Early Math Alternate Screener Manual

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IOWA™ | Department of Education

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Introduction

The Early Math Alternate Screener was developed to align with the Dynamic Learning Maps Alternate Assessment, created by the Dynamic Learning Maps Alternate Assessment Consortium and copyrighted by the University of Kansas Center for Research. Permission to align with nodes from the Dynamic Learning Maps Essential Elements was granted by the University of Kansas Center for Research.

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Overview

The Early Math Alternate Screener (EMAS) is an observational assessment designed to document how students with significant cognitive disabilities engage with foundational mathematical ideas during authentic mathematics instruction and routines. EMAS focuses on observable, construct-aligned mathematical behaviors across six criteria used consistently across grades. The screener uses a developmental scale (Developing, Levels 1–5) to describe observable mathematical engagement and to identify instructional entry points.

What EMAS is for:

- Screening: Identify each student's current entry indicators for early mathematical thinking.
- Progress Monitoring: Track growth over time using consistent observational evidence.
- Instructional Planning: Inform instructional next steps using level descriptors.

What EMAS is not:

- A high-stakes or summative assessment.
- A measure of cognitive ability or disability category.
- Intended to rank or compare students or schools.
- Designed to evaluate educator performance.

EMAS is designed for K-6 students with significant cognitive disabilities who participate in instruction aligned with the DLM Essential Elements. Using Universal Design Learning (UDL) principles (CAST, 2018), the screener ensures accessible participation across multiple expressive and receptive modalities. This includes a range of AAC systems (e.g., low-tech and high-tech options, sign language, eye gaze, partner-assisted scanning), tactile and concrete models and assistive or adapted tools. Accessibility features are intentionally designed to reduce construct-irrelevant variance and allow students to demonstrate mathematical engagement through preferred access modes.

Legal Requirements

House File 784, the Math Counts Act addresses proficiency gaps in mathematics and ensures high-quality K-6 mathematics instruction for Iowa students. Districts must administer an approved screener three times each year and use an approved tool for progress monitoring.

This requirement includes students with the most significant cognitive disabilities who will or are likely to participate in alternate assessment based on alternate achievement standards in third grade. Because this group of students present a broad range of intensive and diverse needs, an alternate approach to assessment is required. For example, approximately 50% of students with the most significant cognitive disabilities cannot use speech well enough to read aloud, many others cannot hold pencils or use standard keyboards and all experience a combination of cognitive and linguistic impairments that make it inappropriate for them to participate in standard screeners even with accommodations.

The EMAS is the only approved screener and progress monitoring tool for students with significant cognitive disabilities, whose IEP team has determined that they will participate in the alternate assessments.

Structure of the Early Math Alternate Screener

Key features of rubric structure include:

- Rubrics are grade-specific and aligned with the DLM Essential Elements.
- The same six criteria, Attribute, Pattern, Comparison, Change, Connection and Communication, appear across all domains.
- Each criterion includes a Developing level and Levels 1-5.
- Scoring is based on authentic instructional evidence collected during everyday classroom routines, rather than contrived or decontextualized tasks.

Domains

The EMAS includes four mathematical domains: Number Sense, Geometry, Measurement, Data and Analysis and Algebraic and Functional Reasoning. Grades 1-6 will include all domains while kindergarten does not include the Data and Analysis domain. Rubrics are organized by grade and each grade uses the same six EMAS criteria across all domains.

Number Sense refers to understanding numbers, quantities, and numerical relationships. This domain includes recognizing and comparing amounts, counting, understanding place value and fractions, composing and decomposing numbers, and using arithmetic operations to solve problems. It reflects how students make sense of numbers and use them in meaningful ways.

Geometry refers to understanding shapes, space, and spatial relationships. This domain includes recognizing and describing two- and three-dimensional shapes, understanding their properties, and reasoning about how to compose, decompose, and partition shapes, as well as how to use them to solve problems involving space and structure.

Algebraic and Functional Reasoning involves identifying relationships, patterns, and mathematical structures to solve problems. This domain includes recognizing and extending patterns, understanding how quantities change, using operations and mathematical models, and beginning to reason about functions and relationships between quantities.

Measurement, Data, and Analysis refers to the process of describing, quantifying, organizing, and interpreting information about the world. This domain includes measuring attributes such as length, time, area, volume, and weight, using units of measure, collecting and representing data, and analyzing data displays to answer questions and make decisions.

Criteria

The EMAS uses six criteria that appear consistently across all grades and mathematical domains. These criteria reflect foundational mathematical constructs that align with precursor concepts, learning trajectories and the DLM Essential Elements. They provide a coherent framework for observing students' mathematical engagement across varied instructional activities and access methods.

The six **EMAS criteria** are:

1. **Attribute** - This criterion reflects a student's ability to recognize and describe characteristics or properties of objects or sets. These may include size, shape, color, number, or position. Example in context: Identifying that one group has more items (numerical attribute) or recognizing that a shape is round (geometric attribute).

2. **Pattern** - This criterion captures a student's understanding of predictable sequences or structures that repeat or grow. Recognizing patterns supports early algebraic thinking and helps students generalize across mathematical situations. A regularity is a consistent feature—such as a repeating color, shape,

or numerical change—that allows students to anticipate what comes next and describe the rule behind the pattern. Identifying regularities helps students make sense of math by revealing structure and predictability. Example in context: Noticing that a number sequence increases by 2 (e.g., 2, 4, 6, 8) or identifying a repeating color pattern (red-blue-red-blue).

3. **Comparison** - This criterion reflects a student's ability to examine two or more quantities, objects, or sets to identify similarities and differences. It supports reasoning about relative size, number, or other attributes. Example in context: Determining which group has more, fewer, or the same number of items, or comparing the length of two objects.
4. **Change** - This criterion focuses on a student's understanding of how quantities or attributes vary over time or in response to actions. It includes recognizing the effects of adding, removing, or transforming items. Example in context: Explaining that adding 2 blocks to a group of 3 results in 5, or noticing that a shape may look different after being rotated.
5. **Connection** - This criterion reflects a student's ability to relate mathematical ideas, representations, or contexts. It includes linking concepts across domains and recognizing how one idea supports another. Example in context: Connecting counting to addition, or recognizing that both a number path and a set of blocks represent quantity.
6. **Communication** - This criterion captures how a student expresses mathematical thinking using words, signs, symbols, models, or actions. It includes describing reasoning, representing ideas and participating in mathematical conversations. Example in context: Explaining a solution using a drawing, or using gestures or AAC to show how many items are in a group. These criteria serve as the analytic framework for all EMAS scoring. Every criterion focuses on observable mathematical actions, allowing students to demonstrate emerging and increasingly intentional engagement regardless of sensory, motor, or expressive communication profiles.

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Performance Levels

Each EMAS criterion is scored using a developmental scale that reflects increasing intentionality, mathematical sophistication and representational flexibility. The scale includes a Developing level followed by Levels 1-5, applied consistently across grades.

Developing - Reacts and Engages with Mathematics

Students are learning to use behaviors, gestures and actions that may signal early awareness of mathematical ideas (e.g., looking toward objects when they move, reacting to changes in quantity). These behaviors are often not intended to show math understanding, but people who know the student well can interpret them and apply meaning. At this stage, students are supported in increasing attention, engagement and interaction with mathematical materials. While the teacher is emphasizing learning to understand and use more conventional and intentional forms of engagement.

Level 1 - Early Concepts

Students intentionally interact with mathematical materials (e.g., pointing to a number, placing objects together). They begin to explore basic structures such as grouping or ordering and may start using simple representations (e.g., lining up blocks). Engagement is mostly within familiar routines and students are learning that their actions have predictable mathematical outcomes.

Level 2 - Building Foundation

Students use mathematical tools and models for familiar tasks (e.g., counters, number path, ten-frame, shape model) and begin to understand their specific purposes. They show organized actions such as matching, adding, or comparing quantities and can represent ideas concretely. Students engage in structured activities and demonstrate growing independence in using tools.

Level 3 - Building Connections

Students begin to connect representations and ideas within familiar contexts. They can show how one representation relates to another (e.g., adding a block changes the total shown on a ten-frame) and use tools to represent relationships in simple ways. At this level, students extend understanding across similar tasks and engage in basic exchanges about mathematical ideas, but typically work on single-step problems or short sequences.

Level 4 - Flexible Use (Target Level)

Students independently select and use appropriate tools and models to represent and solve problems. They apply mathematical concepts in familiar and novel contexts, recognize connections across representations and mathematical systems (e.g., number line, area model, bar graph, equation) and demonstrate reasoning through representations, actions, or explanations. At this level, students demonstrate the Essential Elements for their grade.

Level 5 - Extended Application

Students apply and adapt strategies across systems and contexts, demonstrate reasoning through representations, actions, or explanations and show conceptual flexibility beyond grade-level expectations. They evaluate how structure supports function in tools and models (e.g., why a number line helps visualize values) and communicate mathematical ideas clearly. Students at this level show deeper understanding and generalization.

Across all levels, scoring is based on the strongest evidence observed during authentic instruction, reflecting the student's highest demonstrated level of mathematical engagement.

Scoring and Administration

Administration Context

The EMAS is administered during authentic mathematics instruction. Teachers collect evidence of how students engage with mathematical ideas during naturally occurring routines and instructional activities. Administration does not require contrived tasks, isolated skill checks, or one-to-one testing. Instead, EMAS integrates seamlessly into everyday classroom instruction.

Teachers observe student behavior and document evidence aligned to the EMAS criteria. Evidence must reflect observable mathematical actions, not compliance behaviors, prompted responses, or actions unrelated to mathematical concepts. The administration approach is intentionally flexible to support students with diverse communication, motor, sensory and cognitive profiles.

Evidence Collection

Teachers may gather evidence over time across typical instructional routines. Acceptable forms of evidence include:

- Observed student actions during instruction
- Annotated work samples
- Photographs or short video clips of student actions or products
- AAC selections, eye-gaze selections, or other communicative behaviors
- Teacher observational notes tied to specific mathematical actions

Evidence should document how the student engaged with a mathematical idea or tool. Evidence that reflects only sensory exploration, passive participation, or actions not tied to mathematical concepts cannot support Levels 1–5 and is scored as Developing unless clear mathematical engagement is observed. Multiple pieces of evidence may be collected; scorers use this evidence to determine the student's level of engagement for each criterion. Teachers must use three observations for a score, but each observation can include information for multiple criteria.

Scoring Overview

Each EMAS criterion is scored using a developmental scale from Developing to Level 5. Scores represent the highest level of observable mathematical engagement demonstrated in the available evidence.

Key scoring conventions include:

- Each criterion is scored independently.
- Evidence may come from a single activity or multiple instructional routines.
- Scores represent the highest supported level of engagement.
- If no evidence aligns with the mathematical intent of the criterion, the score is Developing.
- Evidence that is ambiguous, unrelated to mathematics, or dependent solely on adult action may not be used for scoring.

Performance Level Descriptions Summary

Developing:
Emerging or unintentional engagement with mathematical materials or actions (e.g., orienting, reacting, exploring).

Levels 1–2:
Intentional, concrete mathematical actions within familiar routines (e.g., placing objects, indicating quantities).

Level 3:
Coordinating or connecting mathematical ideas using familiar tools or representations.

Level 4:
Independent and flexible use of tools or models to demonstrate the grade-level DLM Essential Elements.

Level 5:
Applying or generalizing mathematical understanding beyond grade-level expectations using flexible strategies or multiple representations.

Scoring Rules

The following rules apply across all grades and criteria:

- Assign the highest level supported by the evidence.
- Evidence must reflect observable mathematical engagement, not sensory exploration, adult-driven actions, or compliance.
- If evidence is unclear or does not align with the descriptor's mathematical intent, it may not be used.
- Scores must reflect the student's actions, not the accuracy of a final product or the presence of adult support.
- If no mathematical action aligned to Levels 1–5 is observed, assign Developing.

Accessibility and Considerations for Scoring

Students may demonstrate mathematical engagement through a variety of expressive and receptive modalities. Supports—such as AAC, eye gaze, tactile models, partner-assisted scanning, adapted tools, or specialized positioning—may be used during evidence collection.

Scoring focuses on the mathematical action, not the access method. Accessibility supports do not affect scoring unless they change the underlying construct. Teachers should document any supports used so scorers can interpret evidence accurately.

How Often Should Reports Be Submitted

Screening

Reports should be submitted at the end of each reporting window.

Progress Monitoring

Progress monitoring is ongoing and embedded throughout instruction. Therefore, evidence and reports should be submitted at least once a month.

Planning Lessons that Capture Real Math Learning

The EMAS is designed to fit naturally into everyday instruction, allowing teachers to gather evidence of student learning as part of regular classroom routines. Instead of isolating and teaching one criterion at a time, which can lead to task-specific performance without deeper understanding, the screener supports an integrated approach. Teachers design engaging, meaningful lessons and observe how students interact with mathematical ideas in authentic contexts, weaving the concepts of attribute, pattern, comparison, change, connection and communication throughout and across lessons. This embedded model provides a holistic view of student understanding, ensuring that evidence reflects genuine learning rather than performance on a single, targeted task.

Benchmarks

Fall Benchmark: Level 2

In the fall, students are expected to demonstrate Level 2 performance, which reflects foundational skills across domains. At this stage, students begin to engage intentionally with mathematical tools and models, showing early signs of understanding. In Number Sense, they may count objects in context or recognize small quantities using tactile or visual models. In Geometry, they might explore basic shapes or spatial relationships using manipulatives. In Measurement, Data and Analysis, students may begin comparing lengths or recognizing measurable attributes such as size or temperature. In Algebraic and Functional Reasoning, they may notice simple patterns or relationships using structured arrangements such as five-frames or function tables. This level indicates that students are building the groundwork for more complex mathematical thinking.

