo of sound

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		c. Identify and apply different characteristics to movements (for example, slow, smooth, or wavy). DA:Pr5.1.K a. Demonstrate same-side and cross-body locomotor and no-locomotor movements, body patterning movements, and body shapes. b. Move safely in general space and start and stop on cue during activities, group formations, and creative explorations while maintaining personal space. c. Move body parts in relation to other body parts and repeat and recall movements upon request. DA:Pr6.1.K a. Dance for and with others in a designated space. b. Select a prop to use as part of a dance. **<u>Responding</u>** DA:Re7.1.K a. Find a movement that repeats in a dance. b. Demonstrate or describe observed or performed dance movements.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		DA:Re8.1.K a. Observe movement and describe it using simple dance terminology. DA:Re9.1.K a. Find a movement that was noticed in a dance. Demonstrate the movement that was noticed and explain why it attracted attention. **<u>Connecting</u>** DA:Cn10.1.K a. Recognize and name an emotion that is experienced when watching, improvising, or performing dance and relate it to a personal experience. b. Observe a work of visual art. Describe and then express through movement something of interest about the artwork, and ask questions for discussion concerning the artwork. DA:Cn11.1.K a. Describe or demonstrate the movements in a dance that was watched or performed.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		MEDIA ARTS **Creating** MA:Cr1.1.K Discover and share ideas for media artworks using play and experimentation. MA:Cr2.1.K With guidance, use ideas to for plans or models for media arts productions. MA:Cr3.1.K a. Form and capture media arts content for expression and meaning in media arts productions. b. Make changes to the content, form, or presentation of media artworks and share results. Performing/Presenting/**Producing** MA:Pr4.1.K With guidance, combine arts forms and media content, such as dance and video, to form media artworks. MA:Pr5.1.K a. Identify and demonstrate basic skills, such as handling tools, making choices, and cooperating in creating media artworks.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		b. Identify and demonstrate creative skills, such as performing, within media arts productions. c. Practice, discover, and share how media arts creation tools work. MA:Pr6.1.K a. With guidance, identify and share roles and the situation in presenting media artworks. b. With guidance, identify and share reactions to the presentation of media artworks. **<u>Responding</u>** MA:Re7.1.K a. Recognize and share components and messages in media artworks. b. Recognize and share how a variety of media artworks create different experiences. MA:Re8.1.K With guidance, share observations regarding a variety of media artworks. MA:Re9.1.K Share appealing qualities and possible changes in media artworks.

Infant/Toddler: Birth - 3 Years	Preschool: 3 - 5 Years	End of Kindergarten
		<u>Connecting</u> MA:Cn10.1.K a. Use personal experiences and choices in making media artworks. b. Share memorable experiences of media artworks. MA:Cn11.1.K a. With guidance, share ideas in relating media artworks and everyday life, such as daily activities. b. With guidance, interact safely and appropriately with media arts tools and environments.

Iowa Early Learning Standards 3rd edition alignment with Iowa CORE English Language Arts

Infant/Toddler Birth - 3 Years	Preschool 3 - 5 Years	End of Kindergarten
All eight IELS areas contain standards that align to Iowa CORE English Language Arts.	All eight IELS areas contain standards that align to Iowa CORE English Language Arts.	**access the Iowa CORE at www.iowacore.gov**
Area 1: Social and Emotional Development	**Area 1: Social and Emotional Development**	**LITERATURE**
Standard 1.1.IT Self Infants and toddlers display a positive sense of self. (p 90) **Benchmarks:** *The infant or toddler:* 1. responds to familiar adults' and children's interactions using behaviors such as gazing, cuddling, and accepting assistance. 2. explores his/her own body. 3. shows awareness of self, such as responding to own image in mirror. 4. shows preferences for toys and experiences. 5. expresses reaction through facial expressions, sounds, and gestures. 6. begins to recognize own power by showing interest in making choices or expressing preferences.	***Standard 1.1.PS Self*** Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences. (p 92) **Benchmarks:** *The child:* 1. expresses a positive sense of self in terms of specific abilities. 2. expresses needs, wants, opinions, and feelings in socially appropriate ways. 3. demonstrates increasing confidence and independence in a variety of tasks and routines, and expresses pride in accomplishments. 4. recognizes own power to make choices.	**Key Ideas and Details:** **1.** With prompting and support, ask and answer questions about key details in a text. **(RL.K.1)** **2.** With prompting and support, retell familiar stories, including key details. **(RL.K.2)** 3. With prompting and support, identify characters, settings, and major events in a story. **(RL.K.3)** **Craft and Structure:** **4.** Ask and answer questions about unknown words in a text. **(RL.K.4)** **5.** Recognize common types of texts (e.g. storybooks, poems). **(RL.K.5)** 6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story. **(RL.K.6)**

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	
Standard 1.2.IT Self-Regulation Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways. (p 94) **Benchmarks:** *The infant or toddler:* 1. indicates need for assistance through actions such as crying, gesturing, vocalizing, using words, or approaching familiar adults. 2. comforts him or herself when distressed or tired by actions such as sucking, stroking a blanket, or hugging a toy. 3. begins to express a range and variety of feelings and emotions through body language, facial expressions, actions, and/or verbal responses. 4. shows increasing ability to recognize own feelings, including simple (e.g., mad, glad) and complex (e.g., excited, frustrated, disappointed) feelings. 5. responds to emotions expressed by others, for example, by comforting another child or crying in response to the cries of others. 6. begins to control behavior through following simple rules and limits in a variety of settings. 7. begins to transition between feeling states with guidance from a caring adult.	***Standard 1.2.PS Self-Regulation*** Children show increasing ability to regulate their behavior and express their emotions in appropriate ways. (p 96) **Benchmarks:** *The child:* 1. demonstrates the ability to monitor his/her own behavior and its effects on others, following and contributing to adult expectations. 2. persists with difficult tasks without becoming overly frustrated. 3. begins to accept consequences of his/her own actions. 4. manages transitions and changes to routines. 5. states feelings, needs, and opinions in difficult situations without harming self, others, or property. 6. expresses an increasing range and variety of emotions, and transitions between feeling states become smoother.	**Integration of Knowledge and Ideas:** **7.** With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts). **(RL.K.7)** **8.** (Not applicable to literature) **(RL.K.8)** **9.** With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories. **(RL.K.9)** **Range of Reading and Text Level Complexity:** **10.** Actively engage in group reading activities with purpose and understanding. **(RL.K.10)** **INFORMATIONAL TEXT** **Key Ideas and Details:** **1.** With prompting and support, ask and answer questions about key details in a text. **(RI.K.1)** **2.** With prompting and support, identify the main topic and retell key details of a text. **(RI.K.2)** 3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. **(RI.K.3)**

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	INFORMATIONAL TEXT (cont'd)
Standard 1.3.IT Relationships with Adults Infants and toddlers relate positively with significant adults. (p 98) **Benchmarks:** *The infant or toddler:* 1. distinguishes between familiar and unfamiliar adults; for example, is comforted by the sight of the familiar adult or the sound of the familiar adult's voice. 2. accepts assistance and comfort from familiar adults. 3. seeks and maintains contact with familiar adults; for example, by looking at the adult, hearing the adult's voice, or touching the adult. 4. shows discomfort at separations from familiar adults. 5. seeks help from familiar adults in unfamiliar situations. 6. explores the environment, both indoors and outdoors, but may return to a familiar adult periodically for security. 7. begins to imitate or portray roles and relationships. 8. Imitates adult behaviors.	***Standard 1.3.PS Relationships with Adults*** Children relate positively with significant adults. (p 100) **Benchmarks:** *The child:* 1.interacts comfortably with familiar adults. 2.accepts guidance, comfort, and directions from a range of familiar adults in a variety of environments. 3.expresses affection toward familiar adults. 4.shows trust in familiar adults. 5.seeks help, as needed, from familiar adults.	**Craft and Structure:** **4.** With prompting and support, ask and answer questions about unknown words in a text. **(RI.K.4)** **5.** Identify the front cover, back cover, and title page of a book. **(RI.K.5)** **6.** Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text. **(RI.K.6)** **Integration of Knowledge and Ideas:** 7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). **(RI.K.7)** **8.** With prompting and support, identify the reasons an author gives to support points in a text. **(RI.K.8)** 9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). **(RI.K.9)** **Range of Reading and Text Level Complexity:** **10.** Actively engage in group reading activities with purpose and understanding. **(RI.K.10)**

Area 1: Social and Emotional Development	Area 1: Social and Emotional Development	
Standard 1.4.IT Relationships with Children Infants and toddlers respond to and initiate interactions with other children. (p 102) **Benchmarks:** *The infant or toddler:* 1.Initiates interactions with other children through gestures, vocalizations, facial expressions, and/or body movements. 2.accepts help from familiar adults in interactions with other children. 3. begins to demonstrate empathy for others and responds to people's facial expressions, body language, and or interactions. 4. develops an awareness of his/her behavior and how it affects others. 5. imitates other children's behaviors.	***Standard 1.4.PS Relationships with Children*** Children respond to and initiate appropriate interactions with other children, and form positive peer relationships. (p 104) **Benchmarks:** *The child:* 1. initiates and sustains positive interactions with peers, organizes play. 2. wants to please and be like friends 3.negotiates with others to resolve disagreements. 4. develops friendships with other peers; starts to demonstrate turn taking and sharing with others. 5. expresses empathy to peers, demonstrates caring behaviors 6. accepts consequences of his/her actions. 7. recognizes how behaviors can affect others. 8.names friends.	**FOUNDATIONAL SKILLS** **Print Concepts:** 1. Demonstrate understanding of the organization and basic features of print. a. Follow words from left to right, top to bottom, and page by page. b. Recognize that spoken words are represented in written language by specific sequences of letters. c. Understand that words are separated by spaces in print. d. Recognize and name all upper- and lowercase letters of the alphabet. **(RF.K.1)** **Phonological Awareness:** 2. Demonstrate understanding of spoken words, syllables, and sounds phonemes. a. Recognize and produce rhyming words. b. Count, pronounce, blend, and segment syllables in spoken words. c. Blend and segment onsets and rimes of single-syllable spoken words. d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/). **e.** Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words. **(RF.K.2)**

Area 2: Physical Well-Being and Motor Development	Area 2: Physical Well-Being and Motor Development	FOUNDATIONAL SKILLS (cont'd)
Standard 2.3.IT Small Motor Development Infants and toddlers develop small motor skills. (p 116) **Benchmarks:** *The infant:* 1. uses hand-eye coordination to perform self-help and small motor tasks, such as eating food, picking up objects, placing objects on a surface, transferring objects from hand to hand, and fitting objects into a hole in a box. *The toddler:* 2. uses hand-eye coordination to perform s elf-help and small motor tasks such as eating with a fork or spoon, completing simple puzzles, stacking blocks, dressing self with assistance, scribbling with crayons or markers, participating in finger plays and using musical instruments.	***Standard 2.3.PS Small Motor Development*** Children develop small motor skills. (p 118) **Benchmarks:** *The child:* 1. uses hand-eye coordination to perform self-help and small motor tasks with a variety of manipulative materials such as beads, pegs, shoelaces, and puzzle pieces and musical instruments. 2. demonstrates increased skills in using scissors and writing tools for various learning experiences.	**<u>Phonics and Word Recognition:</u>** 3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant. b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. c. Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does). **d.** Distinguish between similarly spelled words by identifying the sounds that differ. **(RF.K.3)** **<u>Fluency:</u>** **4.** Read emergent-reader texts with purpose and understanding. **(RF.K.4)**

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.1.IT Curiosity and Initiative Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills. (p 122) **Benchmarks:** *The infant or toddler:* 1. shows interest in people including other infants, objects, and events. 2. uses their senses to choose, explore, and manipulate a variety of objects or toys in a variety of ways. 3. actively plays with or near adults, other children, and materials.	***Standard 3.1.PS Curiosity and Initiative*** Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills. (p 124) **Benchmarks:** *The child:* 1. chooses to deliberately explore a variety of materials and experiences, seeking out new challenges. 2. participates in experiences with eagerness, flexibility, imagination, independence, and inventiveness. 3. asks questions about a variety of topics. 4. repeats skills and experiences to build competence and support the exploration of new ideas.	**WRITING** **Text Types and Purposes:** **1.** Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is…*). **(W.K.1)** 2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. **(W.K.2)** 3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. **(W.K.3)** **Production and Distribution of Writing:** 4. **(Begins in grade 3) (W.K.4)** 5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed. **(W.K.5)** **6.** With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaborations with peers. **(W.K.6)**

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.2.IT Engagement and Persistence Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines. (p 126) **Benchmarks:** *The infant or toddler:* 1. holds attention of familiar adult; for example, through eye contact or vocalizations. 2. repeats familiar and newly learned experiences. 3. of interested, maintains focus on people or objects, play experiences, or novel events. 4. demonstrates persistence with challenging materials and experiences.	***Standard 3.2.PS Engagement and Persistence*** Children purposefully choose and persist in experiences and play. (p 128) **Benchmarks:** *The child:* 1. maintains concentration on a task despite distractions and interruptions. 2. stays engaged and completes a variety of both adult-directed and self-initiated tasks, projects, and experiences of increasing degrees of difficulty. 3. sets goals and follows a plan in order to complete a task. 4. chooses to participate in play and learning experiences.	**WRITING (cont'd)** **<u>Research to Build and Present Knowledge:</u>** **7.** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). **(W.K.7)** 8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **(W.K.8)** 9. **(Begins in grade 4) (W.K.9)** **<u>Range of Writing:</u>** 10.**(Begins in grade 3) (W.K.10)**

Area 3: Approaches to Learning	Area 3: Approaches to Learning	SPEAKING AND LISTENING
Standard 3.3.IT Reasoning and Problem Solving Infants and toddlers demonstrate strategies for reasoning and problem solving. (p 130) **Benchmarks:** *The infant or toddler:* 1. uses an object, action, or adult to accomplish tasks, such as pulling a blanket to reach a toy or pushing a button to hear a sound. 2. experiments to find a solution to a problem. 3.imitates an adult action to solve a problem. 4.recognizes difficulties and adjusts actions, as needed. 5.seeks and accepts help when encountering a problem beyond his/her ability to solve independently.	***Standard 3.3.PS Reasoning and Problem Solving*** Children demonstrate strategies for reasoning and problem solving. (p 132) **Benchmarks:** *The child:* 1.shows interest in and finds a variety of solutions to questions, tasks, or problems. 2.recognizes and solves problems through active exploration, including trial and error, and through interactions and discussions with peers and adults. 3.shares ideas or makes suggestions of how to solve a problem presented by another person.	**Comprehension and Collaboration:** 1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and large groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). **b.** Continue a conversation through multiple exchanges. **(SL.K.1)** 2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. **(SL.K.2)** **3.** Ask and answer questions in order to seek help, get information, or clarify something that is not understood. **(SL.K.3)** **Presentation of Knowledge and Ideas:** **4.** Describe familiar people, places, things, and events and, with prompting and support, provide attention to detail. **(SL.K.4)** **5.** Add drawings or other visual displays to descriptions as desired to provide additional detail. **(SL.K.5)** **6.** Speak audibly and express thoughts, feelings, and ideas clearly when retelling familiar stories or reciting poems, nursery rhymes or lines of a play. **(SL.K.6)**

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.4.IT Play and Senses Infants and toddlers engage in play to learn. (p 134) **Benchmarks:** *The infant or toddler:* 1. uses sights, smells, sounds, textures, and tastes to explore and experience routines and materials within the environment. 2. chooses and participates in a variety of play experiences. 3. imitates behaviors of others in play. 4. repeats experiences with materials, adults, and peers to build knowledge and understanding of the world around them.	**Standard 3.4.PS Play and Senses** Children engage in play to learn. (p 136) **Benchmarks:** *The child:* 1. engages in a variety of indoor and outdoor play experiences. 2. uses sights, smells, sounds, textures, and tastes to discriminate between and explore experiences, materials, and the environment. 3.engages in self-initiated, unstructured play. 4.plans and executes play experiences alone and with others.	**LANGUAGE** **Conventions of Standard English:** 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print many upper- and lowercase letters. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., dog, dogs; wish, wishes). d. Understand and use question words (interrogatives) (e.g., *who, what, where, when, why, how*). e. Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with). **f.** Produce and expand complete sentences in shared language activities. **(L.K.1)** 2. Demonstrate command of conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize the first word in a sentence and the pronoun I. B. Recognize and name end punctuation. c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships. **(L.K.2)**

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.1.IT Awareness of Family and Community Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups. (p 140) **Benchmarks:** *The infant or toddler:* 1. expresses enjoyment at being in a familiar setting or group. 2. recognizes familiar adults and uses them to determine safety during exploration. 3. freely explores and plays within familiar settings.	***Standard 4.1.PS Awareness of Family and Community*** Children demonstrate an increasing awareness of belonging to a family and community. (p 142) **Benchmarks:** *The child:* 1. demonstrates understanding that communities are composed of groups of people who live, play, or work together. 2. demonstrates ability to identify communities to which he or she belongs. 3. recognizes that his or her family is an important group to which he or she belongs. 4. demonstrates responsibility as a member of a family or community. 5. shows confidence in expressing individual opinions and thoughts while respecting the thoughts and opinions of others. 6. participates in creating and following rules and routines. 7. demonstrates an initial awareness of the concepts of fairness, individual rights, and welfare of family and community members.	**LANGUAGE (cont'd)** **Knowledge of Language:** 3. **(Begins in grade 2) (L.K.3)** **Vocabulary Acquisition and Use:** 4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content. a. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* is a bird and learning the verb to *duck*). b. Use the most frequently occurring inflections and affixes (e.g., *-ed, -s, re-, un-, pre-, -ful, -less*) as a clue to the meaning of an unknown word. **(L.K.4)** 5. With guidance and support from adults, explore word relationships and nuances in word meanings. a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). c. Identify real-life connections between words and their use (e.g., note places at school that are *colorful*). d. Distinguish shades of meaning among verbs describing the same general action (e.g., walk, march, strut, prance) by acting out the meanings. **(L.K.5)**

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.2.IT Awareness of Culture Infants and toddlers demonstrate a strong sense of self within their culture. (p 144) **Benchmarks:** *The infant or toddler:* 1. expresses enjoyment at being in a familiar setting or group. 2. chooses and participates in familiar experiences, including songs and stories from his or her home culture. 3. explores materials from various cultures.	***Standard 4.2.PS Awareness of Culture*** Children demonstrate an increasing awareness of culture and diversity. (p 146) **Benchmarks:** *The child:* 1. demonstrates an awareness of diversity such as family characteristics, adult roles within a family, and skin and hair color. 2. demonstrates acceptance of persons from different cultures and ethnic groups. 3. demonstrates a sense of belonging, feeling pride in his or her own culture while showing respect for others. 4. uses respectful and descriptive language for human similarities and differences, demonstrating curiosity, comfort, ease, and empathy with similarities and differences.	**LANGUAGE (cont'd)** 6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts. **(L.K.6)**

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.3.IT Exploration of the Environment Infants and toddlers explore new environments with interest and recognize familiar places. (p 148) **Benchmarks:** *The infant or toddler:* 1. demonstrates interest and curiosity within familiar and unfamiliar settings. 2. explores and plays with new, as well as familiar objects, in the environment using all five senses. 3. chooses and participates in unfamiliar experiences.	***Standard 4.3.PS Exploration of the Environment*** Children demonstrate an Increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment. (p 150) **Benchmarks:** *The child:* 1. interacts with the world, first with familiar settings and then with less familiar ones; first in simple ways and then in more complex, exploratory ways. 2. constructs meaning about him/herself and the world through relevant and meaningful experiences with objects and their environment. 3. recognizes aspects of the environment, such as roads, buildings, trees, gardens, bodies of water, or land formations. 4. recognizes that people share the environment with other people, animals, and plants. 5. understands that people can take care of the environment through activities and experiences, such as cleaning, conserving, reusing, and recycling. 6. recognizes a variety of jobs and the work associated with them.	