Winter Benchmark: Level 3

By winter, students are expected to reach Level 3, which reflects growing fluency and the ability to apply foundational skills with increasing independence. In Number Sense, students may count sets accurately, compare quantities, or represent numbers using base-ten blocks or number paths. In Geometry, they may describe or recreate shapes and explore symmetry and position using tools such as geoboards or tangrams. In Measurement, Data and Analysis, they may measure using rulers or thermometers, sequence events by duration, or organize data in simple charts. In Algebraic and Functional Reasoning, they may extend patterns, use models to represent operations, or explore input-output relationships. This level shows that students are approaching proficiency and beginning to connect mathematical concepts across contexts.

Spring Benchmark: Level 4 – Target

By spring, students are expected to reach Level 4, which represents the target level for each Essential Element. At this level, students consistently and independently use mathematical tools and models to meet grade-level expectations. In Number Sense, they represent and compare numbers, solve contextual problems and explain their reasoning. In Geometry, they classify shapes, analyze attributes and use spatial reasoning to solve problems. In Measurement, Data and Analysis, they measure accurately, interpret data and connect measurement to real-world routines. In Algebraic and Functional Reasoning, they model operations, identify functional relationships and generalize patterns. This level reflects readiness for more complex applications and successful engagement with grade-level mathematical content.

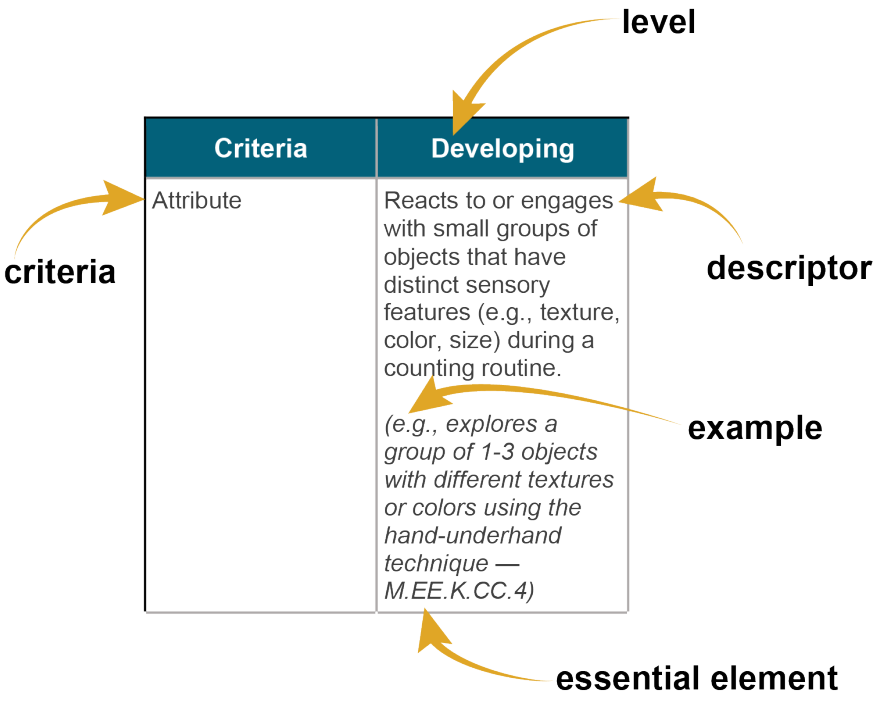
Instructional Response to Benchmark Gaps

When a student does not meet the seasonal benchmark, teachers should provide intensive instructional supports and highly recommend using the EMAS as a progress monitoring tool to track growth more frequently. Intensive supports go beyond comprehensive instruction for all students and requires a shift in how students access and engage with mathematical concepts. This includes readdressing access methods, such as ensuring appropriate communication systems, tactile models, or assistive technology, while increasing opportunities to interact with mathematical tools and models in meaningful contexts. It also requires a change in instructional approaches, moving from broad, whole-group strategies to highly individualized, systematic instruction that is explicit, repeated and embedded in authentic routines. Changing approaches may involve adjusting the pace, providing more guided practice, using alternative representations and incorporating multiple modalities to ensure active participation. These actions create a responsive learning environment that removes barriers and supports progress toward the target level.

Descriptor Examples and How to Interpret Them

When examining the examples included in the rubrics, it is important to understand their purpose. These examples are not expectations of what students must do. Instead, they are illustrations of what students could do. Saying a student should do something implies a standard or requirement, a single behavior every student is expected to demonstrate. In contrast, saying a student could do something opens the door to variation, creativity and accessibility. It acknowledges that students may show their understanding in many different ways. By framing examples as possibilities, we respect diverse learning paths and avoid prescribing a single "right" way to demonstrate understanding. This approach supports inclusive practices and helps educators recognize meaningful mathematical behaviors in all their forms.

The rubrics contain the following: criteria, level, descriptor, example and the essential element if applicable.



Early Math Alternate Screener Blueprints

Kindergarten

Domain	Essential Elements
Number Sense	M.EE.K.CC.1 - Starting with one, count to 10 by ones. M.EE.K.CC.4 - Demonstrate one-to-one correspondence, pairing each object with one and only one number and each number with only one object. M.EE.K.CC.5 - Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many. M.EE.K.CC.6 - Identify whether the number of objects in one group is more or less than (when the quantities are clearly different) or equal to the number of objects in another group.
Geometry	M.EE.K.MD.1-3 - Classify objects according to attributes (big/small, heavy/light). M.EE.K.G.2-3 - Match shapes of same size and orientation (circle, square, rectangle, triangle).
Algebraic and Functional Reasoning	M.EE.K.OA.1 - Represent addition as "putting together" or subtraction as "taking from" in everyday activities.

First Grade

Domain	Essential Elements
Number Sense	M.EE.1.NBT.1.a - Count by ones to 30. M.EE.1.NBT.1.b - Count as many as 10 objects and represent the quantity with the corresponding numeral. M.EE.1.NBT.2 - Create sets of 10. M.EE.1.NBT.3 - Compare two groups of 10 or fewer items when the number of items in each group is similar. M.EE.1.NBT.4 - Compose numbers less than or equal to five in more than one way. M.EE.1.NBT.6 - Decompose numbers less than or equal to five in more than one way.
Geometry	M.EE.1.G.1 - Identify the relative position of objects that are on, off, in and out. M.EE.1.G.2 - Sort shapes of same size and orientation (circle, square, rectangle, triangle). M.EE.1.G.3 - Put together two pieces to make a shape that relates to the whole (i.e., two semicircles to make a circle, two squares to make a rectangle).
Measurement, Data and Analysis	M.EE.1.MD.1-2 - Compare lengths to identify which is longer/shorter, taller/shorter. M.EE.1.MD.3.a - Demonstrate an understanding of the terms tomorrow, yesterday and today. M.EE.1.MD.3.b - Demonstrate an understanding of the terms; morning, afternoon, day and night. M.EE.1.MD.3.c - Identify activities that come before, next and after. M.EE.1.MD.3.d - Demonstrate an understanding that telling time is the same every day. M.EE.1.MD.4 - Organize data into categories by sorting.
Algebraic and Functional Reasoning	M.EE.1.OA.1.a - Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), or acting out situations. M.EE.1.OA.1.b - Recognize two groups that have the same or equal quantity. M.EE.1.OA.2 - Use "putting together" to solve problems with two sets. M.EE.1.OA.5.a - Use manipulatives or visual representations to indicate the number that results when adding one more. M.EE.1.OA.5.b - Apply knowledge of "one less" to subtract one from a number.

Second Grade

Domain	Essential Elements
Number Sense	M.EE.2.NBT.1 - Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays. M.EE.2.NBT.2.a - Count from 1 to 30 (count with meaning; cardinality). M.EE.2.NBT.2.b - Name the next number in a sequence between 1 and 10. M.EE.2.NBT.3 - Identify numerals 1 to 30. M.EE.2.NBT.4 - Compare sets of objects and numbers using appropriate vocabulary (more, less, equal). M.EE.2.NBT.5.a - Identify the meaning of the “+” sign (i.e., combine, plus, add), “–” sign (i.e., separate, subtract, take) and the “=” sign (equal). M.EE.2.NBT.5.b - Using concrete examples, compose and decompose numbers up to 10 in more than one way. M.EE.2.NBT.6-7 - Use objects, representations and numbers (0-20) to add and subtract.
Geometry	M.EE.2.G.1 - Identify common two-dimensional shapes: square, circle, triangle and rectangle.
Measurement, Data and Analysis	M.EE.2.MD.1 - Measure the length of objects using non-standard units. M.EE.2.MD.3-4 - Order by length using non-standard units. M.EE.2.MD.5 - Increase or decrease length by adding or subtracting unit(s). M.EE.2.MD.6 - Use a number line to add one more unit of length. M.EE.2.MD.7 - Identify on a digital clock the hour that matches a routine activity. M.EE.2.MD.8 - Recognize that money has value. M.EE.2.MD.9-10 - Create picture graphs from collected measurement data.
Algebraic and Functional Reasoning	M.EE.2.OA.3 - Equally distribute even numbers of objects between two groups. M.EE.2.OA.4 - Use addition to find the total number of objects arranged within equal groups up to a total of 10.

Third Grade

Domain	Essential Elements
Number Sense	M.EE.3.NBT.1 - Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0-30. M.EE.3.NBT.2 - Demonstrate understanding of place value to tens. M.EE.3.NBT.3 - Count by tens using models such as objects, base ten blocks, or money. M.EE.3.NF.1-3 - Differentiate a fractional part from a whole. M.EE.3.OA.4 - Solve addition and subtraction problems when result is unknown, limited to operands and results within 20.
Geometry	M.EE.3.G.1 - Describe attributes of two-dimensional shapes. M.EE.3.G.2 - Recognize that shapes can be partitioned into equal areas.
Measurement, Data and Analysis	M.EE.3.MD.1 - Tell time to the hour on a digital clock. M.EE.3.MD.2 - Identify the appropriate measurement tool to solve one-step word problems involving mass and volume. M.EE.3.MD.3 - Use picture or bar graph data to answer questions about data. M.EE.3.MD.4 - Measure length of objects using standard tools, such as rulers, yardsticks and meter sticks
Algebraic and Functional Reasoning	M.EE.3.OA.1-2 - Use repeated addition to find the total number of objects and determine the sum. M.EE.3.OA.8 - Solve one-step real-world problems using addition or subtraction within 20. M.EE.3.OA.9 - Identify arithmetic patterns.

Fourth Grade

Domain	Essential Elements
Number Sense	M.EE.4.NBT.2 - Compare whole numbers to 10 using symbols (<, >, =). M.EE.4.NBT.3 - Round any whole number 0-30 to the nearest ten. M.EE.4.NBT.4 - Add and subtract two-digit whole numbers. M.EE.4.NF.1-2 - Identify models of one half (1/2) and one fourth (1/4). M.EE.4.NF.3 - Differentiate between whole and half.
Geometry	M.EE.4.G.1 - Recognize parallel lines and intersecting lines. M.EE.4.G.2 - Describe the defining attributes of two-dimensional shapes. M.EE.4.G.3 - Recognize that lines of symmetry partition shapes into equal areas. M.EE.4.MD.3 - Determine the area of a square or rectangle by counting units of measure (unit squares). M.EE.4.MD.5 - Recognize angles in geometric shapes. M.EE.4.MD.6 - Identify angles as larger and smaller.
Measurement, Data and Analysis	M.EE.4.MD.1 - Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour). M.EE.4.MD.2.a - Tell time using a digital clock. Tell time to the nearest hour using an analog clock. M.EE.4.MD.2.b - Measure mass or volume using standard tools. M.EE.4.MD.2.c - Use standard measurement to compare lengths of objects. M.EE.4.MD.2.d - Identify coins (penny, nickel, dime, quarter) and their values. M.EE.4.MD.4.a - Represent data on a picture or bar graph given a model and a graph to complete. M.EE.4.MD.4.b - Interpret data from a picture or bar graph.
Algebraic and Functional Reasoning	M.EE.4.OA.1-2 - Demonstrate the connection between repeated addition and multiplication. M.EE.4.OA.3 - Solve one-step real-world problems using addition or subtraction within 100. M.EE.4.OA.4 - Show one way to arrive at a product. M.EE.4.OA.5 - Use repeating patterns to make predictions.

Fifth Grade

Domain	Essential Elements
Number Sense	M.EE.5.NBT.1 - Compare numbers up to 99 using base ten models. M.EE.5.NBT.2 - Use the number of zeros in numbers that are powers of 10 to determine which values are equal, greater than, or less than. M.EE.5.NBT.3 - Compare whole numbers up to 100 using symbols (<, >, =). M.EE.5.NBT.4 - Round two-digit whole numbers to the nearest 10 from 0—90. M.EE.5.NBT.5 - Multiply whole numbers up to 5 x 5. M.EE.5.NBT.6-7 - Illustrate the concept of division using fair and equal shares. M.EE.5.NF.1 - Identify models of halves (1/2, 2/2) and fourths (1/4, 2/4, 3/4, 4/4). M.EE.5.NF.2 - Identify models of thirds (1/3, 2/3, 3/3) and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10).
Geometry	M.EE.5.G.1-4 - Sort two-dimensional figures and identify the attributes (angles, number of sides, corners, color) they have in common. M.EE.5.MD.3 - Identify common three-dimensional shapes. M.EE.5.MD.4-5 - Determine the volume of a rectangular prism by counting units of measure (unit cubes).
Measurement, Data and Analysis	M.EE.5.MD.1.a - Tell time using an analog or digital clock to the half or quarter hour. M.EE.5.MD.1.b - Use standard units to measure weight and length of objects. M.EE.5.MD.1.c - Indicate relative value of collections of coins. M.EE.5.MD.2 - Represent and interpret data on a picture graph, line plot, or bar graph.
Algebraic and Functional Reasoning	M.EE.5.OA.3 - Identify and extend numerical patterns.