Area 4: Social Studies	Area 4: Social Studies	
	Standard 4.4.PS Awareness of the Past Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community. (p 152) **Benchmarks:** *The child:* 1. differentiates between past, present, and future. 2. represents events and experiences that occurred in the past through words, play, and art. 3. uses past events to construct meaning of the world. 4. understands that events happened in the past and that the events relate to oneself, family, community, and culture.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.1.IT Art Infants and toddlers participate in a variety of sensory and art-related experiences. (p 156) **Benchmarks:** *The infant:* 1.gazes at a picture, photo, or mirror images. 2.manipulates and explores play materials within the environment. *The older infant and toddler also:* 3. expresses interest in art-related experiences and media. 4. engages in experiences that support creative expression. 5. chooses and experiments with a variety of art materials such as playdough, crayons, chalk, water, markers, and paint.	***Standard 5.1.PS Art*** Children participate in a variety of art and sensory-related experiences. (p 158) **Benchmarks:** *The child:* 1. uses a variety of drawing and art materials, such as drawing utensils, paint, clay, and wood to create original works, form, and meaning. 2. expresses ideas about his/her own artwork and the artwork of others, relating artwork to what is happening in the environment or life experiences. 3. demonstrates care and persistence when involved in art projects. 4. plans and works cooperatively to create drawings, paintings, sculptures, and other art projects.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.2.IT Music, Rhythm, and Movement Infants and toddlers participate in a variety of rhythm, music, and movement experiences. (p 160) **Benchmarks:** *The infant or toddler:* 1. shows interest in songs, tones, rhythms, voices, and music. 2. experiments with a variety of age-appropriate instruments and sound-making objects. 3. enjoys exploring ways of interacting with others through touch and motion. *The toddler also:* 4. chooses and participates in music and movement experiences. 5. sings simple songs and participates in finger plays. 6. sings daily songs to recognize the patterns throughout their day.	***Standard 5.2.PS Music, Rhythm, and Movement:*** Children participate in a variety of music and movement experiences. (p 162) **Benchmarks:** *The child:* 1. participates in a variety of musical and rhythmic experiences, including singing, dancing, listening, playing simple rhythmic and tonal instruments, and creating and singing chants, rhymes, and finger plays from diverse cultures. 2. demonstrates meaningful creative and imaginative responses, including taking on pretend roles, when listening to music to reflect the expressive elements of music. 3. notices differences in high and low sounds (pitch), long and short sounds (rhythm), loud and quiet sounds (dynamics), fast and low sounds (tempo), and differences between instruments or sounds (timbre). 4. recognizes patterns in songs and rhymes and repeats them, using songs, chants or instruments, including the emergence of steady beat. 5. demonstrates an awareness of music and sound as part of daily life indoors and outdoors.	

Area 5: Creative Arts	Area 5: Creative Arts	
Standard 5.3.IT Dramatic Play Infants and toddlers engage in dramatic play experiences. (p 166) **Benchmarks:** *The infant or toddler:* 1. imitates the sounds, facial expressions, gestures, or behaviors of another person. 2. imitates the actions and sounds of animals, people, and objects. *The toddler also:* 3. engages in dramatic play in both indoor and outdoor environments.	***Standard 5.3.PS Dramatic Play*** Children engage in dramatic play experiences. (p 168) **Benchmarks:** *The child:* 1. shows creativity and imagination when using materials. 2. assumes different roles in dramatic play situations. 3. interacts with peers in dramatic play experiences that become more extended and complex.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.1.IT Language Understanding and Use Infants and toddlers understand and use communication and language for a variety of purposes. (p 172) **Benchmarks:** *The infant or toddler, in home language and English:* 1. responds to the vocalizations and communications, verbal and nonverbal, of familiar adults. 2. uses vocalizations and gestures to gain attention from others. 3. uses vocalizations and gestures to communicate wants and needs. 4. increases both listening (receptive) and speaking (expressive) vocabulary. *The toddler also:* 5. progresses to using words and then simple sentences to communicate. 6. participates in conversations that include turn-taking, using both receptive (listening) and expressive (speaking) language skills. 7. answers simple questions. 8.follows simple directions.	***Standard 6.1.PS Language Understanding and Use*** Children understand and use communication and language for a variety of purposes. (p 174) **Benchmarks:** *The child:* 1. demonstrates a steady increase in listening (receptive language) and speaking (expressive language) vocabulary. 2. initiates, listens, and responds in relationship to the topics of conversations with peers and adults. 3. speaks in phrases and sentences of increasing length and complexity. 4. follows oral directions that involve several actions. 5. asks and answers a variety of questions. 6.demonstrates knowledge of the rules of conversations such as taking turns while speaking. *The child, who is an English language learner, also:* 7.uses his or her home language, sometimes in combination with English, to communicate with people.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
	Standard 6.1.PS Language Understanding and Use: Children understand and use communication and language for a variety of purposes. [cont'd] (p 174) 8. demonstrates ongoing development and improvement in vocabulary and complexity in use of home language. 9. demonstrates engagement at home or the classroom in literacy activities to related to her or his home language. 10. demonstrates receptive (listening) and express (speaking English language skills to be able to comprehend the English language. 11. demonstrates engagement in English literacy activities to be able to understand and respond to books, storytelling, and songs presented in English.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.2.IT Early Literacy Infants and toddlers engage in early reading experiences. (p 178) **Benchmarks:** *The infant and toddler:* 1. explores or shows interest in books by picking them up, mouthing them, carrying them, or flipping through pages. 2. focuses on a book or the reader when hearing stories read to him/her. 3. gazes at or points to pictures in books. 4. responds to or engages in songs, rhyming games, or finger plays with a familiar adult. *The toddler also:* 5. points to, labels, and/or talks about objects, events, or people within books. 6. enjoys and repeats songs, rhymes, or finger plays. 7. answers simple questions related to books.	***Standard 6.2.PS Early Literacy*** Children engage in early reading experiences. (p 180) **Benchmarks:** *The child:* 1. expresses an interest and enjoyment in listening to books and attempts to read familiar books. (Print motivation) 2. displays book handling knowledge by turning the book right side up, turning one page at a time, recognizing familiar books by the cover, pointing to words as they talk about or retell stories using books, and using left to right sweep. (Print awareness) 3. shows an awareness of environmental print such as pointing to familiar words or letters. (Print awareness) 4. understands that sentences are made up of words and words are made of individual letters. (Concepts of print) 5. understands and uses, increasingly, a variety of words. (Vocabulary) 6. shows increasing comprehension of a story through retelling the story and/or recognizing story elements such as the plot or characters. (Comprehension and story retelling)	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
	Standard 6.2.PS Early Literacy: Children engage in early reading experiences. [cont'd] (p 180) 7. increasingly recognizes and names more of the letters in their first and last name and letters they see frequently. (Letter knowledge) 8. recognizes most upper and lower case letters. (Letter knowledge) 9. produces the sound of some of the letters he or she knows. (Phonics) 10. identifies words that rhyme from a group of three words: cat, rug, hat. (Phonological awareness - rhyme) 11. identifies the beginning sound in words, such as identifying two words that start with the same sound. (Phonological awareness – alliteration) 12. identifies the syllables in her or his name and in familiar objects or words by clapping and segmenting the syllables. (Phonological awareness – segmenting syllables) 13. blends syllables to identify a word, object, or picture. (Phonological awareness – blending syllables)	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.3.IT Early Writing Infants and toddlers engage in early writing experiences. (p 184) **Benchmarks:** *The infant:* 1. grasps and/or manipulates a variety of objects in his/her environment. *The older infant and toddler also:* 2. scribbles spontaneously, usually using a fist grip. 3. shows increasing skill in manipulating objects such as stacking several items, using pegboards, and mastering the use of eating utensils.	***Standard 6.3.PS Early Writing*** Children engage in early writing experiences. (p 186) **Benchmarks:** *The child:* 1. attempts to communicate with others using scribbles, shapes, pictures, letter-like forms and/or letters in writing. 2. experiments with a variety of writing tools such as pencils, crayons, brushes, markers, and digital tools. 3. uses expressive (speaking) language to share intended meaning of drawings and writing. 4. starts to demonstrate interest in learning to write letters, especially the letters in his/her name. 5. uses invented spelling consisting of beginning sounds to represent a whole word.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.5.PS Data Analysis Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers. (p 204) **Benchmarks:** *The child:* 1. sorts collections of objects into sets such as lines, piles, or groups by color, size, shape, or kind. 2. sorts and resorts in a variety of ways. 3. compares and orders such as most to least, same amount as, and least to most. 4. sorts data into two groups such as big and not big; green and not green; and pets and not pets. 5. asks questions, collects, records, and organizes classroom data to find answers to questions.	

Area 8: Science	Area 8: Science	
Standard 8.1.IT Scientific Investigations Infants and toddlers gather and interpret information from the environment around them. (p 208) **Benchmarks:** *The infant or toddler:* 1. begins to notice objects and events in the indoor and outdoor environments. 2. engages in a variety of play experiences and exploration when provided open-ended materials (ie. toys or household items that can be taken apart/put together, a container of water and various objects, seeds of different sizes/textures/shapes). 3. uses one or more senses to make observations of their environment. 4. reacts to changes in the environment. 5. attempts to manipulate/understand their environment through repetitive play. 6. identifies and interacts with new objects placed in their environment. *The toddler also:* 7. asks simple questions about observations of the environment using language (may be home language), behavior, interactions, etc.	***Standard 8.1.PS Scientific Investigations*** Children gather information and conduct investigations to address their wonderings and test solutions to problems. (p 210) **Benchmarks:** *The child:* 1. asks questions about his/her environment, and begins to identify and look for information that will help answer those questions or solve problems. 2. plans and conducts simple investigations alone or in collaboration with peers to answer questions or design solutions to scientific or engineering problems. 3. begins to use appropriate scientific tools/ technology in conducting investigations, i.e., scales, tape measure, magnifying glass, tweezers, or eye dropper. 4. observes, investigates, and describes objects, materials, and other physical science phenomena such as shadows or reflections in the classroom and outdoor environments.	

Area 8: Science	Area 8: Science	
	Standard 8.1.PS Scientific Investigations Children gather information and conduct investigations to address their wonderings and test solutions to problems. [cont'd] (p 210) 5. observes, investigates, and describes the characteristics, behavior, and habitats of living things. 6. asks questions based on observations of weather-related phenomena and begins to notice relationships and patterns over time such as it is warmer in the summer and colder in the winter. 7. develops an awareness of nature through the exploration of natural environments and materials or through caring for animals or plants.	

Area 8: Science	Area 8: Science	
Standard 8.2.IT Scientific Reasoning: Infants and toddlers use reasoning to make sense of information in their environment. (p 214) **Benchmarks:** *The infant or toddler:* 1. uses trusted relationships to gain understanding of the living and nonliving world. 2. explores cause and effect relationships by engaging in problem solving through trial and error. *The toddler also:* 3. shows understanding of object permanence (that people exist when they cannot be seen, and objects exist even when out of sight). 4. makes a choice to reach a desired outcome.	***Standard 8.2.PS Scientific Reasoning*** Children use reasoning to make sense of information and design solutions to problems in their environment. (p 217) **Benchmarks:** *The child:* 1. begins to make comparisons and categorize nonliving things based on characteristics they can observe such as texture, color, size, shape, temperature, sound, odor, usefulness, weight. 2. uses information from investigations to identify similarities and differences in characteristics and behavior of living things and make inferences about their needs and how they get met such as caterpillars eat leaves. 3. uses prior experiences and/or data from observations to identify patterns in how living and nonliving things stay the same or change over time and/or when conditions change such as plants grow when they get the proper amounts of water and light; combine substances; heat/cool an item; baby animals generally resemble their parents.	

Area 8: Science	Area 8: Science	
	Standard 8.2.PS Scientific Reasoning Children use reasoning to make sense of information and design solutions to problems in their environment. [cont'd] (p 217) 4. begins to identify ways humans positively and negatively impact the environment such as beginning awareness of conservation and respect for the environment, based on investigations. 5. describes and compares the properties and motions of objects, based on exploration, in terms of speed and direction such as faster, down, beside and begin to notice cause and effect relationships such as a ball rolls faster on a steeper incline. 6. begins to make patterns based on long-term explorations of weather and observations of the earth and sky begins to notice patterns such as differences in weather in different seasons and how different types of weather influence people and the environment.	

Area 8: Science	Area 8: Science	
Standard 8.3.IT Scientific Communication Infants and toddlers share information and understanding about experiences in their environment. (p 219) **Benchmarks:** *The infant or toddler:* 1. produces questions using gestures and/or facial expressions. 2. expresses vocalizations and gestures to gain attention from others. 3. shows repetitive actions to demonstrate new learning experiences. *The toddler also:* 4. composes simple verbal questions in English or home language. 5. Verbally responds to other's questions, statements in English or home language. 6. draws pictures to represent his/her observations of objects and/or of changes to objects/the environment. 7. engages in scientific conversations, using both receptive (listening) and expressive (speaking) language skills.	***Standard 8.3.PS Scientific Communication*** Children share information and understanding about experiences in their environment. (p 221) **Benchmarks:** *The child:* 1. shares observations and ideas about the properties and behavior of nonliving and living things through a variety of modalities such as language, drawing, modeling, gesturing, dramatizing. 2. obtains, evaluates, and uses age-appropriate text and online resources, with support, to gather information related to a topic of study and makes connections to observations and experiences. For example, when studying butterflies, he or she may evaluate a variety of books and begin to identify which ones are most useful for learning about real butterflies. 3. begins to ask questions of others to seek out more information on a topic. Participates in generating questions to ask a visiting expert on a topic of interest.	

Area 8: Science	Area 8: Science	
	Standard 8.3.PS Scientific Communication Children share information and understanding about experiences in their environment. [cont'd] (p 221) 4. offers evidence to explain the thought process he/she used to make conclusions/ claims and listens to the claims, conclusions, and evidence of others to begin to identify areas of agreement and disagreement. 5. participates in creating a final product such as a panel, classroom book, or newsletter that communicates what was learned during one exploration or during the study of a topic over time. Individual children may contribute through language, drawing, writing, or choosing items to be included.	

Iowa Early Learning Standards 3rd edition alignment with Iowa CORE Mathematics

Infant/Toddler Birth - 3 Years	Preschool 3 - 5 Years	End of Kindergarten
Physical Well-Being/Motor Development (Area 2) **Approaches to Learning (Area 3)** **Mathematics (Area 7)** **Science (Area 8)**	**Physical Well-Being/Motor Development (Area 2)** **Approaches to Learning (Area 3)** **Mathematics (Area 7)** **Science (Area 8)**	**access the Iowa CORE at www.iowacore.gov**
Area 2: Physical Well-Being and Motor Development	**Area 2: Physical Well-Being and Motor Development**	
Standard 2.3.IT Small Motor Development Infants and toddlers develop small motor skills. (p 116) **Benchmarks:** *The infant:* 1. uses hand-eye coordination to perform self-help and small motor tasks, such as eating food, picking up objects, placing objects on a surface, transferring objects from hand to hand, and fitting objects into a hole in a box. *The toddler:* 2. uses hand-eye coordination to perform self-help and small motor tasks such as eating with a fork or spoon, completing simple puzzles, stacking blocks, dressing self with assistance, scribbling with crayons or markers, participating in finger plays and using musical instruments.	***Standard 2.3.PS Small Motor Development*** Children develop small motor skills. (p 118) **Benchmarks:** *The child:* 1. uses hand-eye coordination to perform self-help and small motor tasks with a variety of manipulative materials such as beads, pegs, shoelaces, and puzzle pieces and musical instruments. 2. demonstrates increased skills in using scissors and writing tools for various learning experiences.	**COUNTING AND CARDINALITY:** **Know number names and the count sequence.** **1.** Count to 100 by ones and by tens. **(K.CC.A.1)** **2.** Count forward beginning from a given number within the known sequence (instead of having to begin at 1). **(K.CC.A.2)** **3.** Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). **(K.CC.A.3)** **Count to tell the number of objects.** 4. Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

Area 3: Approaches to Learning	Area 3: Approaches to Learning	
Standard 3.3.IT Reasoning and Problem Solving Infants and toddlers demonstrate strategies for reasoning and problem solving. (p 130) **Benchmarks:** *The infant or toddler:* 1. uses an object, action, or adult to accomplish tasks, such as pulling a blanket to reach a toy or pushing a button to hear a sound. 2. experiments to find a solution to a problem. 3. imitates an adult action to solve a problem. 4. recognizes difficulties and adjusts actions, as needed. 5. seeks and accepts help when encountering a problem beyond his/her ability to solve independently.	***Standard 3.3.PS Reasoning and Problem Solving*** Children demonstrate strategies for reasoning and problem solving. (p 132) **Benchmarks:** *The child:* 1. shows interest in and finds a variety of solutions to questions, tasks, or problems. 2. recognizes and solves problems through active exploration, including trial and error, and through interactions and discussions with peers and adults. 3. shares ideas or makes suggestions of how to solve a problem presented by another person.	**COUNTING AND CARDINALITY (cont'd)** b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regard less of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger. **(K.CC.B.4)** 5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. **(K.CC.B.5)** **Compare Numbers** 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. **(K.CC.C.6)** 7. Compare two numbers between 1 and 10 presented as written numerals. **(K.CC.C.7)**

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.1.IT Comparison, Number, and Operation Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting. (p 190) **Benchmarks:** *The infant:* 1. begins to notice characteristics of objects such as size, color, shape, or quantity. *The toddler:* 2. matches and sorts objects by size, color, shape, or quantity. 3. begins to use simple counting in play and interactions, although numbers may occur out of order. 4. makes simple comparisons between two objects using words like big, small, more, etc.	***Standard 7.1.PS Comparison, Number, and Operation*** Children understand counting, ways of representing numbers, and relationships between quantities and numerals. (p 192) **Benchmarks:** *The child:* 1. recognizes small quantities (1 to 5) without counting them (subitizing). 2. counts to 20 verbally. 3. points and counts 10-20 objects accurately. 4. makes sets of 6-10 objects and describes parts. 5. uses language such as more, less or the same amount as to compare quantities. 6. identifies numerals to 10 by name.	**Operations and Algebraic Thinking:** **Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.** 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. **(K.OA.A.1)** 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. **(K.OA.A.2)** **3.** Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). **(K.OA.A.3)** 4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. **(K.OA.A.4)** 5. Fluently add and subtract within 5. **(K.OA.A.5)**

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.2.IT Patterns Infants and toddlers begin to recognize patterns. (p 194) **Benchmarks:** *The infant:* 1. demonstrates expectations for familiar sequences of routines and experiences such as crying when it is near feeding time. *The toddler:* 2. shows recognition of sequence in events or objects. 3. repeats actions in sequence, such as finger plays. 4. notices patterns and objects in the environment. 5. organizes objects into groups during play and exploration.	***Standard 7.2.PS Patterns*** Children understand patterns. (p 196) **Benchmarks:** *The child:* 1. recognizes, reproduces and creates patterns moving from simple to complex. 2. extends patterns by predicting what comes next. 3. describes patterns seen in natural and designed settings.	**Number and Operations in Base Ten:** **Work with numbers 11-19 to gain foundations for place value.** 1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. **(K.NBT.A.1)** **Measurement and Data:** **Describe and compare measurable attributes.** **1.** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. **(K.MD.A.1)** 2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. **(K.MD.A.2)** **Classify objects and count the number of objects in each category.** **3.** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. **(K.MD.B.3)**

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.3.IT Shapes and Spatial Relationships Infants and toddlers show increasing understanding of spatial relationships. (p 198) **Benchmarks:** *The infant:* 1. takes objects apart. 2. fills and empties containers. *The toddler:* 3. takes objects apart and attempts to put them together. 4. shows awareness of his/her own body space. 5. matches similar shapes. 6. follows simple direction related to positions such as in, on, under, up, or down).	***Standard 7.3.PS Shapes and Spatial Relationships*** Children understand shapes and spatial relationships. (p 200) **Benchmarks:** *The child:* 1. demonstrates understanding of spatial words such as up, down, over, under, top, bottom, inside, outside, in front, and behind. 2. identifies and describes two - and three - dimensional shapes. 3. notices characteristics, similarities, and differences among shapes, such as corners, points, edges, and sides. 4. notices how shapes fit together and can be taken apart to form other shapes.	**Geometry:** **Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).** **1.** Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. **(K.G.A.1)** **2.** Correctly name shapes regardless of their orientations or overall size. **(K.G.A.2)** 3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). **(K.G.A.3)** **Analyze, compare, create, and compose shapes.** 4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). **(K.G.B.4)** **5.** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. **(K.G.B.5)** **6.** Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?" **(K.G.B.6)**

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.4.PS Measurement Children understand comparisons and measurement. (p 202) **Benchmarks:** *The child:* 1. sorts, classifies, and puts objects in series, using a variety of properties. 2. makes comparisons between several objects based on one or more attributes, such as length, height, weight, and area, using words such as taller, shorter, longer, bigger, smaller, heavier, lighter, full, empty, length, height, and weight. 3. measures objects using non-standard units of measurement, such as using blocks to determine how tall a child is. 4. explores objects using standard measuring tools such as rulers, measuring cups, and balance scales. 5. begins to demonstrate knowledge that measurement requires a 'fair' comparison starting at the same baseline or measuring the same property such as length, height, and volume.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.4.PS Measurement Children understand comparisons and measurement. [cont'd] (p 202) **Benchmarks:** *The child:* 6. develops an awareness of simple time concepts within his/her daily life such as day, night; and sequence of usual daily events such as breakfast, lunch, dinner, bedtime; outdoor time follows snack; and brushing teeth after a meal.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.5.PS Data Analysis Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers. (p 204) **Benchmarks:** *The child:* 1. sorts collections of objects into sets such as lines, piles, or groups by color, size, shape, or kind. 2. sorts resorts in a variety of ways. 3. compares and orders such as most to least, same amount as, least to most. 4. sorts data into two groups such as big and not big; green and not green; pets and not pets. 5. asks questions, collects, records, and organizes classroom data to find answers to questions.	