Sixth Grade

Domain	Essential Elements
Number Sense	M.EE.6.NS.1 - Compare the relationships between two-unit fractions. M.EE.6.NS.2 - Apply the concept of fair share and equal shares to divide. M.EE.6.NS.3 - Solve two-factor multiplication problems with products up to 50 using concrete objects and/or a calculator. M.EE.6.NS.5-8 - Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero). M.EE.6.RP.1 - Demonstrate a simple ratio relationship.
Geometry	M.EE.6.G.1 - Solve real-world and mathematical problems about area using unit squares. M.EE.6.G.2 - Solve real-world and mathematical problems about volume using unit cubes.
Measurement, Data and Analysis	M.EE.6.SP.1-2 - Display data on a graph or table that shows variability in the data. M.EE.6.SP.5 - Summarize data distributions shown in graphs or tables.
Algebraic and Functional Reasoning	M.EE.6.EE.1-2 - Identify equivalent number sentences. M.EE.6.EE.3 - Apply the properties of addition to identify equivalent numerical expressions. M.EE.6.EE.5-7 - Match an equation to a real-world problem in which variables are used to represent numbers.

Domain-Level Rubrics

Kindergarten – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with small groups of objects that have distinct sensory features (e.g., texture, color, size) during a counting routine. (e.g., explores a group of 1-3 objects with different textures or colors using the hand-underhand technique — M.EE.K.CC.4)	Begins to count small sets (up to 3) by pairing some objects with number names, even if sequence or accuracy is inconsistent. (e.g., touches 2 blocks and indicates "one, two" but skips the third block — M.EE.K.CC.4, M.EE.K.CC.5)	Counts small sets (up to 5) using one-to-one correspondence with frequent support to keep track. (e.g., touches or moves each of 4 blocks while indicating number names — M.EE.K.CC.4, M.EE.K.CC.5)	Counts up to 8 objects using one-to-one correspondence, pairing each object with one number name. (e.g., counts 7 beads on a number rack and points to the numeral "7" — M.EE.K.CC.4, M.EE.K.CC.5)	Counts up to 10 objects using one-to-one correspondence, matching each object to one number name in sequence. (e.g., places 6 counters in a ten-frame and counts each once — M.EE.K.CC.4, M.EE.K.CC.5)	Counts up to 15 objects using one-to-one correspondence, maintaining accuracy across different arrangements. (e.g., counts 12 beads scattered on a table and pairs each with a number name without losing track — M.EE.K.CC.4, M.EE.K.CC.5)
Pattern	Reacts to or engages with the repeated sequence of number words in a counting chant or song. (e.g., orients toward or vocalizes during "1, 2, 3" repeated counting chant — M.EE.K.CC.1)	Begins a 1–3 item counting sequence; may repeat or skip number names while trying to continue. (e.g., touches 3 counters and indicates "one… one… two" starting the count sequence with one— M.EE.K.CC.1)	Counts in sequence for small sets (1–3). (e.g., places 3 counters on a number path while saying "one, two, three" — M.EE.K.CC.1)	Recognizes and organizes small quantities (1–5) in order using math models, sometimes identifying familiar arrangements without counting. (e.g., sees a five-frame with 3 dots, identifies "three" without counting and places it in sequence after "two" on a number paths — M.EE.K.CC.1)	Counts from 1 to 10 in correct order, showing understanding that numbers follow a predictable sequence. (e.g., places counters in order on a number path while indicating number names — M.EE.K.CC.1)	Counts in sequence beyond 10, continuing the number pattern without restarting at one. (e.g., counts 1115 while placing counters on a number path after completing 1–10— M.EE.K.CC.1

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with differences in group size when one group is clearly larger. (e.g., shifts gaze or reaches toward the larger of two groups of objects — M.EE.K.CC.6)	Indicates the group that looks bigger or smaller, sometimes after partial counting. (e.g., counts one set (2 objects) and points to the other set (5 objects) as “more.” — M.EE.K.CC.6)	Identifies which group has more or less when differences are obvious, using visual or tactual cues or partial counting. (e.g., explores two sets (2 and 5 objects) and points to the larger group after counting one set — M.EE.K.CC.6)	Uses counting or math models to decide which group has more or less when differences are clear. (e.g., counts two sets (4 and 6 objects) and points to the group with more — M.EE.K.CC.6)	Counts two groups and identifies which has more, less, or the same, using the last number counted to compare. (e.g., counts 8 blocks and 9 blocks and indicates which group has more — M.EE.K.CC.6)	Compares two groups after counting and explains which is more or less using number words or numerals. (e.g., counts two sets (9 and 14 objects) and states “14 is more than 9.” — M.EE.K.CC.6)
Change	Reacts to or engages with adding or removing objects during a familiar routine. (e.g., refocuses attention when two small groups are joined to form one large group — M.EE.K.CC.5)	Adds or removes objects from a small set and tries to count again, even if the total is incorrect. (e.g., uses eye gaze to add 1 block to 2 and indicates “one, two, three” but may miscount — M.EE.K.CC.5)	Adds or removes objects from a small set and recounts to confirm the new total. (e.g., adds 1 block to 2 and counts “one, two, three”— M.EE.K.CC.5)	Counts objects to make a group larger or smaller and recounts to confirm the new total (up to 8). (e.g., adds 2 cubes to 3 and indicates 5 — M.EE.K.CC.5)	Counts out a specified number of objects and recounts accurately after adding or removing objects, showing that quantity changes with addition or removal. (e.g., selects three cubes from a pile of 10, adds two more, recounts to confirm 5 — M.EE.K.CC.1; M.EE.K.CC.5)	Predicts the new total before recounting (e.g., “8 becomes 11”), then confirms through counting. (e.g., counts 8 cubes, adds 3, indicates “now 11,” then recounts to confirm— M.EE.K.CC.1, M.EE.K.CC.5)

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with pairing objects and number words during a familiar counting routine. (e.g., visually tracks objects as they are moved and counted on a number rack — M.EE.K.CC.5)	After counting, indicates a numeral or quantity representation to show “how many,” even if mismatched. (e.g., counts 2 counters and points to numeral “3. — M.EE.K.CC.5)	After counting, actively selects or points to a numeral or quantity representation to show “how many”. (e.g., counts 3 counters and points to the numeral 3 — M.EE.K.CC.1)	After counting, shows the total without recounting for small sets (1-5). (e.g., counts 5 counters and points to numeral “5.”— M.EE.K.CC.5)	After counting, indicates the total without recounting, showing understanding that the last number said tells “how many.” (e.g., counts 6 counters and selects numeral “6” on a device — M.EE.K.CC.5)	After counting, labels the total and explains that the last number said tells “how many.” (e.g., counts 13 counters and indicates “13 is how many because it was the last number I said.”— M.EE.K.CC.5)
Communication	Reacts to or engages with organized placement of objects in a math tool during counting. (e.g., vocalizes, gestures, or pauses as objects are placed in a five-frame during counting — M.EE.K.CC.4)	Places objects in a math model while counting, even if placement is uneven or incomplete. (e.g., counts 3 beads while sliding them onto a number rack and indicates “three.” — M.EE.K.CC.5)	Places objects in a math model while counting to keep track, even if placement is inconsistent. (e.g., places 4 counters in a five-frame and points to the group when asked “how many?”— M.EE.K.CC.5)	Uses math tools or models to show how many or how the total was formed. (e.g., places 5 counters in a ten-frame and points to the numeral “5” to indicate the total — M.EE.K.CC.5)	Uses math tools or models to organize objects and clearly represent the total quantity. (e.g., places 8 counters in a ten-frame and selects the numeral “8” on a communication device — M.EE.K.CC.5)	Uses math tools or models to organize and represent totals across multiple sets. (e.g., places 10 counters in a ten-frame and 3 in another frame, then selects numeral “13” on a device— M.EE.K.CC.5)

Kindergarten – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with contrasting shape or size features using math tools. *(e.g., touches a triangle after exploring a circle — M.EE.K.G.2-3)*	Selects and matches shapes by one attribute (e.g., size, shape, color) using math tools. *(e.g., chooses a square block from a set — M.EE.K.G.2-3)*	Sorts shapes by one property and adds a second attribute (e.g., size + shape). *(e.g., places all small triangles together — M.EE.K.G.2-3)*	Sorts shapes by two attributes and uses positional language (e.g., above/below). *(e.g., groups circles that are both small and above a line — M.EE.K.G.2-3)*	Matches shapes by attribute and orientation using math tools. *(e.g., pairs two rectangles of same size and orientation — M.EE.K.G.2-3)*	Classifies shapes by multiple attributes (e.g., size, shape, position) using math tools. *(e.g., builds a set of small, light triangles and large, heavy squares — M.EE.K.MD.1-3)*
Pattern	Reacts to or engages with simple repetition of shape or size. *(e.g., sustains gaze on alternating circle–square shapes)*	Starts a simple pattern using math tools. *(e.g., lines up circle–square–circle)*	Extends an existing pattern using math tools. *(e.g., adds a square after circle–square–circle — M.EE.K.G.2-3)*	Builds a pattern using two sizes or shapes. *(e.g., creates triangle–triangle–square–triangle — M.EE.K.G.2-3)*	Creates and extends a pattern using shapes, adding variation in size or orientation. *(e.g., adds trapezoid to continue hexagon–trapezoid–hexagon — M.EE.K.G.2-3)*	Creates complex patterns using multiple shapes and orientations. *(e.g., builds a repeating pattern with rotated triangles and hexagons — M.EE.K.G.2-3)*
Comparison	Reacts to or engages with differences in shape or size. *(e.g., smiles when shown a circle and a triangle — M.EE.K.G.2-3)*	Selects a larger or heavier item from two choices using math tools. *(e.g., chooses the bigger block from two — M.EE.K.G.2-3)*	Sorts shapes into two groups (same vs different). *(e.g., separates circles from squares — M.EE.K.G.2-3)*	Sorts shapes by type and size using math tools. *(e.g., groups all small triangles and large triangles separately — M.EE.K.G.2-3)*	Places shapes on matching image using math tools. *(e.g., aligns a square on a square outline — M.EE.K.G.2-3)*	Explains differences after adding/removing shapes. *(e.g., demonstrates after removing circles there are now more squares in the group— M.EE.K.G.2–3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with changes in object position or shape. *(e.g., tracks when a shape is added or removed — M.EE.K.G.2–3)*	Adds or removes a shape from a group. *(e.g., adds a small block to a group of big ones — M.EE.K.MD.1–3)*	Rearranges shapes in a group. *(e.g., swaps a red circle for a red square to make a group all red squares— M.EE.K.G.2–3)*	Rearranges shapes by attribute (e.g., size or shape). *(e.g., moves all light objects to one side — M.EE.K.MD.1–3)*	Uses math tools to transform shapes (e.g., rotate or flip). *(e.g., rotates a triangle to match orientation or flips a trapezoid to create a mirror image — M.EE.K.G.2-3)*	Shows how a group changed by transformation. *(e.g., flips trapezoids to create a mirror image pattern — M.EE.K.MD.1–3)*
Connection	Reacts to or engages with familiar routines involving shapes. *(e.g., muscle tone changes when a shape puzzle with familiar outlines is presented— M.EE.K.G.2–3)*	Selects a shape used in a routine. *(e.g., chooses a circle for a clock face activity — M.EE.K.G.2–3)*	Places a shape in a familiar context using math tools. *(e.g., adds a triangle to a roof outline — M.EE.K.MD.1–3)*	Uses math tools to connect shapes to real-world objects. *(e.g., builds a square to represent a window — M.EE.K.G.2–3)*	Identifies how shapes relate to objects in context. *(e.g., describes that a window is a square — M.EE.K.MD.1–3)*	Demonstrates connections between shapes in different contexts and explains similarities/differences. *(e.g., explains that a stop sign is an octagon and compares it to other signs — M.EE.K.G.2–3)*
Communication	Reacts to or engages with shape name or symbol. *(e.g., explores the shapes on the table — M.EE.K.G.2–3)*	Indicates a shape using gesture or AAC. *(e.g., points to a square when asked, "Where is the square?" — M.EE.K.G.2–3)*	Communicates the name or label of a shape. *(e.g., when the teacher says, " show me the circle," the student picks out the circle from a group of different shapes— M.EE.K.G.2–3)*	Uses words, signs, or symbols to show relational concepts (e.g., “same,” “different”). *(e.g., states/signs “same” when matching shapes — M.EE.K.MD.1–3)*	Describes a shape using multiple properties. *(e.g., student indicates, “These are both yellow triangles ."— M.EE.K.G.2–3)*	Explains reasoning for classifying or matching shapes. *(e.g., explains “I put these together because they are the same size and shape” — M.EE.K.MD.1–3)*