Area 8: Science	Area 8: Science	
Standard 8.1.IT Scientific Investigations Infants and toddlers gather and interpret information from the environment around them. (p 208) **Benchmarks:** *The infant or toddler:* 1. begins to notice objects and events in the indoor and outdoor environments. 2. engages in a variety of play experiences and exploration when provided open-ended materials, i.e. toys or household items that can be taken apart/put together, a container of water and various objects, seeds of different sizes/ textures/shapes. 3. uses one or more senses to make observations of their environment. 4. reacts to changes in the environment. 5. attempts to manipulate/understand their environment through repetitive play. 6. identifies and interacts with new objects placed in their environment. *The toddler also:* 7. asks simple questions about observations of the environment using language (may be home language), behavior, and interactions.	***Standard 8.1.PS Scientific Investigations*** Children gather information and conduct investigations to address their wonderings and test solutions to problems. (p 210) **Benchmarks:** *The child:* 1. asks questions about his/her environment, and begins to identify and look for information that will help answer those questions or solve problems. 2. plans and conducts simple investigations alone or in collaboration with peers to answer questions or design solutions to scientific or engineering problems. 3. begins to use appropriate scientific tools/ technology in conducting investigations, such as scales, tape measure, magnifying glass, tweezers, and eye dropper. 4. observes, investigates, and describes objects, materials, and other physical science phenomena such as shadows and reflections in the classroom and outdoor environments. 5. observes, investigates, and describes the characteristics, behavior, and habitats of living things.	

Area 8: Science	Area 8: Science	
	Standard 8.1.PS Scientific Investigations Children gather information and conduct investigations to address their wonderings and test solutions to problems. [cont'd] (p 210) 6. asks questions based on observations of weather-related phenomena and begins to notice relationships and patterns over time such as it is warmer in the summer and colder in the winter. 7. develops an awareness of nature through the exploration of natural environments and materials or through caring for animals or plants.	

Area 8: Science	Area 8: Science	
Standard 8.2.IT Scientific Reasoning Infants and toddlers use reasoning to make sense of information in their environment. (p 214) **Benchmarks:** *The infant or toddler:* 1. uses trusted relationships to gain understanding of the living and nonliving world. 2. explores cause and effect relationships by engaging in problem solving through trial and error. *The toddler also:* 3. shows understanding of object permanence (that people exist when they cannot be seen, and objects exist even when out of sight). 4. makes a choice to reach a desired outcome.	***Standard 8.2.PS Scientific Reasoning*** Children use reasoning to make sense of information and design solutions to problems in their environment. (p 217) **Benchmarks:** *The child:* 1. begins to make comparisons and categorize nonliving things based on characteristics they can observe such as texture, color, size, shape, temperature, sound, odor, usefulness, and weight. 2. uses information from investigations to identify similarities and differences in characteristics and behavior of living things and make inferences about their needs and how they get met such as caterpillars eat leaves. 3. uses prior experiences and/or data from observations to identify patterns in how living and nonliving things stay the same or change over time and/or when conditions change such as plants grow when they get the proper amounts of water and light; combine substances; heat/cool an item; and baby animals generally resemble their parents.	

Area 8: Science	Area 8: Science	
	Standard 8.2.PS Scientific Reasoning Children use reasoning to make sense of information and design solutions to problems in their environment. [cont'd] (p 217) 4. begins to identify ways humans positively and negatively impact the environment such as beginning awareness of conservation and respect for the environment, based on investigations. 5. describes and compares the properties and motions of objects in terms of speed and direction such as faster, down, beside, based on exploration; and begins to notice cause and effect relationships such as a ball rolls faster on a steeper incline. 6. begins to make patterns based on long-term explorations of weather and observations of the earth and sky begins to notice patterns such as differences in weather in different seasons and how different types of weather influence people and the environment.	

Area 8: Science	Area 8: Science	
Standard 8.3.IT Scientific Communication Infants and toddlers share information and understanding about experiences in their environment. (p 219) **Benchmarks:** *The infant or toddler:* 1. produces questions using gestures and/or facial expressions. 2. expresses vocalizations and gestures to gain attention from others. 3. shows repetitive actions to demonstrate new learning experiences. *The toddler also:* 4. composes simple verbal questions in English or home language. 5. verbally responds to other's questions, statements in English or home language. 6. draws pictures to represent his/her observations of objects and/or of changes to objects/the environment. 7. engages in scientific conversations, using both receptive (listening) and expressive (speaking) language skills.	***Standard 8.3.PS Scientific Communication*** Children share information and understanding about experiences in their environment. (p 221) **Benchmarks:** *The child:* 1. shares observations and ideas about the properties and behavior of nonliving and living things through a variety of modalities such as language, drawing, modeling, gesturing, and dramatizing. 2. obtains, evaluates, and uses age-appropriate text and online resources, with support, to gather information related to a topic of study and makes connections to own observations and experiences. For example, when studying butterflies, she or he may evaluate a variety of books and begin to identify which ones are most useful for learning about real butterflies. 3. begins to ask questions of others to seek out more information on a topic. Participates in generating questions to ask a visiting expert on a topic of interest. 4. offers evidence to explain the thought process he/she used to make conclusions/ claims and listens to the claims, conclusions, and evidence of others to begin to identify areas of agreement and disagreement.	

Area 8: Science	Area 8: Science	
	Standard 8.3.PS Scientific Communication Children share information and understanding about experiences in their environment. [cont'd] (p 221) 5. participates in creating a final product such as a panel, classroom book, or newsletter that communicates what was learned during one exploration or during the study of a topic over time. Individual children may contribute through language, drawing, writing, or choosing items to be included.	

Alignment of Early Childhood Mathematical Practices	
1. MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Engagement and Persistence (3.2.IT) Reasoning and Problem Solving (3.3.IT) Play and Senses (3.4.IT) Scientific Investigations (8.1.IT) Scientific Reasoning (8.2.IT) **Adult supports:** • Adults avoid the temptation to solve social and environmental problems for children and instead prompt with "How can we solve this problem?" and then model a solution. • Ainsley (12 months) played with her shapes bucket, dropping the various pieces through the correct slots. The adult sat down next to her, talking with her about the task and what to do when the piece didn't fit with the first try. • Abbi (24 months) watched her older sister put an interlocking puzzle together, and then she went to the shelf and reached for a knobbed puzzle. The adult joined her and together they dumped the pieces out beside her sister's puzzle and picked the pieces up one at a time to place them in the correct spot. When Abbi picked up a piece and placed it in a spot that was incorrect, she flipped and turned it to try to make it fit. When unsuccessful, Abbi picked up another piece until she successfully placed the piece in the correct spot.	Curiosity and Initiative (3.1.PS) Engagement and Persistence (3.2.PS) Reasoning and Problem Solving (3.3.PS) Play and Senses (3.4.PS) Scientific Investigations (8.1.PS) Scientific Reasoning (8.2.PS) **Adult Supports:** • Children are given multiple opportunities to solve puzzles, some of which are "just a little" too difficult for them. • Adults avoid the temptation to solve social and environmental problems for children and instead prompt with "How can we solve this problem?" • Children are allotted sufficient free choice time to allow them to work through problems to their solution without their play (problem solving) time being interrupted. • Carlos watches other children in a center as they remove links and experiment with the length of chain needed in order to knock a can off of blocks. Carlos goes to the chain and begins removing links. He remains at the center for 20 minutes, removing and adding links as the adult talks with him about the activity.

Alignment of Early Childhood Mathematical Practices	
2. REASON ABSTRACTLY AND QUANTITATIVELY.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Comparison, Number, and Operation (7.1.IT) Patterns (7.2.IT) Scientific Reasoning (8.2.IT) **Adult supports:** • Children are provided with multiple and varied manipulatives to explore and observe the adult in a talk aloud and/or think aloud about more, less, and the same. • Thomas (20 months) is getting ready to go outside to play in the snow. As he puts on his boots and gloves, the adult counts '1 boot, 2 boots' and '1 glove, 2 gloves' while she assists him in getting ready.	Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Comparison, Number, and Operation (7.1.PS) Patterns (7.2.PS) Measurement (7.4.PS) Data Analysis (7.5.PS) Scientific Reasoning (8.2.PS) **Adult Supports:** • Adults consciously use words such as several, some, many, a few, as they ask children to assist them with tasks throughout the classroom. • Children are asked to "put sets together" and "take them apart" through daily activities. For example, "Would we have enough blocks if we put together all of the short ones and all of the long ones?" • Ava was playing with the box of colored counting bears. She made a pattern with the red and blue bears. After she showed it to the adult, she was asked to tell about it. Ava read the pattern. The adult asked Ava how many bears she had used. Ava counted 19 of the 20 bears she had used. Ava made another pattern beside her red and blue one, using the green and yellow bears. She extended it so that it was longer than her first one. When she was finished, the adult said, "Which pattern is the longest?" Ava pointed to the green and yellow pattern.

Alignment of Early Childhood Mathematical Practices	
3. CONSTRUCT VIABLE ARGUMENTS AND CRITIQUE THE REASONING OF OTHERS.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Self (1.1.IT) Self-Regulation (1.2.IT) Relationships with Adults (1.3.IT) Relationships with Children (1.4.IT) Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Scientific Investigations (8.1.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult supports:** • Throughout the day, children observe the adult model think -louds, which include, "I wonder why…?" or "It makes sense to me that…" or "When I_____, this happens because…." The adult models possible responses. • Zachary (6 months) is playing with a toy that lights up when a button is pushed. The adult sits down next to him and says, "I wonder what happens when we push the button?" She then directs his hand to push the button and explains, "When you push the button, it lights up." • Two-year-old children are observing birds at the bird feeder. The adult says, "The birds are eating. They are hungry."	Self (1.1.PS) Self-Regulation (1.2.PS) Relationships with Adults (1.3.PS) Relationships with Children (1.4.PS) Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Scientific Investigations (8.1.PS) Scientific Reasoning (8.2.PS) Scientific Communication (8.3.PS) **Adult Supports:** • Children are provided with opportunities on a daily basis to respond to "I wonder what would happen if…?" or "Why do you think this is happening?" questions during free choice play opportunities, small group investigations, and/or adult -led demonstrations. • Children are given opportunities to represent their learning through drawings and then to explain to adults and peers what they have learned and are thinking (hypothesizing). • Zoey, Samantha, and a familiar adult were playing Tic-tac-toe during center time. Zoey took an extra turn and Samantha got upset. The adult models, "I feel mad because you took too many turns, Zoey." They discuss how to solve the problem together.

Alignment of Early Childhood Mathematical Practices	
4. MODEL WITH MATHEMATICS.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Comparison, Number, and Operation (7.1.IT) Patterns (7.2.IT) Shapes and Spatial Relationships (7.3.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult supports:** • When children arrive in the morning, they or an adult place their photo on a piece of felt. After all children arrive, the adult arranges the photos to create a bar graph. The adult models a think-aloud to explain what the bar graph displays. • During center time, Ava (26 months) plays with colored cubes. She stacks them by color and the adult helps her count them and line them from smallest to largest so they look like a bar graph.	Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Comparison, Number, and Operation (7.1.PS) Patterns (7.2.PS) Shapes and Spatial Relationships (7.3.IT) Measurement (7.4.PS) Data Analysis (7.5.PS) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult Supports:** • Children are given opportunities to develop and use simple charts and graphs to document their findings during periods of investigation. • Adults model the use of simple graphs and charts throughout the course of daily work such as charting present and absent, charting type of drink for snack, charting answers to questions of the day, and growth charts. • Adults use drawings and manipulatives as they talk about mathematical problems such as "We need to have enough room for 'x' people in our library area. How can we find out if we have enough room?" Discussions, drawings, and real life 'check-it-outs" can follow. • Kayden is in the housekeeping center, standing in front of the stove for several minutes turning the knobs in different directions. The adult asked what he is doing. He says. "I made a pattern." When the adult investigates more closely, he had turned the knobs so they alternated in an AB pattern with one knob up and one turned to the side across the front of the oven. The adult asks Kayden to share the pattern with his classmates.

Alignment of Early Childhood Mathematical Practices	
5. USE APPROPRIATE TOOLS STRATEGICALLY.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Play and Senses (3.4.IT) Comparison, Number, and Operation (7.1.IT) Scientific Investigations (8.1.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult supports:** • The adult provides a variety of nonstandard ways to measure such as strings, blocks, people, real feet, and hollow objects; and models how to use such items to make conclusions about size. • The adult provides technology tools for use in dramatic play including cash registers, adding machines, and calculators. • Olivia (22 months) plays in the dramatic play area which is designed as a grocery store. The adult notices children in this area put items in the shopping cart, so the adult joins them and models going through check-out while Olivia pushes the buttons on the cash register. The adult asks, "How much are the groceries? Here is $20, is that enough or do I need more?"	Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Play and Senses (3.4.PS) Comparison, Number, and Operation (7.1.PS) Measurement (7.4.PS) Data Analysis (7.5.PS) Scientific Investigations (8.1.PS) Scientific Reasoning (8.2.PS) Scientific Communication (8.3.PS) **Adult Supports:** • The adult provides a variety of standard measures for use in exploration of any learning environment and helps children identify nonstandard ways to measure such as string, blocks, people, real feet, and hollow objects; and provides multiple opportunities for children to use the tools. • The adult provides technology tools for use in dramatic play, including cash registers, adding machines, calculators, and calculators on computers and mobile devices. • The adult models, daily, the use of paper and pencil to document and solve mathematical problems. • Three children play in the discovery center with a bathroom scale, ayardstick, and Learning Links. The adult used the scale and the yardstick the day before to weigh and measure each child in the classroom and posted a documentation board with each measurement. The children begin using the tools to weigh and measure themselves again. • Two children link Learning Links together across the classroom and work together for several minutes . One children said, "I am taller than this." The adult suggests the child lie down on the floor to see if she is correct.

Alignment of Early Childhood Mathematical Practices	
6. ATTEND TO PRECISION.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Language Understanding and Use (6.1.IT) Comparison, Number, and Operation (7.1.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult supports:** • The adult models "counting again" and double checks the counting/ measuring to the children. • The adult checks herself/himself with words such as, "Does this make sense?" The adult models a think-aloud to the children. • MeiWei (14 months) plays with soft blocks and the adult joins her on the floor. The adult begins counting the blocks as MeiWei stacks them. The adult recounts the blocks when another child joins them.	Language Understanding and Use (6.1.PS) Comparison, Number, and Operation (7.1.PS) Data Analysis (7.5.PS) Scientific Reasoning (8.2.PS) Scientific Communication (8.3.PS) **Adult Supports:** • Children count and then count again to be sure they counted correctly. • Adults encourage children to "check to be sure we counted and measured correctly". • An adult and children check themselves with words such as, "Does this make sense to me?" • The adult encourages children to check mathematical 'guesses' with manipulatives before the children finalize their answers. • Chase lines stuffed animals and counts each one as he sits them in a line. He tells the adult he lined nine stuffed animals. The adult says, "Are you sure?" He counts again while pointing at each one and responds, "Yes, there are nine."

Alignment of Early Childhood Mathematical Practices	
7. LOOK FOR AND MAKE USE OF STRUCTURE.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Comparison, Number, and Operation (7.1.IT) Patterns (7.2.IT) Shapes and Spatial Relationships (7.3.IT) Scientific Investigations (8.1.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT)	Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Comparison, Number, and Operation (7.1.PS) Patterns (7.2.PS) Shapes and Spatial Relationships (7.3.PS) Measurement (7.4.PS) Data Analysis (7.5.PS) Scientific Investigations (8.1.PS) Scientific Reasoning (8.2.PS) Scientific Communication (8.3.PS)
Adult supports: • The adult posts a picture version of the daily schedule to remind children of the routine. • At lunch, the adult talks about what children did in the morning and what they will do after lunch (with regard to the daily routine). • Ruby (9 months) and her dad have a routine when they arrive home each day. He unbuckles her from the car seat and says, “Time to get the mail.” Ruby becomes visibly excited and bounces in her dad’s arms. One day her Grandma picks her up from childcare and takes her home. When she gets Ruby unbuckled from the car seat and begins walking to the house, Ruby begins fussing and squirming. Her Grandma asks, “Ruby, what’s wrong?” Ruby fusses a little more, points in the direction of the mailbox, and says, “Da-Da.”	**Adult Supports:** • Children make comments about patterns they see in the environment. Unusual patterns are pointed out to children as the adult encourages patterning by a variety of common and uncommon attributes. • The adult provides multiple opportunities to categorize according to multiple attributes and for the children to explain thinking to peers and an adult. • Lindy takes all white lids out of the container of colored lids. She places the lids in a row. The adult asks Lindy what she notices about the lids. She says, “Some have red on the top.” The adult asks her how she can sort the lids she has on the table. Lindy places the white lids with red on top on one side and the plain white lids on the other side of her. Together, they label the two groups.

Alignment of Early Childhood Mathematical Practices	
8. LOOK FOR AND EXPRESS REGULARITY IN REPEATED REASONING.	
Embedded in the following standards:	
Infant/Toddler	**Preschool**
Curiosity and Initiative (3.1.IT) Reasoning and Problem Solving (3.3.IT) Patterns (7.2.IT) Shapes and Spatial Relationships (7.3.IT) Scientific Investigations (8.1.IT) Scientific Reasoning (8.2.IT) Scientific Communication (8.3.IT) **Adult supports:** • The adult shares his/her thinking while interacting with Melissa. "This reminds me of when we…" or "This is just like when I/we…" • Joey sits in his high chair while his mom gets dinner ready. She looks at him, smiles, and then taps the spoon twice and slaps the counter. Joey smiles back and begins banging his spoon on his high chair tray. His mom makes the pattern again and waits for him to try it. He smiles at her, and bangs his spoon several times. After several more repetitions from his mom, Joey makes a pattern like hers by banging his spoon twice and then slapping his tray.	Curiosity and Initiative (3.1.PS) Reasoning and Problem Solving (3.3.PS) Patterns (7.2.PS) Shapes and Spatial Relationships (7.3.PS) Scientific Investigations (8.1.PS) Scientific Reasoning (8.2.PS) Scientific Communication (8.3.PS) **Adult Supports:** • The adult asks children to verbalize things like, "This is like when we….." • During morning group time, Cason says. "I have a pattern." He demonstrates it as he says. "Punch, kick, punch, kick, punch, kick." Raymie says. "I have a pattern, too." He demonstrates by spreading his arms out and brings them back together., and says. "In, out, in, out, in, out." • Cam, Mikie, and Oren build block towers again. Today the challenge is to see who can build the tallest tower. After several structures fall down, the adult asks the children to describe why the structures fell. They discussed what size the blocks are necessary on the bottom to make the structure sturdy enough to get as tall as they wanted it . The children make a mental relationship between the size of the foundation and the height of the tower.