Kindergarten – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with differences in quantity when objects are loosely grouped or counted in everyday contexts. *(e.g., turns head when two groups with different numbers of objects are placed side by side — M.E.E.K.OA.1)*	Selects objects to put together or take from a set and notices the change in quantity. *(e.g., chooses blocks to add to a group to make it bigger — M.EE.K.OA.1)*	Groups objects by quantity (e.g., makes small sets) to prepare for putting together/taking from in everyday routines. *(e.g., places 3 small and 3 large blocks together — M.EE.K.OA.1)*	Groups objects by quantity or size. *(e.g., places 3 small and 3 large blocks together — M.EE.K.OA.1)*	Combines or separates two sets (each with up to 10 items) in an everyday context and identifies the total number in the new set to represent addition or subtraction. *(e.g., combines 2 toy animals and 3 toy animals and shows there are 5 animals altogether. — M.EE.K.OA.1)*	Uses real-world materials to model putting together or taking from in everyday situations and connects the action to a symbolic representation. *(e.g., combines or removes classroom items and matches the action to 3 + 2 = 5 or 5 – 2 = 3 — M.EE.K.OA.1)*
Pattern	Reacts to or engages with repeated sensory input during combining or removing activities. *(e.g., stills during a tap-tap-pause rhythm while items are added — M.EE.K.OA.1)*	Continues a simple pattern involving combining. *(e.g., adds one each time and shows total (e.g., 2→3→4) using a number path or ten-frame — M.EE.K.OA.1)*	Continues a simple quantity pattern that changes by one (e.g., add one each time) and shows the resulting total with a model. *(e.g., adds one more each time and records the pattern as 1+1=2, 2+1=3 — M.EE.K.OA.1)*	Recreates from memory a simple add-one pattern (e.g., 2, 3, 4…) by combining objects and labels each total. *(e.g., places cubes to recreate 2, 3, 4 pattern and labels totals — M.EE.K.OA.1)*	Creates or extends a pattern that involves combining or separating quantities and identifies the resulting total. *(e.g., adds 2 more blocks to a growing AB pattern and counts all blocks to find the new total. — M.EE.K.OA.1)*	Uses patterns to solve problems or predict outcomes involving combining or removing and represents the pattern using symbolic notation. *(e.g., adds one more each time and records the pattern as 1 + 1 = 2, 2 + 1 = 3, etc.— M.EE.K.OA.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with objects when they are added or taken away from a set. *(e.g., turns head toward the fuller tray — M.EE.K.OA.1)*	Uses math tools to identify whether two sets are the same or different. *(e.g., places counters and points to matching or mismatched sets — M.EE.K.OA.1)*	Uses math tools to compare two sets and identify more, less, or same. *(e.g., places counters and points to matching or mismatched sets — M.EE.K.OA.1)*	Uses math tools to model and represent equations, including symbolic notation and compares the symbolic total to the total represented with objects or visuals. *(e.g., teacher provides 4+3=7; student places counters and confirms total matches equation — M.EE.K.OA.1)*	Uses math tools to model and compare two different ways of representing the same addition or subtraction situation in an everyday context. *(e.g., given 5 + 2 =__, student builds sets and matches to numeral 7 — M.EE.K.OA.1)*	Uses math models to compare the results of addition and subtraction across different situations and represents each situation with a symbolic equation. *(e.g., builds two sets and compares 2 + 3 = 5 and 5 – 2 = 3 — M.EE.K.OA.1)*
Change	Reacts to or engages with changes in quantity during combining or removing activities. *(e.g., vocalizes or shifts gaze when items are added to or taken from a group — M.EE.K.OA.1)*	Combines two sets to show putting together. *(e.g., places 2 and 3 manipulatives into one container — M.EE.K.OA.1)*	Combines or separates sets and recognizes the resulting total. *(e.g., joins two groups of cubes or removes tiles to make a visibly smaller group — M.EE.K.OA.1)*	Uses math tools to model combining sets. *(e.g., given 5 + 2 =__, builds sets and matches to numeral 7. — M.EE.K.OA.1)*	Uses math tools to model a change in quantity (putting together or taking from) and identifies the resulting total in an everyday context. *(e.g., starts with 4 blocks, removes 2 and shows there are now 2 blocks. — M.EE.K.OA.1)*	Uses math models to show how combining or removing changes the total and represents the change using an equation or number sentence. *(e.g., builds and adjusts sets to reflect change writes or selects 4 – 1 = 3 — M.EE.K.OA.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with objects during routines where sets are combined or separated. *(e.g., visually tracks when a block is added to or removed from a group — M.EE.K.OA.1)*	Represents combining or removing using a math tool in a familiar routine. *(e.g., places blocks into a bin to show putting together, or removes shapes from a tray to show taking away — M.EE.K.OA.1)*	Indicates a group has more or less after combining or separating. *(e.g., gestures toward the smaller group after separation — M.EE.K.OA.1)*	Uses math tools to model "one more" or "one less." *(e.g., moves along a number path to show 4 becomes 5 — M.EE.K.OA.1)*	Connects the concept of "one more" or "one less" to addition or subtraction in everyday routines. *(e.g., indicates after giving one crayon to a peer, the number of crayons left is one less and shows this using a number path — M.EE.K.OA.1)*	Connects a "putting together" or "taking from" story problem to a math model and represents the situation using symbolic notation. *(e.g., given a story problem about 3 children joining 2 more on the playground, the student builds a model with figures to show the total group and matches it to the equation 3 + 2 = 5 — M.EE.K.OA.1)*
Communication	Reacts to or engages with objects when they are combined or removed from a group. *(e.g., vocalizes or gestures when items are added or taken away — M.EE.K.OA.1)*	Responds to combining or removing by indicating a change in quantity. *(e.g., points to the smaller group after items are taken away — M.EE.K.OA.1)*	Uses words, signs, or symbols to indicate total after combining or removing. *(e.g., selects symbol for new group — M.EE.K.OA.1)*	Constructs a math model from an equation to represent a group or total based on a teacher-provided equation or quantity. *(e.g., teacher provides 2+4=; student builds a number bond and indicates total 6 — M.EE.K.OA.1)*	Communicates understanding of addition or subtraction by constructing a math model from a given equation (e.g., number bond/ten-frame) and indicating the total. *(e.g., given 3 + 2 = __, the student builds a number bond using linking cubes and indicates that 3 and 2 together make 5.— M.EE.K.OA.1)*	Uses words, signs, or symbols to represent combining or removing. *(e.g., says or selects "more" after adding to a group, or signs "gone" after taking away — M.EE.K.OA.1)*

First Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with sets of objects that show different ways to represent quantity. *(e.g., explores a group of cubes arranged in a ten-frame versus a loose pile — M.EE.1.NBT.1.b)*	Selects 1–5 objects to match a numeral using math tools or models. *(e.g., places 2 cubes in a tray when shown "2" — M.EE.1.NBT.1.b)*	Counts quantities up to 10 and represents the total with the corresponding numeral using math tools or models. *(e.g., counts 5 cubes and selects the numeral "5" on a choice board — M.EE.1.NBT.1.b)*	Represents quantities up to 20 using numerals and math models. *(e.g., places 7 cubes on a number path and selects "7" on communication system— M.EE.1.NBT.1.b)*	Represents quantities up to 30 using math tools and models, showing tens and ones. *(e.g., uses base-ten blocks to represent 24 as 2 tens and 4 ones — M.EE.1.NBT.2)*	Builds and represents multiple sets of 10 and extends to quantities beyond 30 using math tools and models, showing tens and ones. *(e.g., creates 4 groups of 10 using rods and arranges them on a number path to represent 40 — M.EE.1.NBT.2)*
Pattern	Reacts to or engages with repeated number sequences or arrangements during a counting routine. *(e.g., tracks a number path as someone moves along "1, 2, 3" in order — M.EE.1.NBT.1.a)*	Starts and continues a short-ordered sequence (1–5) using objects, even if accuracy is inconsistent. *(e.g., places a counter after "1" and "2" on a number path to continue the sequence (may skip or repeat a number — M.EE.1.NBT.1.a)*	Recognizes and indicates quantities up to 5 without counting, using math tools or models. *(e.g., selects the numeral "4" after briefly viewing a group of 4 items— M.EE.1.NBT.1.a)*	Arranges numbers in order within 20 using math tools or models to show sequence. *(e.g., arranges cards 11, 12, 13 on a number path to show that numbers follow a predictable order — M.EE.1.NBT.1.a)*	Arranges and models sequences of numbers within 30 to show order and relationships. *(e.g., places cards 18, 19, 20 on a number line and shows that the number increases by one — M.EE.1.NBT.1.a)*	Constructs and models patterns or sequences using skip-counting or grouping strategies within 50. *(e.g., arranges number cards in a repeated pattern [10, 20, 30...] and models the pattern on a hundred chart — M.EE.1.NBT.1.a)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with two groups of objects when quantities are distinctly different. *(e.g., shifts gaze between a group of two vs a group of 10 — M.EE.1.NBT.3)*	Indicates which of two small sets (1-3) has more or less items by counting or side-by-side comparison. *(e.g., puts items from two groups on two vertical five-frames and points to the taller one to indicate more— M.EE.1.NBT.3)*	Indicates which of two small sets (1-5) has more, less, or same items by counting or side-by-side comparison. *(e.g., using a number rack to slide 2 beads for one group and 3 beads for another, then indicates which group has less — M.EE.1.NBT.3)*	Models and compares two groups of up to 10 items using math tools, identifying more, less, or equal. *(e.g., uses two ten-frames to show that 9 is more than 7 — M.EE.1.NBT.3)*	Models and compares two groups of 10 or fewer items or two-digit numbers using math tools, identifying more, less, or equal. *(e.g., uses two sets of counters to show that 9 is less than 10, then compares 29 and 30 with base-ten blocks — M.EE.1.NBT.3)*	Models and verifies comparisons of quantities beyond 10 using math tools and models, explaining relationships. *(e.g., uses a number line to show that 15 is more than 12 by adding markers and explaining the difference, "15 has 3 more than 12"— M.EE.1.NBT.3)*
Change	Reacts to or engages with changes in quantity within a small group during a counting activity. *(e.g., explores a small group through the hand-under-hand technique when a cube is added or removed from a group of 3 — M.EE.1.NBT.4)*	Shows one way to make a new quantity by adding or removing objects using math tools or models. *(e.g., on a number rack with five beads on the left side, slides 1 bead to the right to show a new group of 4 — M.EE.1.NBT.4)*	Shows one way to change a quantity by adding/removing objects and recounts to confirm the new total. *(e.g., starts with 4 counters and removes one to show 3 — M.EE.1.NBT.6)*	Constructs and verifies changes in quantity by adding/removing objects and recounting to confirm the new total. *(e.g., starts with 5 cubes, removes 2, recounts to show 3 remain — M.EE.1.NBT.4, M.EE.1.NBT.6)*	Constructs and verifies changes in numbers by adding/removing tens and ones, recounting to confirm new totals. *(e.g., starts with 12, adds 10 using a ten-stick, recounts to confirm 22 — M.EE.1.NBT.4, M.EE.1.NBT.6)*	Represents multiple ways to compose/decompose numbers up to 20 using math tools and models. *(e.g., shows 18 as 10 and 8 and 15 and 3 using a number bond — M.EE.1.NBT.4, M.EE.1.NBT.6)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with familiar routines that link objects to number names or numerals. *(e.g., turns toward a ten-frame as someone says "ten" during a counting activity — M.EE.1.NBT.1.b)*	Groups objects to represent quantities up to 5 and associates the group with its numeral. *(e.g., counts out 5 items to create a group and selects the numeral "5" to label the set — M.EE.1.NBT.1.b)*	Matches numerals with quantities by counting and organizing objects using math tools or models. *(e.g., places 6 counters on a ten-frame and matches it to a card labeled "6 — M.EE.1.NBT.1.b)*	Builds part-whole relationships for numbers up to 10 using math tools or models. *(e.g., shows 7 as 4 and 3 on a number bond model — M.EE.1.NBT.4)*	Builds and represents part-whole relationships for numbers up to 30 in multiple ways using math tools or models. *(e.g., shows 14 as 10 and 4, then as 7 and 7 using a number bonds — M.EE.1.NBT.4, M.EE.1.NBT.6)*	Connects number representations to real-world quantities and routines using math models. *(e.g., uses a number line to model steps walked in tens and explains the total distance "I have 10 groups of 10 so I walked 100 steps"— M.EE.1.NBT.1.a)*
Communication	Reacts to or engages with quantities using math tools and models during familiar routines. *(e.g., smiles or vocalizes when a counting song plays or a tactile number card is presented — M.EE.1.NBT.1.a)*	Indicates the amount of a small quantity (1–5) using gestures, words, signs, or symbols with support from math tools or models. *(e.g., uses an eye gaze frame to indicate the numeral "2" after counting a group of two buttons — M.EE.1.NBT.1.b)*	Communicates quantities (up to 10) using words, signs, or symbols in the context of math tools or models. *(e.g., uses symbols to select "five" when shown a group of five counters — M.EE.1.NBT.1.b)*	Communicates quantities (up to 20) and simple comparisons using words, signs, or symbols, in the context of math tools or models. *(e.g., uses AAC to select "7" after sliding seven beads to the left on a number rack. (M.EE.1.NBT.1.b)*	Communicates understanding of quantities and operations (up to 30) using words, signs, or symbols in the context of math tools and models. *(e.g., explains "24 is more than 14 because it has more tens" sing base-ten blocks — M.EE.1.NBT.3)*	Demonstrates understanding of quantities (up to 50) and operations by communicating reasoning with words, signs, or symbols in the context of math tools and models. *(e.g., uses alphabet on devise to spell "greater" after modeling a comparison on a number line— M.EE.1.NBT.3)*

First Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with contrasting positions of objects or shapes using math tools. *(e.g., explores objects placed "in" vs. "out" of a tactile box using the hand-under-hand technique— M.EE.1.G.1)*	Sorts shapes by type using math tools. *(e.g., puts rectangles together in one group and circles together in another — M.EE.1.G.2)*	Sorts shapes by number of sides or corners and orientation using math tools. *(e.g., puts triangles that are different in size or orientation with other triangles with the same size or orientation— M.EE.1.G.2)*	Matches shapes with similar attributes but may have different size and orientation using math tools. *(e.g., pairs a small square with a large square — M.EE.1.G.2)*	Composes two shapes to form a whole shape using math tools. *(e.g., joins two semicircles to make a circle — M.EE.1.G.3)*	Groups shapes by more than one attribute (e.g., size and orientation). *(e.g., sorts small triangles facing up and large triangles facing down into separate groups — M.EE.1.G.2.)*
Pattern	Reacts to or engages with repeated positions or shapes using math tools. *(e.g., touches objects placed 'on' vs 'in' a container — M.EE.1.G.1)*	Recreates a simple shape pattern from memory. *(e.g., is shown the model circle-square-circle using foam shapes, the model is covered up and the student recreates the pattern from memory— M.EE.1.G.2)*	Continues a shape pattern that includes orientation changes using math tools. *(e.g., adds a rotated triangle to continue a pattern — M.EE.1.G.2)*	Creates a pattern using shapes with varied size and orientation. *(e.g., builds triangle-square-triangle-square pattern with mixed sizes — M.EE.1.G.2)*	Creates and extends a pattern using shapes. *(e.g., extends triangle-circle-square pattern using foam shapes — M.EE.1.G.2)*	Creates a positional pattern using objects arranged by location (e.g., on, above, below). *(e.g., places a circle on top and a square on bottom in a repeating repeated) — M.EE.1.G.1)*
Comparison	Reacts to or engages with differences in position. *(e.g., touches an object placed “on” vs. “in” a container — M.EE.1.G.1)*	Identifies a shape with more or less sides. *(e.g., points to a square when shown a triangle and square — M.EE.1.G.2)*	Sorts shapes by number of sides. *(e.g., places all three-sided shapes together — M.EE.1.G.2)*	Compares shapes with similar attributes. *(e.g., pairs two rectangles of different sizes — M.EE.1.G.2)*	Compares shapes by analyzing shared attributes and orientation. *(e.g., indicates that two triangles face different directions but both have three sides — M.EE.1.G.2)*	Compares composite shapes to identify shared and different attributes. *(e.g., indicates that a rectangle and a square both have four sides but differ in length — M.EE.1.G.2.)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with changes in object position. *(e.g., tracks when an object is moved "in" or "out" of a box — M.EE.1.G.1)*	Moves a shape to a new position. *(e.g., places a circle inside a box — M.EE.1.G.1)*	Rotates a shape to align with others. *(e.g., turns a triangle to match another triangle — M.EE.1.G.2)*	Combines two shapes to form a new shape. *(e.g., joins two triangles to form a square — M.EE.1.G.3)*	Adjusts shape orientation and position to complete a composite figure. *(e.g., rotates a triangle and places it on top of a rectangle to form a roof — M.EE.1.G.1, M.EE.1.G.3)*	Rearranges and rotates multiple shapes to create a new composite figure. *(e.g., rotates triangles and rectangles to form a roof and walls for a structure — M.EE.1.G.3.)*
Connection	Reacts to or engages with familiar positions or shapes in real-world contexts using math tools. *(e.g., reacts to a shape puzzle with familiar outlines — M.EE.1.G.1)*	Matches shapes to real-world items. *(e.g., places circles next to tactile wheels — M.EE.1.G.2)*	Sorts shapes into containers marked by shape or symbol. *(e.g., places circles next to tactile wheels — M.EE.1.G.2)*	Connects shape arrangements to real-world arrangements. *(e.g., arranges circular and rectangular shapes to represent wheels and body of a train — M.EE.1.G.3)*	Uses shape composition to represent real-world objects. *(e.g., joins rectangles and a triangle to make a house — M.EE.1.G.3)*	Creates composite shapes that represent real-world structures and identifies their purpose. *(e.g., builds a bridge using rectangles and triangles and indicates it represents a bridge — M.EE.1.G.3)*
Communication	Reacts to or engages with shape-related sensory input using math tools. *(e.g., sustains eye gaze toward a vibrating shape card — M.EE.1.G.1)*	Indicates choice of shape using any communication mode. *(e.g., points to a circle on a mat — M.EE.1.G.2)*	Labels shapes using words, signs or symbols. *(e.g., communicates "triangle" using AAC or gesture — M.EE.1.G.2)*	Describes shape attributes using words, signs, or symbols. *(e.g., communicates "square has four sides" — M.EE.1.G.2)*	Explains how shapes combine to form a whole. *(e.g., communicates "two semicircles make a circle" — M.EE.1.G.3)*	Explains the real-world connection of composite shapes. *(e.g., after building with shapes indicates "this is a bridge — M.EE.1.G.3)*

First Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with a measurable feature such as size, length, or time. *(e.g., turns toward a taller object when two are placed side by side — M.EE.1.MD.1–2)*	Selects an object based on a measurable feature such as size, length, or time. *(e.g., chooses a longer string strip when comparing two objects— M.EE.1.MD.1–2)*	Uses a math tool to explore measurable features of objects. *(e.g., uses a string strip to compare two objects and selects the longer one — M.EE.1.MD.1–2)*	Uses a math tool to measure and compare objects by a measurable feature such as length or height. *(e.g., aligns two blocks with a string strip and points to the taller one — M.EE.1.MD.1–2)*	Uses math tools to organize objects by measurable features such as length, height, or size. *(e.g., arranges blocks from shortest to tallest — M.EE.1.MD.1–2)*	Uses math tools and models to compare and justify measurable attributes such as length, height, or size across contexts. *(e.g., explains why one object is longer using both a string strip and a number line — M.EE.1.MD.1–2)*
Pattern	Reacts to or engages with a repeated feature or grouping in a math model. *(e.g., touches or moves fingers along a row of matching objects in a tactile chart — M.EE.1.MD.4)*	Engages with a math model that shows repetition or grouping. *(e.g., places matching objects into a tactile chart with a repeating size or shape pattern — M.EE.1.MD.4)*	Sorts or organizes items based on a repeated feature. *(e.g., places objects with the same shape into matching sections of a tactile chart — M.EE.1.MD.4)*	Uses math tools to create or reproduce a sorting pattern based on measurable attributes. *(e.g., sorts classroom items into groups by size or shape using a tactile chart — M.EE.1.MD.4)*	Uses math models to represent repeated features or values in a set. *(e.g., adds pictures to a chart to show multiple students chose the same category — M.EE.1.MD.4)*	Uses math models to extend or create sorting patterns based on measurable features. *(e.g., adds a new category to a digital chart and sorts objects by shape and size — M.EE.1.MD.4)*
Comparison	Reacts to or engages with a concept that shows relationships between quantities or time. *(e.g., smiles when shown a picture labeled "morning" or "night" — M.EE.1.MD.3.b)*	Responds to a math concept that shows relationships between quantities or time. *(e.g., points to or selects a picture labeled "morning" when asked about the time of day — M.EE.1.MD.3.b*	Uses a math model to show relationships between concepts. *(e.g., places picture cards of daily events under "morning" or "night" — M.EE.1.MD.3.b)*	Uses math models to organize events or objects by comparing time concepts or measurable features. *(e.g., e.g., places picture cards under "morning," "afternoon," and "night" to show when activities happen — M.EE.1.MD.3.b)*	Uses math models to show relationships between measurement concepts. *(e.g., uses a balance scale to compare two objects and points to the side that shows which is heavier or lighter — M.EE.1.MD.1–2)*	Uses math models to justify comparisons between measurement concepts in different situations. *(e.g., compares two objects and explains which is taller using a measuring tool and real objects — M.EE.1.MD.1–2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a change in order or sequence during a familiar routine. *(e.g., e.g., vocalizes when a step is missed during a familiar activity — M.EE.1.MD.3.c)*	Engages with a sequence that reflects changes in order or events. *(e.g., selects the next step in a routine after completing a familiar task — M.EE.1.MD.3.c)*	Uses a math model to represent changes in order or sequence. *(e.g., arranges tactile cards to show before, next and after in a routine — M.EE.1.MD.3.c)*	Uses math models to represent changes in order or sequence. *(e.g., adds a tactile card to a schedule to show a new activity after a familiar one — M.EE.1.MD.3.c)*	Uses math models to represent changes in order or sequence across events. *(e.g., arranges cards to show how today's routine differs from yesterday's — M.EE.1.MD.3.a–c)*	Uses math models to explain changes in order or sequence using time concepts. *(e.g., arranges picture cards and uses a timeline to show how today's schedule differs from yesterday — M.EE.1.MD.3.a–c)*
Connection	Reacts to or engages with a repeated event or routine linked to time. *(e.g., shows excitement when the school bell rings and it is time for art each day — M.EE.1.MD.3.b)*	Responds to a repeated daily event or routine. *(e.g., selects a symbol or object to represent a classroom activity that happens at the same time each day, such as morning meeting or clean-up time — M.EE.1.MD.3.d)*	Links math ideas to repeated events or routines. *(e.g., places a symbol on a schedule chart to show when math time happens each day — M.EE.1.MD.3.d)*	Uses math models to link repeated events to consistent times or routines. *(e.g., marks the same spot on a classroom timeline each day when clean-up begins — M.EE.1.MD.3.d)*	Uses math models to link time concepts to familiar routines. *(e.g., selects and places "today" and "tomorrow" cards on a schedule to compare activities — M.EE.1.MD.3.a)*	Uses math models to explain consistent time patterns across days. *(e.g., uses a calendar and a clock to show that math centers happen at the same time every day — M.EE.1.MD.3.d)*
Communication	Reacts to or engages with a familiar measurement concept during a shared activity. *(e.g., eyes rest on a picture representing "today" or "tomorrow" during a shared book or calendar routine — M.EE.1.MD.3.a)*	Uses words, signs, symbols, or eye gaze to share a measurement concept such as length, size, time, or category. *(e.g., uses eye gaze to choose a symbol for "today" when discussing the calendar — M.EE.1.MD.3.a)*	Uses words, signs, or symbols to describe measurable features or time concepts. *(e.g., e.g., says or selects "short" or "tall" when comparing two objects — M.EE.1.MD.1–2)*	Uses words, signs, or symbols to describe measurement concepts such as length, size, or time. *(e.g., says or selects "morning" when arranging cards for daily events — M.EE.1.MD.3.a–b)*	Uses words, signs, or symbols to explain a measurement-based sorting or comparison. *(e.g., says or selects "This is longer" when comparing two objects — M.EE.1.MD.1–2)*	Uses words, signs, or symbols to explain measurement ideas across contexts. *(e.g., says or selects "This is the longest" when comparing objects using both a ruler and a string strip — M.EE.1.MD.1–2*

First Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with attributes of objects when shown in organized sets or single-row arrangements. *(e.g., pauses movement when objects of different colors or shapes are arranged in rows — M.E.E.1.OA.1a)*	Places or combines objects to show a change in quantity. *(e.g., uses eye gaze to select "add" on AAC while partner moves cube – M.EE.1.OA.1a)*	Uses math tools to show a quantity or change in quantity. *(e.g., adds one block to a group to show "one more" – M.EE.1.OA.A)*	Uses tools or models to represent a specific quantity and connects it to a numeral or equation. *(e.g., arranges five counters and points to or selects the numeral 5 or matches it to 5 = 5. – M.EE.1.OA.1a)*	Uses math tools to describe and represent quantities in familiar contexts. *(e.g., uses fingers to show how many are in a group – M.EE.1.OA.1a)*	Applies representations to describe and compare quantities across contexts and connects them to symbolic notation. *(e.g., Uses drawings to show that two groups have the same number and selects or writes 4 = 4 to represent the equality – M.EE.1.OA.1b)*
Pattern	Reacts to or engages with sets that are joined or separated. *(e.g., reaches toward a group when items are added – M.EE.1.OA.4)*	Continues a simple add-one pattern by placing objects in sequence. *(e.g., selects "next" on AAC to signal adding one more in digital model – M.EE.1.OA.4)*	Uses objects or gestures to combine or separate sets and indicates the resulting total with a number or quantity. *(e.g., joins a group of 2 cubes and a group of 3 cubes, then points to the numeral 5 on a number path to show the total – M.EE.1.OA.4)*	Extends or completes a simple pattern involving adding or subtracting one and identifies the resulting quantity or equation. *(e.g., adds one more to a sequence (2, 3, 4...) and selects the next number or equation (e.g., 5 = 4 + 1– M.EE.1.OA.1a)*	Identifies and applies a pattern involving adding or subtracting one to solve a problem or predict a total. *(e.g., recognizes that each group in a row increases by one and predicts the next total before building it (e.g., says "6" before adding 1 to 5)– M.EE.1.OA.5.a)*	Applies models to explain how sets change through repeated addition or subtraction and represents the pattern using equations. *(e.g., uses drawings to show 2 + 2 + 2 and selects or writes 6 = 2 + 2 + 2 to describe the total. – M.EE.1.OA.1a)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with differences in group size. *(e.g., looks longer at the larger group – M.EE.1.OA.1b)*	Selects the larger or smaller group after placing objects side by side. *(e.g., points to or touches the larger group – M.EE.1.OA.1b)*	Indicates which group has more or less. *(e.g., points to the larger group – M.EE.1.OA.1b)*	Uses models to show equal or unequal quantities. *(e.g., matches counters between two groups to show they are equal – M.EE.1.OA.1b)*	Uses representations to compare and describe group sizes. *(e.g., indicates "more" while pointing – M.EE.1.OA.1b)*	Applies comparison strategies to explain quantity relationships. *(e.g., uses drawings to show how one group has one more than another – M.EE.1.OA.A)*
Change	Reacts to or engages with two groups of different sizes. *(e.g., using the hand-under-hand technique explores a set of objects when items are added or removed — M.EE.1.OA.5.a; M.EE.1.OA.5.b)*	Adds or removes one object from a group and places it to show the new total. *(e.g., adds one cube to a group of three and places them together — M.EE.1.OA.5.a; M.EE.1.OA.5.b)*	Uses math tools to show “one more” or “one less.” *(e.g., adds one cube to 3 — M.EE.1.OA.5.a; M.EE.1.OA.5.b)*	Uses models to show how a set changes by adding or subtracting one. *(e.g., places one more counter in a group to show increase – M.EE.1.OA.5b)*	Uses math tools to solve problems involving “one more” or “one less.” *(e.g., uses a number path to show that 4 becomes 5 when one is added; removes one counter from 6 to show 5 — M.EE.1.OA.5.a; M.EE.1.OA.5.b)*	Applies models to explain how a quantity changes through addition or subtraction and represents the change with an equation. *(e.g., The student shows 5 blocks, adds 1 more and selects or writes 5 + 1 = 6 — M.EE.1.OA.5.a; M.EE.1.OA.5.b)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts or engages with counting actions during a familiar routine. *(e.g., looks briefly toward the teacher while they count aloud; pauses movement when the teacher touches each block while counting – M.EE.1.OA.1a)*	Places objects together or apart to represent putting together or taking away in a familiar routine. *(e.g., reaches out and moves the 2 blue cubes next to the 3 red cubes, placing all 5 cubes in a single group – M.EE.1.OA.4)*	Uses math tools to show how adding or taking away one changes the total and indicates the new quantity. *(e.g., The student places 4 counting bears in a row, adds 1 more bear and then points to the numeral 5 to show the new total — M.EE.1.OA.2)*	Represents a real-world situation involving combining or separating by building a math model and identifying the total or missing part. *(e.g., after hearing a story about 5 students at recess and 1 going inside, the student removes one figure from a group of five and points to the remaining four – M.EE.K.OA.b)*	Connects a real-world situation involving combining or separating to a math model and represents the situation using a symbolic equation. *(e.g., hears a story about 2 students joining 3 others, builds the groups with counters and selects or states 5 = 2 + 3 — M.EE.1.OA.2)*	Applies math models to explain and compare quantity relationships across familiar settings. *(e.g., uses manipulatives to show how the number of students in two centers is equal – M.EE.1.OA.1b)*
Communication	Reacts to or engages with quantities using math tools and models during familiar routines. *(e.g., glances at a number path when the teacher colors in the next number during the routine. — M.EE.1.OA.1.a)*	Indicates change in quantity by placing or pointing to objects after adding or removing. *(e.g., activates a voice output device to say "more" after addition – M.EE.1.OA.1a)*	Uses words, signs, or symbols to describe the action of adding or subtracting one and to indicate the resulting change in quantity. *(e.g., After adding one cube to a group of 4, the student signs "more" and points to the numeral 5 to show the new total. — M.EE.1.OA.1.a).*	Constructs and uses a math model to express understanding of a total or relationship and connects it to a symbolic equation. *(e.g., builds two groups of 3 on a ten-frame and selects 6 = 3 + 3 to show the total — M.EE.1.OA.1.a)*	Uses words, signs, or symbols to express understanding of how quantities are combined or separated. *(e.g., builds 2 + 2 + 2 with cubes and says or signs "six" or selects 6 on a number path — M.EE.1.OA.1.a)*	Justifies addition and subtraction across contexts using words, signs, or symbols and connects explanations to equations. *(e.g., Uses a device to say "I added one more to both groups so they match" and selects or writes 3 + 1 = 4 to explain the change." – M.EE.1.OA.1b)*