Iowa Early Learning Standards alignment with Iowa CORE Science

Infant/Toddler Birth - 3 Years	Preschool 3 - 5 Years	End of Kindergarten
Approaches to Learning (Area 3) **Social Studies (Area 4)** **Communication, Language, and Literacy (Area 6)** **Mathematics (Area 7)** **Science (Area 8)**	**Approaches to Learning (Area 3)** **Social Studies (Area 4)** **Communication, Language, and Literacy (Area 6)** **Mathematics (Area 7)** **Science (Area 8)**	Access the Iowa CORE at **www.iowacore.gov**
Area 3: Approaches to Learning	**Area 3: Approaches to Learning**	*Students who demonstrate understanding can:*
Standard 3.1.IT Curiosity and Initiative Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills. (p 122) **Benchmarks:** *The infant or toddler:* 1. shows interest in people including other infants, objects, and events. 2. uses their senses to choose, explore, and manipulate a variety of objects or toys in a variety of ways. 3. actively plays with or near adults, other children, and materials.	***Standard 3.1.PS Curiosity and Initiative*** Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills. (p 124) **Benchmarks:** *The child:* 1. deliberately chooses to explore a variety of materials and experiences, seeking out new challenges. 2. participates in experiences with eagerness, flexibility, imagination, independence, and inventiveness. 3. asks questions about a variety of topics. 4. repeats skills and experiences to build competence and support the exploration of new ideas.	**Motion and Stability: Forces & Interactions** **K-PS2-1.** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. **K-PS2-2.** Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.*

Area 3: Approaches to Learning	Area 3: Approaches to Learning	*Students who demonstrate understanding can:*
Standard 3.2.IT Engagement and Persistence Infants and toddlers purposefully choose, engage, and persist in play, experiences, and routines. (p 126) **Benchmarks:** *The infant or toddler:* 1. holds attention of familiar adult; for example, through eye contact or vocalizations. 2. repeats familiar and newly learned experiences. 3. maintains, if interested, focus on people or objects, play experiences, or novel events. 4. demonstrates persistence with challenging materials and experiences.	***Standard 3.2.PS Engagement and Persistence*** Children purposefully choose and persist in experiences and play. (p 128) **Benchmarks:** *The child:* 1. maintains concentration on a task despite distractions and interruptions. 2. stays engaged and completes a variety of both adult-directed and self-initiated tasks, projects, and experiences of increasing degrees of difficulty. 3. sets goals and follows a plan in order to complete a task. 4. chooses to participate in play and learning experiences	**Energy:** **K-PS3-1.** Make observations to determine the effect of sunlight on Earth's surface. **K-PS3-2.** Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.* **From Molecules to Organisms: Structures & Processes** **K-LS1-1.** Use observations to describe patterns of what plants and animals (including humans) need to survive. **Earth's Systems:** **K-ESS2-1.** Use and share observations of local weather conditions to describe patterns over time. **K-ESS2-2.** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

Area 3: Approaches to Learning	Area 3: Approaches to Learning	*Students who demonstrate understanding can:*
Standard 3.3.IT Reasoning and Problem Solving Infants and toddlers demonstrate strategies for reasoning and problem solving. (p 130) **Benchmarks:** *The infant or toddler:* 1. uses an object, action, or adult to accomplish tasks, such as pulling a blanket to reach a toy or pushing a button to hear a sound. 2. experiments to find a solution to a problem. 3. imitates an adult action to solve a problem. 4. recognizes difficulties and adjusts actions, as needed. 5. seeks and accepts help when encountering a problem beyond his/her ability to solve independently.	***Standard 3.3.PS Reasoning and Problem Solving*** Children demonstrate strategies for reasoning and problem solving. (p 132) **Benchmarks:** *The child:* 1. shows interest in and finds a variety of solutions to questions, tasks, or problems. 2. recognizes and solves problems through active exploration, including trial and error, and through interactions and discussions with peers and adults. 3. shares ideas or makes suggestions of how to solve a problem presented by another person.	**Earth and Human Activity:** **K-ESS3-1.** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. **K-ESS3-2.** Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. * **K-ESS3-3.** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*

Iowa Early Learning Standards alignment with Iowa CORE Science

Area 3: Approaches to Learning	Area 3: Approaches to Learning	*Students who demonstrate understanding can:*
Standard 3.4.IT Play and Senses Infants and toddlers engage in play to learn. (p 134) **Benchmarks:** *The infant or toddler:* 1. uses sights, smells, sounds, textures, and tastes to explore and experience routines and materials within the environment. 2. chooses and participates in a variety of play experiences. 3. imitates behaviors of others in play. 4. repeats experiences with materials, adults, and peers to build knowledge and understanding of the world around them.	***Standard 3.4.PS Play and Senses*** Children engage in play to learn. (p 136) **Benchmarks:** *The child:* 1. engages in a variety of indoor and outdoor play experiences. 2. uses sights, smells, sounds, textures, and tastes to discriminate between and explore experiences, materials, and the environment. 3. engages in self-initiated, unstructured play. 4. plans and executes play experiences alone and with others.	**Engineering Design:** **K-2-ETS1-1.** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **K-2-ETS1-2.** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. **K-2-ETS1-3.** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. * Integrates traditional science content with engineering concepts.

Area 4: Social Studies	Area 4: Social Studies
Standard 4.1.IT Awareness of Family and Community Infants and toddlers demonstrate a sense of belonging within their family, program, and other social settings or groups. (p 140) **Benchmarks:** *The infant or toddler:* 1. expresses enjoyment at being in a familiar setting or group. 2. recognizes familiar adults and uses them to determine safety during exploration. 3. explores and plays freely within familiar settings.	***Standard 4.1.PS Awareness of Family and Community*** Children demonstrate an increasing awareness of belonging to a family and community. (p 142) **Benchmarks:** *The child:* 1. demonstrates understanding that communities are composed of groups of people who live, play, or work together. 2. demonstrates ability to identify communities to which they belong. 3. recognizes his or her family is an important group to which they belong. 4. demonstrates responsibility as a member of a family or community. 5. shows confidence in expressing individual opinions and thoughts while respecting the thoughts and opinions of others. 6. participates in creating and following rules and routines. 7. demonstrates an initial awareness of the concepts of fairness, individual rights, and welfare of family and community members.

Area 4: Social Studies	Area 4: Social Studies	
Standard 4.3.IT Exploration of the Environment Infants and toddlers explore new environments with interest and recognize familiar places. (p 148) **Benchmarks:** *The infant or toddler:* 1. demonstrates interest and curiosity within familiar and unfamiliar settings. 2. explores and plays with new, as well as familiar objects, in the environment using all five senses. 3. chooses and participates in unfamiliar experiences.	***Standard 4.3.PS Exploration of the Environment*** Children demonstrate an increasing awareness of the environment in which they live, especially how people (including themselves) relate to that environment. (p 150) **Benchmarks:** *The child:* 1. interacts with the world, first with familiar settings and then with less familiar ones; first in simple ways and then in more complex, exploratory ways. 2. constructs meaning about him/herself and the world through relevant and meaningful experiences with objects and their environment. 3. recognizes aspects of the environment, such as roads, buildings, trees, gardens, bodies of water, or land formations. 4. recognizes that people share the environment with other people, animals, and plants. 5. understands that people can take care of the environment through activities and experiences, such as cleaning, conserving, reusing, and recycling. 6. recognizes a variety of jobs and the work associated with them.	

Area 4: Social Studies	Area 4: Social Studies	
	Standard 4.4.PS Awareness of the Past Children demonstrate an increasing awareness of past events and how those events relate to one's self, family, and community. (p 152) **Benchmarks:** *The child:* 1. differentiates between past, present, and future. 2. represents events and experiences that occurred in the past through words, play, and art. 3. uses past events to construct meaning of the world. 4. understands that events happened in the past and that the events relate to oneself, family, community, and culture.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.1.IT Language Understanding and Use Infants and toddlers understand and use communication and language for a variety of purposes. (p 172) **Benchmarks:** *The infant or toddler:* 1. responds to the vocalizations and communications, verbal and nonverbal, of familiar adults. 2. uses vocalizations and gestures to gain attention from others. 3. uses vocalizations and gestures to communicate wants and needs. 4. increases both listening (receptive) and speaking (expressive) vocabulary. *The toddler also:* 5. progresses to using words then simple sentences to communicate. 6. participates in conversations that include turn-taking, using both receptive (listening) and expressive (speaking) language skills. 7. answers simple questions. 8. follows simple directions.	***Standard 6.1.PS Language Understanding and Use*** Children understand and use communication and language for a variety of purposes. (p 174) **Benchmarks:** *The child:* 1. demonstrates a steady increase in listening (receptive language) and speaking (expressive language) vocabulary. 2. initiates, listens, and responds in relationship to the topics of conversations with peers and adults. 3. speaks in phrases and sentences of increasing length and complexity. 4. follows oral directions that involve several actions. 5. asks and answers a variety of questions. 6. demonstrates knowledge of the rules of conversations such as taking turns while speaking. *The child, who is an English language learner, also:* 7. uses his or her home language, sometimes in combination with English, to communicate with people. 8. demonstrates ongoing development and improvement in vocabulary and complexity in use of home language.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
	Standard 6.1.PS Language Understanding and Use: Children understand and use communication and language for a variety of purposes. [cont'd] (p 174) 9. demonstrates engagement at home or the classroom in literacy activities to relate to her or his home language. 10. demonstrates receptive (listening) and expressive (speaking) English language skill to be able to comprehend the English language. 11. demonstrates engagement in English literacy activities to be able to understand and respond to books, storytelling, and songs presented in English.	

Area 6: Communication, Language, and Literacy	Area 6: Communication, Language, and Literacy	
Standard 6.3.IT Early Writing Infants and toddlers engage in early writing experiences. (p 184) **Benchmarks:** *The infant:* 1. grasps and/or manipulates a variety of objects in his/her environment. *The older infant and toddler also:* 2. scribbles spontaneously, usually using a fist grip. 3. shows increasing skill in manipulating objects such as stacking several items, using pegboards, and mastering the use of eating utensils.	***Standard 6.3.PS Early Writing*** Children engage in early writing experiences. (p 186) **Benchmarks:** *The child:* 1. attempts to communicate with others using scribbles, shapes, pictures, letter-like forms and/or letters in writing. 2. experiments with a variety of writing tools such as pencils, crayons, brushes, markers, and digital tools. 3. uses expressive (speaking) language to share intended meaning of drawings and writing. 4. starts to demonstrate interest in learning to write letters, especially the letters in his/her name. 5. uses invented spelling consisting of beginning sounds to represent a whole word.	

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.2.IT Patterns Infants and toddlers begin to recognize patterns. (p 194) **Benchmarks:** *The infant:* 1. demonstrates expectations for familiar sequences of routines and experiences such as crying when it is near feeding time. *The toddler:* 2. shows recognition of sequence in events or objects. 3. repeats actions in sequence, such as finger plays. 4. notices patterns and objects in the environment. 5. organizes objects into groups during play and exploration.	***Standard 7.2.PS Patterns*** Children understand patterns. (p 196) **Benchmarks:** *The child:* 1. recognizes, reproduces and creates patterns moving from simple to complex. 2. extends patterns by predicting what comes next. 3. describes patterns seen in natural and designed settings.	