Second Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with objects, numerals, and simple arrangements that show quantity. *(e.g., looks toward or touches blocks that are grouped together– M.EE.2.NBT.2.a)*	Selects or places 1–5 items to represent a numeral using math tools or models. *(e.g., places 4 counters in a loose group after selecting "4" — M.EE.3.NBT.3)*	Pair numerals 1–10 with quantities using models. *(e.g., uses AAC to select numeral "8" after counting eight counters – M.EE.2.NBT.3)*	Creates sets and represents tens/ones for numbers up to 30 using models. *(e.g., places 2 rods of ten and 7 cubes in a place-value chart for "27" – M.EE.2.NBT.3, M.EE.2.NBT.1)*	Accurately represents numerals 1–30 by creating sets and modeling tens and ones using structured math tools. *(e.g., builds 34 with 3 rods and 4 ones; indicates tens and ones using AAC – M.EE.2.NBT.3, M.EE.2.NBT.1)*	Build and represent numbers up to 50 using tens and ones in multiple structured arrangements. *(e.g., creates 42 using 4 ten rods and 2 cubes, then reorganizes into two rows of 20 on a place-value mat — M.EE.2.NBT.1)*
Pattern	Reacts to or engages with numeric sequences or ordered displays. *(e.g., tracks a sequence of tactile tiles arranged to represent a counting pattern [1–2–1–2] by moving fingers along the tiles — M.EE.2.NBT.2.b))*	Completes a 1–5 counting sequence by selecting the next number name or card in an unstructured (loose) arrangement. *(e.g., places number cards in order (1–2–3–4–5) on a number path — M.EE.2.NBT.2.a, M.EE.2.NBT.2.b)*	Continues a counting pattern within 1–10 using math models; corrects a break in sequence when it's highlighted. *(e.g., fills in missing numerals on a number path [adds number cards 3, 4, and 8] and places counters to match each numeral – M.EE.2.NBT.2.a, M.EE.2.NBT.2.b)*	Completes or extends sequences within 20 (order, missing numerals). *(e.g., uses two switches ("move it" and "choose it") to add the next counter to a number path. — M.EE.2.NBT.2.a, M.EE.2.NBT.2.b)*	Counts forward from any number 1–30 and orders numerals/sets; identifies the "add one" pattern. *(e.g., continues sequence from 17 to 25 on a number path, indicates each numeral — M.EE.2.NBT.2.a, M.EE.2.NBT.2.a, M.EE.2.NBT.2.b, M.EE.2.NBT.3)*	Extends sequences beyond 30 and shows place-value patterns in tens/ones. *(e.g., uses a number path to continue the sequence from 30 to 40 by adding ten-rods and ones, explains that after 30 comes 31 and shows how each new number adds one more to the ones column while tens remain constant until 40 — M.EE.2.NBT.2.a)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with obvious differences between two sets. *(e.g., reaches toward a pile of cubes when two piles are presented— M.EE.2.NBT.4)*	Places two sets side by side and indicates which is more/less/same. *(e.g., aligns two sets side-by-side and indicates which is more — M.EE.2.NBT.4)*	Counts or pairs items (≤10) to identify more/less/same. *(e.g., counts two sets [10 cubes and 3 cubes] compares them, and uses a symbol to show ">, <, =" for the larger set — M.EE.2.NBT.4)*	Compares up to 30 using math models or relational symbols. *(e.g., counts two sets (12 and 15 cubes) placing the cubes side by side, places numerals to represent the total above each set and uses a "greater than" symbol next to the larger set. — M.EE.2.NBT.4)*	Uses tens/ones to compare numbers/sets and indicates the relationship with a symbol (<, >, =). *(e.g., builds 26 vs 23 with rods and ones; indicates which is greater using AAC devise — M.EE.2.NBT.4)*	Verifies comparisons beyond 10 and explains relationships (up to 50). *(e.g., places 36 and 42 on a number line, uses "<" and ">" cards and states that 42 is greater because it has more tens — M.EE.2.NBT.4)*
Change	Reacts to or engages with adding/removing items from using math tools arranged in a horizontal or vertical line. (e.g., visually tracks when a cube is added to a line of 3 cubes – M.EE.2.NBT.6–7)	Adds or removes 1–2 objects in a loose set and indicates the new total (up to 5). *(e.g., adds a virtual counter to a scattered group and points to the new total — M.EE.2.NBT.6-7)*	Recounts after add/remove to confirm new total. *(e.g., combines 4 counters and 6 counters to make 10, then shows another way (5 and 5) using a ten-frame – M.EE.2.NBT.6–7, M.EE.2.NBT.5.b)*	Composes/decomposes to 10 in more than one way (part–whole). *(e.g., uses a number rack to show 8 as 5 and 3, then solves 8 – 3 = 5 with counters — M.EE.2.NBT.6–7, M.EE.2.NBT.5.b)*	Solves add/subtract within 20 using models; recounts to confirm. *(e.g., uses a number rack to show 10 as 6 and 4, then solves 10 – 4 = 6 with counters and places "+" and "=" cards to represent the solution — M.EE.2.NBT.6–7, M.EE.2.NBT.5.b)*	Shows multiple compose/decompose strategies within 20 and connects to operations. *(e.g., shows 14 as 10 + 4 and 7 + 7 using counters, then writes or selects "14 – 7 = 7" on a communication board — M.EE.2.NBT.5.b, M.EE.2.NBT.6–7)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with familiar routines that link numerals to quantity. *(e.g., reaches for a number path when the teacher says "time to count" – M.EE.2.NBT.2.a)*	Selects numerals to label counted sets in familiar routines. *(e.g., chooses five blocks and labels it with the numeral 5 — M.EE.2.NBT.2.a)*	Relates numerals to quantities during familiar routines using math models. *(e.g., during calendar time, the student identifies the correct date (8), updates the equation to show 7 + 1 = 8 and adds one counter to the ten-frame to make a total of eight— M.EE.2.NBT.3, M.EE.2.NBT.5.a)*	Builds part–whole (to 10) using math models. *(e.g., creates a number bond to show 5 and 4 is 9— M.EE.2.NBT.3, M.EE.2.NBT.5.a)*	Models tens and ones in real-world contexts and connects numerals, quantities and operations using math tools. *(e.g., during a shopping activity, builds 23 using base-ten blocks (2 rods of ten and 3 cubes) and places "+" and "=" cards when combining two amounts — M.EE.2.NBT.1, M.EE.2.NBT.3, M.EE.2.NBT.5.a)*	Explains how different representations link to quantities/routines. *(e.g., uses a calendar to show that 30 days make a month and explains that two months have about 60 days — M.EE.2.NBT.3*
Communication	Reacts to or engages with quantity or number presented through math tools or routines. *(e.g., smiles or vocalizes when hearing numbers during a counting routine. — M.EE.3.NBT.2a)*	Indicates totals (up to 5) or simple comparisons using gestures, words, signs, or symbols using math tools or models. *(e.g., uses a voice output device to say "more" while viewing aligned sets. — M.EE.2.NBT.2.a)*	Uses words, signs, or symbols to communicate quantities up to 10; simple comparisons. *(e.g., points to "+" when combining groups and "=" when showing the total, while saying or signing "plus" and "equals" — M.EE.2.NBT.5.a, M.EE.2.NBT.6–7)*	Uses words, signs, or symbols to represent solutions and represent operations in context. *(e.g., selects "7 + 3 = 10" after building the sets with counters and indicates "plus" and "equals" — M.EE.2.NBT.5.a, M.EE.2.NBT.6–7)*	Represents solutions for addition and subtraction using words, signs, or symbols to show reasoning. *(e.g., after building sets with counters, selects or writes "12 – 5 = 7" and points to "minus" and "equals" on a communication board — M.EE.2.NBT.5.a, M.EE.2.NBT.6–7)*	Demonstrates multiple ways to make a number and explains equivalence using math tools and symbols. *(e.g., shows 12 as 6 + 6 and 8 + 4 with cubes, then selects "12 = 6 + 6" and "12 = 8 + 4" cards — M.EE.2.NBT.5.b)*

Second Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with shapes. *(e.g., explores a round vs. straight-edged shape using tactile outlines — M.EE.2.G.1)*	Identifies a specific feature of a shape. *(e.g., selects "circle" on AAC when shown a clock — M.EE.2.G.1)*	Classifies shapes by type. *(e.g., groups triangles together — M.EE.2.G.1)*	Sorts shapes into physical groups based on type. *(e.g., places circles together and squares together — M.EE.2.G.1)*	Identifies and sorts shapes based on shared geometric features using math tools. *(e.g., separates shapes with curved sides from those with straight sides — M.EE.2.G.1)*	Combines or creates new shapes based on attributes using math tools. *(e.g., uses two triangles to form a rectangle — M.EE.2.G.1)*
Pattern	Reacts to or engages with arrangements of shapes. *(e.g., explores a sequence of raised shapes [circles and squares] on a felt board — M.EE.2.G.1)*	Identifies a regularity in a shape sequence. *(e.g., using two switches, "move it" and "choose it" with partner assisted scanning to choose next shape in a circle-square pattern — M.EE.2.G.1)*	Continues a simple shape pattern using math tools. *(e.g., adds a triangle to continue triangle-square-triangle — M.EE.2.G.1)*	Creates or extends a pattern with two or more shapes using math tools. *(e.g., builds a repeating circle-square-triangle pattern — M.EE.2.G.1)*	Creates and explains a pattern based on geometric features using math tools. *(e.g., arranges shapes by increasing number of sides — M.EE.2.G.1)*	Designs a complex pattern that combines multiple attributes (e.g., color and shape) and explains the rule. *(e.g., builds a growing pattern: circle, square, triangle, then repeats with color change — M.EE.2.G.1)*
Comparison	Reacts to or engages with two shapes when presented. *(e.g., looks back and forth between a circle and a square — M.EE.2.G.1)*	Identifies which shape has a specific feature. *(e.g., points to the shape with straight sides — M.EE.2.G.1*	Compares two shapes by naming a shared or different feature. *(e.g., indicates "both have corners" or "this one is round" — M.EE.2.G.1)*	Uses math tools to compare shapes by more than one feature. *(e.g., groups shapes by number of sides and presence of corners — M.EE.2.G.1)*	Explains similarities and differences among shapes using math tools. *(e.g., "Squares and rectangles have straight sides." — M.EE.2.G.1)*	Analyzes and justifies comparisons using multiple attributes. *(e.g., "square different than a rectangle. Squares have equal sides) — M.EE.2.G.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a shape when it changes position or size. *(e.g., explores a triangle when it is rotated — M.EE.2.G.1)*	Identifies a shape after a simple change. *(e.g., indicates the "same shape" after it is turned — M.EE.2.G.1)*	Recognizes and names a shape after rotation or resizing. *(e.g., indicates "same square" when the square is tilted — M.EE.2.G.1)*	Rearranges shapes to form a new arrangement using math tools. *(e.g., moves shapes to create a row of circles — M.EE.2.G.1)*	Combines shapes to form new shapes and explains the change. *(e.g., "Two triangles make a rectangle"— M.EE.2.G.1)*	Creates composite figures and explains transformations. *(e.g., builds a house shape from a square and triangle and describes the process — M.EE.2.G.1)*
Connection	Reacts to or engages with a shape when shown in a familiar context. *(e.g., picks up a circular plate when shown a clock face — M.EE.2.G.1)*	Identifies a shape in a real-world object. *(e.g., indicates the door as a rectangle — M.EE.2.G.1)*	Connects a shape to another representation using math tools. *(e.g., matches a triangle foam shape to a triangle in a picture — M.EE.2.G.1)*	Uses math tools to link shapes to real-world examples. *(e.g., groups pictures of objects by shape — M.EE.2.G.1)*	Shows how shapes relate to objects or other math ideas. *(e.g., selects a square and a box; both have four sides — M.EE.2.G.1)*	Creates a representation that combines shapes and explains the connection. *(e.g., draws a picture using shapes and describes each part — M.EE.2.G.1)*
Communication	Reacts to or engages with shape-related sensory input using math tools. *(e.g., turns toward a vibrating shape — M.EE.2.G.1)*	Identifies a shape by name or feature using gestures, words, signs, or symbols. *(e.g., when shown a plate, selects circle on communication device — M.EE.2.G.1)*	Uses words, signs, or symbols to classify shapes. *(e.g., indicates "triangle" after placing it in the triangle group — M.EE.2.G.1)*	Describes reasoning while grouping shapes using math tools. *(e.g., indicates "These have four sides. These have three sides" — M.EE.2.G.1)*	Explains how shapes are identified and sorted using multiple features. *(e.g., groups shapes and indicates "circles are round; squares have four equal sides" — M.EE.2.G.1*	Communicates reasoning for creating new shapes or patterns using multiple attributes. *(e.g., indicates "I made this pattern because it grows by adding a side each time" — M.EE.2.G.1)*

Second Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with noticeable differences in a measurable feature such as length, height or size. *(e.g., looks longer at a measuring tape placed next to two objects of different lengths — M.EE.2.MD.1)*	Selects or uses math tools to explore measurable features such as length, size or amount. *(e.g., places paperclips end-to-end next to a pencil to compare its length — M.EE.2.MD.1, 3–4)*	Uses math tools to measure, compare, or adjust measurable features. *e.g., aligns unit blocks along two objects and adds or removes blocks to make lengths equal — M.EE.2.MD.1, 5)*	Uses math tools to measure order and refine measurable features. *(e.g., measures three objects with unit blocks and places them in order from shortest to longest — M.EE.2.MD.3–4)*	Uses math tools to measure order and explain measurable features. *(e.g., marks object lengths on a number line and explains which is longer and by how many units — M.EE.2.MD.6)*	Uses math tools and models to compare, justify and explain measurable attributes. *(e.g., Compares two objects on a number line and explains how adding units changes the difference between them — M.EE.2.MD.5–6)*
Pattern	Reacts to or engages with a repeated feature in a math model or set. *(e.g., pauses when a row of identical shapes is revealed on a tactile graph — M.EE.2.MD.9-10)*	Engages with math models to identify or organize repeated features or values. *(e.g., selects bars of increasing height on a tactile graph to show which category has more — M.EE.2.MD.9–10)*	Uses math models to organize or extend repeated features or values in a set. *(e.g., adds pictures to a graph to continue a category pattern and checks which group is largest — M.EE.2.MD.9–10)*	Uses math models to recognize and represent patterns in data. *(e.g., creates a picture graph showing how many blocks were measured and notices which category repeats most — M.EE.2.MD.9–10)*	Uses math models to explain patterns and trends in data. *(e.g., adds a new bar to a graph and explains why the category increased — M.EE.2.MD.9–10)*	Uses math models to extend patterns and explain trends across contexts. *(e.g., adds a new bar to a graph to continue a growing pattern and explains why the category increased — M.EE.2.MD.9–10)*
Comparison	Reacts to or engages with a math concept showing relationships between quantities or time. *(e.g., smiles when a clock face showing "afternoon" is displayed during a time-of-day activity — M.EE.2.MD.7)*	Uses math tools or models to show relationships among objects or quantities. *(e.g., rearranges three rods from shortest to longest to demonstrate order — M.EE.2.MD.3–4)*	Uses math tools or models to compare and represent relationships. *(e.g., compares two sets of coins and points to the group with greater value — M.EE.2.MD.8)*	Uses math models to compare and explain differences in length, amount, or value. *(e.g., places two sets of coins on a tactile chart and explains which group has more — M.EE.2.MD.8)*	Uses math models to justify comparisons across contexts. *(e.g., explains which set of coins has greater value and shows the difference using a tactile chart — M.EE.2.MD.8)*	Uses math models to justify and explain comparisons across multiple contexts. *(e.g., explains which set of coins has greater value and shows the difference using a chart — M.EE.2.MD.8*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a change of familiar order or amount. *(e.g., shifts gaze back and forth when two objects are swapped to show a new order from shortest to longest — M.EE.2.MD.3–4)*	Uses math tools to represent increasing or decreasing length or amount. *(e.g., adds a unit block to a row and touches the new block to show "more" — M.EE.2.MD.5–6)*	Uses math tools to adjust and show changes in length or amount. *(e.g., removes a unit block from a row and counts the new total to show "less" — M.EE.2.MD.5–6)*	Uses math models to represent and explain changes in length or amount. *(e.g., adds two-unit blocks to a row and indicates "two more" while pointing to the new total — M.EE.2.MD.5)*	Uses math models to reason about changes and their impact. *(e.g., shows how adding one more unit changes the total length on a number line and explains the new amount — M.EE.2.MD.5–6)*	Uses math models to represent and justify changes across contexts. *e.g., shows how adding one more unit changes the total length and explains how this affects the order of objects — M.EE.2.MD.5–6)*
Connection	Reacts to or engages with a math idea that links measurable attributes to real-world concepts. *(e.g., vocalizes softly when coins are placed on the table during an activity about recognizing money has value— M.EE.2.MD.8)*	Links measurement ideas to real-world contexts using math tools. *(e.g., sorts coins from a collection of other circular objects during an activity about recognizing value — M.EE.2.MD.8)*	Uses math models to link measurement ideas to real-world contexts and organize information. *(e.g., creates a simple chart showing three objects measured with unit blocks and arranges them from shortest to longest — M.EE.2.MD.3–4)*	Uses math models to represent real-world measurement situations. *(e.g., creates a chart showing the lengths of classroom objects measured with cubes — M.EE.2.MD.3–4)*	Uses math models to explain measurement ideas in real-world contexts. *(e.g., creates a chart showing the lengths of classroom objects and explains which is longest and shortest — M.EE.2.MD.3–4)*	Uses math models to justify and explain measurement ideas in real-world contexts. *(e.g., creates a chart showing the lengths of classroom objects and explains why the longest object is used for a specific task — M.EE.2.MD.3–4)*
Communication	Reacts to or engages with a measurement tool during a shared activity. *(e.g., runs fingers along a non-standard measuring strip placed next to two objects of different lengths — M.EE.2.MD.1)*	Communicates about length, order, or amount. *(e.g., uses a voice output device to indicate one of two objects is 'more' or 'less', 'same' or 'different'— M.EE.2.MD.1, 5-6.)*	Uses words, signs, or symbols to describe measurement relationships or changes. *(e.g., indicates "one more" after adding a unit block to increase length — M.EE.2.MD.6)*	Uses words, signs, or symbols to describe value or amount in a real-world context. *(e.g., e.g., indicates "longest" when describing the tallest bar on a graph — M.EE.2.MD.9–10)*	Uses words, signs, or symbols to explain reasoning about measurement and data. *(e.g., says or indicates "I added two cubes, so the pencil is longer now" — M.EE.2.MD.5)*	Describes how math tools or models were used to solve a problem or represent data. *(e.g., communicates "I used cubes to measure and then made a graph to show the result — M.EE.2.MD.1, 9–10)*

Second Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with grouped items displayed in repeated rows or structured arrangements. *(e.g., visually tracks shiny tiles arranged in two equal rows — M.EE.2.OA.3)*	Groups objects into two sets to begin forming equal groups. *(e.g., uses eye gaze to select "pairs" to make groups of 2 — M.EE.2.OA.3, M.EE.2.OA.4)*	Sorts objects into equal groups and counts to confirm group size. *(e.g., separates items into sets of 2 or 3 and uses counting to verify each group — M.EE.2.OA.3)*	Creates equal groups and labels each group with its quantity. *(e.g., builds 2 groups of 3 and places a numeral "3" beside each group — M.EE.2.OA.3)*	Uses tools to build repeated equal groups and indicates total within 10. *(e.g., arranges 2 rows of 4 counters — M.EE.2.OA.3)*	Demonstrates equal grouping using models; connects groups to repeated addition totals (≤10). *(e.g., uses a number path and a ten-frame to demonstrate equal grouping— M.EE.2.OA.3)*
Pattern	Reacts to or engages with repeated groupings. *(e.g., tracks items that are placed evenly into groups — M.EE.2.OA.3)*	Continues a grouping pattern by adding one to each group to keep the groups equal. *(e.g., adds one virtual counter to each group — M.EE.2.OA.3)*	Extends repeated grouping and maintains equal size through counting. *(e.g., continues 2 + 2 + 2 with another group of 2 and counts items in each group — M.EE.2.OA.3)*	Creates repeated equal groups and represents the total using addition (≤10). *(e.g., builds 3 groups of 2 and represents as 2 + 2 + 2 = 6 — M.EE.2.OA.4)*	Identifies and corrects errors in grouping patterns involving addition (≤10). *(e.g., notices one group has fewer items and adjusts it so the groups are equal — M.EE.2.OA.4)*	Uses math models to represent and analyze repeated addition patterns (≤20). *(e.g., builds 2 rows of 3 and selects 6 on a number path — M.EE.2.OA.4)*
Comparison	Reacts to or engages with differences in group sizes. *(e.g., pauses longer when one of the groups is made larger— M.EE.2.OA.4)*	Selects the larger or smaller of two sets and labels total quantity. *(e.g., chooses the group with more or less counters and places a numeral beside it — M.EE.2.OA.4)*	Counts and compares total quantities from equal groups using math tools. *(e.g., builds two sets with different numbers of groups of 2 and uses counting to label each total — M.EE.2.OA.4)*	Uses addition to compare totals from equal groups and identifies which set has more or fewer objects. *(e.g., represents totals from equal groups using addition and identifies which is greater— M.EE.2.OA.4)*	Solves comparison problems involving equal groups using addition within 10. *(e.g., builds two sets (2 + 2 vs. 2 + 2 + 2) and identifies which has more— M.EE.2.OA.4)*	Generalizes comparison strategies across different models or contexts. *(e.g., compares two sets of equal groups using blocks (2 + 2 + 2 vs. 2 + 2), then uses a number path to confirm which total is greater and explains the comparison — M.EE.2.OA.4)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with changes in group size or total (adding or taking away). *(e.g., shifts attention when totals change — M.EE.2.OA.4)*	Selects or indicates which arrangement has more/less after placing groups side by side. *(e.g., uses AAC to select "less" or "more" after side-by-side placement. — M.EE.2.OA.4)*	Constructs a model showing change in equal groups and recounts to reflect the new total. *(e.g., adds one item to each group and counts all items to show the updated total — M.EE.2.OA.4)*	Uses addition to compare totals from equal groups and identifies which has more/fewer (≤10). *(e.g., represents totals (4 vs 6) using tiles and indicates they are not equal — M.EE.2.OA.4)*	Uses math models to solve addition problems from equal groups (≤10). *(e.g., uses counters to show two arrangements: one with 3 groups of 2 and another with 2 groups of 2; indicates the total for each (6 vs 4) — M.EE.2.OA.3, M.EE.2.OA.4)*	Uses math models to show how change in equal groups affects the total. *(e.g., shows how changing groups/items affects the total and represents the change with a repeated-addition equation shows the new total using a number path — M.EE.2.OA.4).*
Connection	Reacts to or engages with consistent group size in familiar routines. *(e.g., explores containers each holding the same number of items — M.EE.2.OA.3)*	Selects objects to form two equal groups in a familiar routine. *(e.g., during clean-up places 2 items per bin — M.EE.2.OA.4)*	Counts the total of two equal groups (≤10). *(e.g., counts all items in 3 groups of 2 using counters to find the total of 6 — M.EE.2.OA.4)*	Uses addition to find the total of two equal sets. *(e.g., adds two equal groups of 3 to and indicate a total 6 using a number path — M.EE.2.OA.4)*	Represents and solves addition with equal groups (≤10). *(e.g., uses counters to build three sets of 3 and adds them to find 9 — M.EE.2.OA.4)*	Creates multiple representations of equal sets using different tools. *(e.g., shows 2 + 2 + 2 using counters, a number path and tally marks — M.EE.2.OA.3, M.EE.2.OA.4)*
Communication	Reacts to or engages with fair-shares in familiar routines. *(e.g., smiles and watches as markers are evenly distributed between students — M.EE.2.OA.3, M.EE.2.OA.4)*	Indicates equal/unequal after aligning groups. *(e.g., uses a voice output device to say "same" when groups are equal or "more" when one set is larger — M.EE.2.OA.3, M.EE.2.OA.4)*	Represents equal groups and total quantity using counting strategies and numerals. *(e.g., signs the total after counting equal groups — M.EE.2.OA.3)*	Communicates equal groups using basic symbols or tools. *(e.g., describes two groups of 3 by pointing to 3 and 3 — M.EE.2.OA.3)*	Communicates the equation of equal groups using addition (≤10). *(e.g., builds two groups of 3 and says or selects "3 + 3 = 6" — M.EE.2.OA.4)*	Communicates understanding of equal groups using multiple formats. *(e.g., uses tactile numbers, verbal counting and a number path to represent 2 + 2 + 2 = 6— M.EE.2.OA.4)*