Area 7: Mathematics	Area 7: Mathematics	
Standard 7.3.IT Shapes and Spatial Relationships Infants and toddlers show increasing understanding of spatial relationships. (p 198) **Benchmarks:** *The infant:* 1. takes objects apart. 2. fills and empties containers. *The toddler:* 3. takes objects apart and attempts to put them together. 4. shows awareness of his/her own body space. 5. matches similar shapes. 6. follows simple direction related to positions such as in, on, under, up and down.	***Standard 7.3.PS Shapes and Spatial Reasoning*** Children understand shapes and spatial relationships. (p 200) **Benchmarks:** *The child:* 1. demonstrates understanding of spatial words such as up, down, over, under, top, bottom, inside, outside, in front and behind. 2. identifies and describes two- and three-dimensional shapes. 3. notices characteristics, similarities, and differences among shapes, such as corners, points, edges, and sides. 4. notices how shapes fit together and can be taken apart to form other shapes.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.4.PS Measurement Children understand comparisons and measurement. (p 202) **Benchmarks:** *The child:* 1. sorts, classifies, and puts objects in series, using a variety of properties. 2. makes comparisons between several objects based on one or more attributes, such as length, height, weight, and area, using words such as taller, shorter, longer, bigger, smaller, heavier, lighter, full, empty, length, height, and weight. 3. measures objects using non-standard units of measurement, such as using blocks to determine how tall a child is. 4. explores objects using standard measuring tools such as rulers, measuring cups, and balance scales. 5. begins to demonstrate knowledge that measurement requires a 'fair' comparison starting at the same baseline or measuring the same property such as length, height, volume. 6. develops an awareness of simple time concepts within his/her daily life such as day, night, sequence of usual daily events such as breakfast, lunch, dinner, bedtime; outdoor time follows snack; and brushing teeth after a meal.	

Area 7: Mathematics	Area 7: Mathematics	
	Standard 7.5.PS Data Analysis Children demonstrate the process of data analysis by sorting and classifying, asking questions, and finding answers. (p 204) **Benchmarks:** *The child:* 1. sorts collections of objects into sets such as lines, piles, or groups by color, size, shape, or kind. 2. sorts and resorts in a variety of ways. 3. compares and orders such as most to least, same amount as, and least to most. 4. sorts data into two groups such as big and not big; green and not green; and pets and not pets. 5. asks questions, collects, records, and organizes classroom data to find answers to questions.	

Area 8: Science	Area 8: Science	
Standard 8.1.IT Scientific Investigations Infants and toddlers gather and interpret information from the environment around them. (p 208) **Benchmarks:** *The infant or toddler:* 1. begins to notice objects and events in the indoor and outdoor environments. 2. engages in a variety of play experiences and exploration when provided open-ended materials such as toys or household items that can be taken apart/put together, a container of water and various objects, or seeds of different sizes/ textures/shapes. 3. uses one or more senses to make observations of their environment. 4. reacts to changes in the environment. 5. attempts to manipulate/understand his or her environment through repetitive play. 6. identifies and interacts with new objects placed in her or his environment. *The toddler also:* 7. asks simple questions about observations of the environment using language (may be home language), behavior, and interactions.	***Standard 8.1.PS Scientific Investigations*** Children gather information and conduct investigations to address their wonderings and test solutions to problems. (p 210) **Benchmarks:** *The child:* 1. asks questions about his/her environment, and begins to identify and look for information that will help answer those questions or solve problems. 2. plans and conducts simple investigations alone or in collaboration with peers to answer questions or design solutions to scientific or engineering problems. 3. begins to use appropriate scientific tools/ technology in conducting investigations such as scales, tape measure, magnifying glass, tweezers, or eye dropper. 4. observes, investigates, and describes objects, materials, and other physical science phenomena such as shadows, or reflections in the classroom and outdoor environments. 5. observes, investigates, and describes the characteristics, behavior, and habitats of living things. 6. asks questions based on observations of weather-related phenomena and begins to notice relationships and patterns over time such as it is warmer in the summer and colder in the winter.	

Area 8: Science	Area 8: Science	
	Standard 8.1.PS Scientific Investigations Children gather information and conduct investigations to address their wonderings and test solutions to problems. [cont'd] (p 210) 7. develops an awareness of nature through the exploration of natural environments and materials or through caring for animals or plants.	

Area 8: Science	Area 8: Science	
Standard 8.2.IT Scientific Reasoning Infants and toddlers use reasoning to make sense of information in their environment. (p 214) **Benchmarks:** *The infant or toddler:* 1. uses trusted relationships to gain understanding of the living and nonliving world. 2. explores cause and effect relationships by engaging in problem solving through trial and error. *The toddler also:* 3. shows understanding of object permanence (that people exist when they cannot be seen, and objects exist even when out of sight). 4. makes a choice to reach a desired outcome.	***Standard 8.2.PS Scientific Reasoning*** Children use reasoning to make sense of information and design solutions to problems in their environment. **Benchmarks:** *The child:* 1. begins to make comparisons and categorize nonliving things based on characteristics they can observe such as texture, color, size, shape, temperature, sound, odor, usefulness, weight. 2. uses information from investigations to identify similarities and differences in characteristics and behavior of living things and make inferences about their needs and how they get met such as caterpillars eat leaves. 3. uses prior experiences and/or data from observations to identify patterns in how living and nonliving things stay the same or change over time and/or when conditions change such as plants grow when they get the proper amounts of water and light; combine substances; heat/cool an item; and baby animals generally resemble their parents.	

Area 8: Science	Area 8: Science	
	Standard 8.2.PS Scientific Reasoning Children use reasoning to make sense of information and design solutions to problems in their environment. [cont'd] (p 127) 4. begins to identify ways humans positively and negatively impact the environment such as beginning awareness of conservation and respect for the environment, based on investigations. 5. describes and compares the properties and motions of objects in terms of speed and direction such as faster, down, beside, based on exploration; and begins to notice cause and effect relationships such as a ball rolls faster on a steeper incline. 6. begins to notice patterns such as differences in weather in different seasons and how different types of weather influence people and the environment, based on long-term explorations of weather and observations of the earth and sky.	

Area 8: Science	Area 8: Science	
Standard 8.3.IT Scientific Communication Infants and toddlers share information and understanding about experiences in their environment. (p 219) **Benchmarks:** *The infant or toddler:* 1. produces questions using gestures and/or facial expressions. 2. expresses vocalizations and gestures to gain attention from others. 3. shows repetitive actions to demonstrate new learning experiences. *The toddler also:* 4. composes simple verbal questions in English or home language. 5. verbally responds to other's questions, statements in English or home language. 6. draws pictures to represent his/her observations of objects and/or of changes to objects/the environment. 7. engages in scientific conversations, using both receptive (listening) and expressive (speaking) language skills.	***Standard 8.3.PS Scientific Communication*** Children share information and understanding about experiences in their environment. (p 221) **Benchmarks:** *The child:* 1. shares observations and ideas about the properties and behavior of nonliving and living things through a variety of modalities such as language, drawing, modeling, gesturing, and dramatizing. 2. obtains, evaluates, and uses age-appropriate text and online resources, with support, to gather information related to a topic of study and makes connections to own observations and experiences. For example, when studying butterflies, she or he may evaluate a variety of books and begin to identify which ones are most useful for learning about real butterflies. 3. begins to ask questions of others to seek out more information on a topic. Participates in generating questions to ask a visiting expert on a topic of interest.	

Area 8: Science	Area 8: Science	
	Standard 8.3.PS Scientific Communication Children share information and understanding about experiences in their environment. [cont'd] (p 221) 4. offers evidence to explain the thought process he/she used to make conclusions/ claims and listens to the claims, conclusions, and evidence of others to begin to identify areas of agreement and disagreement. 5. participates in creating a final product such as a panel, classroom book, or newsletter that communicates what was learned during one exploration or during the study of a topic over time. Individual children may contribute through language, drawing, writing, or choosing items to be included.	

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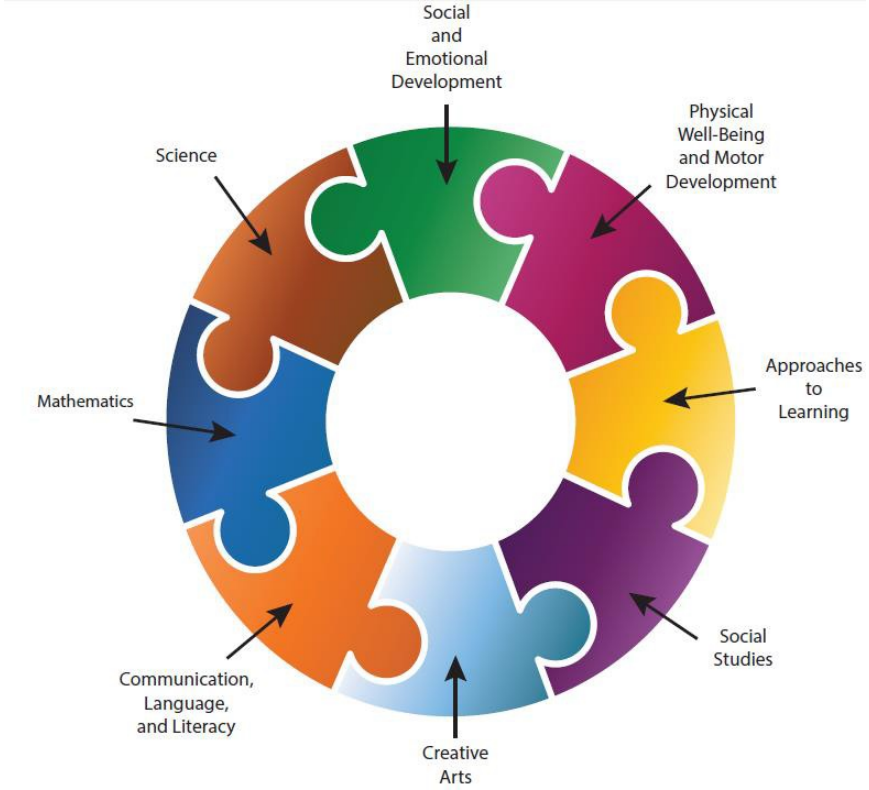

Area 1: Social and Emotional Development

Self

Standard 1.1.IT

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Area 1: Social and Emotional Development

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Area 3: Approaches to Learning

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Area 3: Approaches to Learning

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Standard 3.2.IT

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Area 3: Approaches to Learning

Reasoning and Problem Solving

Standard 3.3.IT

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Area 3: Approaches to Learning

Play and Senses

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Area 4: Social Studies

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Area 5: Creative Arts

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Early Literacy

Standard 6.2.PS

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