Third Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with small sets (1–3) and numerals 1–3 during a counting routine. *(e.g., orients toward 1-3 counters and numeral cards on a mat — M.EE.3.NBT.2)*	Selects or places 1–5 items in a simple arrangement to represent a numeral. *(e.g., places 3 cubes on a five-frame when presented with the numeral "3" — M.EE.2.NBT.3)*	Pairs numerals 1–10 with counted quantities using one-to-one correspondence and math tools and models. *(e.g., selects "8" after counting eight counters; places the "8" card by the set of eight counters — M.EE.3.NBT.2)*	Organizes quantities up to 20 by grouping into tens and leftover ones using math models. *(e.g., bundles 10 counters with a band and indicates leftover ones (e.g., 10 + 9) — M.EE.3.NBT.2)*	Represents numbers to 30 with tens and ones using structured models/tools. *(e.g., student builds 27 using two ten-rods and seven-unit cubes — M.EE.3.NBT.2)*	Represents numbers to 50 flexibly across models and inconsistently shows tens and ones across all representations. *(e.g., shows 46 using four ten-rods and six cubes, two ten-frames and leftover counters and marks 46 on a number line — M.EE.3.NBT.2)*
Pattern	Reacts to or engages with short counting sequences (1–3) using math tools and models. *(e.g., tracks "1, 2, 3" along a raised number path — M.EE.3.NBT.3)*	Continues a 1–5 counting sequence by placing the next item in a simple arrangement. *(e.g., places a counter on the next space of a number path after "3" — M.EE.3.NBT.3)*	Completes a skip-count by tens up to 30 using math models when the start or end is given. *(e.g., counts 10, 20, 30 while adding groups of ten-sticks— M.EE.3.NBT.3)*	Completes and extends 1–20 sequences (fills missing numerals; orders sets) and begins grouping toward ten. *(e.g., fills blanks 11, __, 13, 14, __ on a path and groups 10 as a bundle when reaching 10/20 — M.EE.3.NBT.2)*	Counts by tens from 0 (10, 20, 30…) using models and identifies decade pattern. *(e.g., uses a decade chart to indicate 10→20→30→… and places decade markers on the chart— M.EE.3.NBT.3)*	Counts by tens from a non-zero decade (e.g., start at 30 → 80) and shows equal ten-jumps across models. *(e.g., begins at 30 and indicates 40→50→…→80 with decade tiles; shows equal jumps of ten — M.EE.3.NBT.3)*
Comparison	Reacts to or engages with whole vs fractional part on simple models. *(e.g., explores a whole circle and a half circle using hand-under-hand technique— M.EE.3.OA.4)*	Selects which of two shapes is the whole when shown whole vs fractional part. *(e.g., points to the whole circle when shown whole and half — M.EE.3.NF.1–3)*	Identifies whole vs fractional part using common models (circle/rectangle/strip). *(e.g., selects "whole" for a full rectangle and "part" for a half rectangle — M.EE.3.NF.1–3)*	Sorts or compares a set of models into whole vs fractional part categories. *(e.g., places halves in one group and wholes in another — M.EE.3.NF.1–3)*	Differentiates fractional part from whole across multiple model types. *(e.g., indicates that ½ of a shape is not the whole across circles/rectangles — M.EE.3.NF.1–3)*	Generalizes whole vs part across new representations and contexts. *(e.g., identifies whole vs part on number-line and area models — M.EE.3.NF.1–3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with adding or removing an item from a loose set without positional structure. *(e.g., lifts eyes briefly when a counter is added to a scattered group of two — M.EE.3.OA.4)*	Adds or removes 1–2 objects in a simple linear arrangement and indicates a new total. *(e.g., adds one to 3 on a number path and points to 4; removes one from 5 on a number rack and points to 4 — M.EE.3.OA.4)*	Combines or separates two small sets (within 20) using objects and recounts to confirm the new total; may use decade benchmarks (10, 20) to check. *(e.g., joins 6 and 3 counters, recounts 9 and indicates "more"; removes 2 from 12, recounts 10 and indicates "less" — M.EE.3.OA.4)*	Solves join/separate changes to 15–20 using models; begins make-a-ten strategies. *(e.g., shows 9 + 6 by making a ten (10 + 5) on frames/rods — M.EE.3.OA.4)*	Solves one-step addition/subtraction within 20 (result unknown) using math models. *(e.g., shows 12 – 5 = 7 on a number path; selects the "7" card — M.EE.3.OA.4)*	Shows multiple strategies for add/sub within 20 (e.g., ten-frame, number path, part-whole). *(e.g., solves 15 – 7 using counters, a number path and a number bond (10 + 5 minus 7) — M.EE.3.OA.4)*
Connection	Reacts to or engages with routines linking objects and number words (1–5). *(e.g., looks toward a numeral card as a peer or teacher counts aloud during a math routine — M.EE.3.NBT.3)*	Selects objects or representations that link to place value concepts. *(e.g., chooses a bundle of ten craft sticks when asked for "ten" instead of a bundle of 5 — M.EE.3.NBT.1)*	Explores part–whole relationships using math tools or models. *(e.g., uses a number bond to show 5 as 2 and 3 by placing counters in each part of the bond — M.EE.3.NF.1–3)*	Represents part–whole relationships within 20 using math models to show how two parts combine to make a whole. *(e.g., marks jumps of 6 and 4 on a number path and circles 10 as the total; or places counters on a number bond mat for 7 and 5 to show 12 — M.EE.3.NBT.4)*	Relates fractional parts to whole numbers using math models in familiar contexts. *(e.g., student uses two half-circle fraction tiles to complete a whole circle puzzle — M.EE.3.NF.1–3)*	Uses math models to connect fractional representations to real-world contexts. *(e.g., shades 1/2 of a paper rectangle to represent half of a poster and points to the shaded part — M.EE.3.NF.1–3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with counting models and numerals. *(e.g., explores a set of 3 counters when the teacher labels the set as 3— M.EE.3.NF.1–3)*	Indicates small totals or whole vs part using gestures, words, signs, or symbols. *(e.g., points to half when shown two rectangular fraction bars, one representing a whole and one representing a half — M.EE.3.NF.1–3)*	Communicates quantities to 10 using words, signs, or symbols. *(e.g., selects numerals up to 10 to label counted sets — M.EE.3.NBT.2)*	Communicates ten + ones for numbers to 20. *(e.g., indicates 15 as ten + five using voice output devise — M.EE.3.NBT.2)*	Describes counting by tens and tens and ones to 30. *(e.g., signs decade sequence to 30 — M.EE.3.NBT.3)*	Explains place-value reasoning to 50 across representations. *(e.g., says "46 is four tens and six ones" while pointing to rods, ten-frame and number line positions — M.EE.3.NBT.2)*

Third Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with shapes using math tools. *(e.g., explores a square tile by touching its edges — M.EE.3.G.1)*	Selects shapes based on an attribute using math tools. *(e.g., selects rectangles from a set of mixed shapes — M.EE.3.G.1)*	Sorts or groups shapes that share a common attribute using math tools. *(e.g., places two fraction bars showing halves next to a whole bar — M.EE.3.G.2)*	Identifies a shape and indicates one defining attribute using math tools. *(e.g., points to a triangle and signals "three sides" — M.EE.3.G.1)*	Describes two or more defining attributes of a shape using math tools. *(e.g., states "square has four equal sides" or pointing to the square indicates 'sides are the same' — M.EE.3.G.1)*	Sorts two shapes by multiple attributes using math models. *(e.g., groups shapes that have equal sides and can be partitioned into equal parts — M.EE.3.G.2)*
Pattern	Reacts to or engages with shapes that are alike. *(e.g., explores a row of fraction bars showing equal halves — M.EE.3.G.2)*	Selects a shape that has the same feature as other shapes. *(e.g., picks a square to go with other shapes that have four sides — M.EE.3.G.1)*	Groups shapes to show they share the same feature. *(e.g., places objects that are divided in half together — M.EE.3.G.2)*	Identifies a feature that repeats across shapes. *(e.g., names the shared feature in a group [size, shape, color] — M.EE.3.G.1)*	Creates an arrangement that shows a regular feature. *(e.g., arranges fraction bars to show equal parts in each bar — M.EE.3.G.2)*	Creates an arrangement that shows more than one regular feature. *(e.g., organizes shapes by both number of sides and equal partitions — M.EE.3.G.1, M.EE.3.G.2)*
Comparison	Reacts to or engages with shapes of different sizes or partitions. *(e.g., looks back and forth between two shapes, one whole and one divided — M.EE.3.G.2)*	Indicates which shape is larger or smaller. *(e.g., points to the bigger square — M.EE.3.G.1)*	Sorts shapes by size or number of partitions using math tools. *(e.g., groups shapes with halves separate from whole shapes — M.EE.3.G.2)*	Compares two shapes and indicates a difference using math tools. *(e.g., signals "more sides" when shown hexagon and square — M.EE.3.G.1)*	Describes differences between two shapes using math tools. *(e.g., identifies that a hexagon has six sides and a square has 4 sides — M.EE.3.G.1)*	Orders multiple shapes by size or number of equal parts using math models. *(e.g., arranges shapes from whole to halves to quarters — M.EE.3.G.2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with the addition or removal of a shape using math tools. *(e.g., vocalizes when a triangle is taken away from a tactile board — M.EE.3.G.2)*	Indicates a change in position or orientation of a shape using math tools. *(e.g., turns a triangle upside down and indicates "different" — M.EE.3.G.1)*	Partitions shapes into two equal parts using math tools. *(e.g., folds a paper rectangle in half — M.EE.3.G.2)*	Models how to partition a shape using math tools. *(e.g., places fraction strips on a square to show halves — M.EE.3.G.2)*	Uses a math model to accurately partition a whole into equal parts. *(e.g., places fraction bars on a grid to show two equal parts of a whole — M.EE.3.G.2)*	Demonstrates partitioning into more than two equal parts using math models. *(e.g., uses a geoboard to create a square divided into four equal sections — M.EE.3.G.2)*
Connection	Reacts to or engages with familiar shapes or partitions in a real-world context. *(e.g., explores a circle on a clock face — M.EE.3.G.1)*	Matches a shape or partition to an object in the environment using math tools. *(e.g., places a rectangle tile next to a window — M.EE.3.G.1)*	Finds and places a shape that shares a feature with a real-world object. *(e.g., chooses a triangle tile to match a roof outline — M.EE.3.G.1)*	Partitions a real-world object into two equal parts using a math model. *(e.g., uses a set of shape tiles to show how a paper mat can be divided into two equal sections — M.EE.3.G.2)*	Uses a math model to represent both the whole and its two equal parts. *(e.g., places fraction bars to show a poster and its halves together — M.EE.3.G.2)*	Uses math models to create a representation of a real-world object partitioned into more than two equal parts. *(e.g., uses a geoboard with elastic bands to model a bulletin board divided into three equal sections — M.EE.3.G.2)*
Communication	Reacts to or engages with familiar shapes or partition. *(e.g., looks toward a shape as it is split into two sections — M.EE.3.G.2)*	Indicates sameness or difference between shapes or partitions. *(e.g., signs "same" when shown two identical halves of a circle — M.EE.3.G.1)*	Labels shapes or their attributes using words, signs, or symbols. *(e.g., indicates "circle" or "some" while pointing to a shape or a partitioned shape— M.EE.3.G.1, M.EE.3.G.2)*	Labels or describes a shape and its parts using words, signs, or symbols. *(e.g., indicates "half" of the square while pointing to a shaded section on a raised grid — M.EE.3.G.2)*	Describes a shape and its attributes using words, signs, or symbols. *(e.g., indicates "square has four equal sides" — M.EE.3.G.1)*	Explains how shapes or partitions relate using words, signs, or symbols. *(e.g., says "two halves make a whole" — M.EE.3.G.2)*

Third Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with a measurable feature or familiar math tool during a routine. *(e.g., looks back and forth between two objects that have an obvious difference in size — M.EE.3.MD.1)*	Uses a non-standard tool to investigate a measurable feature during a routine. *(e.g., lines up paperclips along the edge of a book to determine length — M.EE.3.MD.4)*	Uses a math tool to measure or describe a measurable feature such as length, weight, or volume. *(e.g., places an item on a scale to describe weight — M.EE.3.MD.2)*	Measures a feature using a standard tool and identifies the quantity. *(e.g., uses a measuring cup to determine how much liquid is in a container — M.EE.3.MD.2)*	Measures length of objects using standard tools such as rulers, yardsticks and meter sticks. *(e.g., measures a book with a yardstick and records the length — M.EE.3.MD.4)*	Selects and uses appropriate tools to measure and compare multiple attributes across contexts. *(e.g., selects appropriate tools to measure both mass and volume for a science experiment — M.EE.3.MD.2)*
Pattern	Reacts to or engages with a repeated feature in a math model. *(e.g., explores the repeated textures in a bar graph — M.EE.3.MD.3)*	Engages with a math model to identify a simple repeating pattern. *(e.g., selects a textured bar to continue a tactile AB pattern in a data display — M.EE.3.MD.3)*	Uses math tools or models to create or extend a pattern that reflects a measurable attribute. *(e.g., arranges containers in order from least to most full to extend a pattern based on volume — M.EE.3.MD.2)*	Identifies and extends patterns in data displays that reflect changes in quantity. *(e.g., continues a pattern in a bar graph showing increasing quantities — M.EE.3.MD.3)*	Uses picture or bar graph data to answer questions about data. *(e.g., answers questions about a bar graph showing a pattern of increasing values — M.EE.3.MD.3)*	Analyzes patterns in data to make predictions or explain relationships between quantities. *(e.g., identifies a pattern in time intervals and predicts the next event — M.EE.3.MD.1)*
Comparison	Reacts to or engages with a noticeable difference in size, length, or quantity. *(e.g., physically stills when looking at two objects when one object is much longer than another — M.EE.3.MD.4)*	Uses a measurement tool to compare a measurable feature between two objects. *(e.g., places a ruler next to two pencils and gestures toward the longer one to compare length — M.EE.3.MD.4)*	Uses a measurement tool to compare and interpret differences in measurable features. *(e.g., measures two time intervals using a digital timer and selects the longer one — M.EE.3.MD.1)*	Compares quantities using standard tools and explains which is greater or smaller. *(e.g., uses a measuring cup to compare two volumes and identifies which holds more — M.EE.3.MD.2)*	Identifies the appropriate measurement tool to solve one-step word problems involving mass and volume. *(e.g., identifies the lighter of two objects using a scale — M.EE.3.MD.2)*	Selects and uses appropriate tools to solve multi-step problems involving comparison of quantities. *(e.g., compares data across categories in a bar graph to determine which has the greatest quantity — M.EE.3.MD.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a noticeable change in time, quantity, or measurable amount. *(e.g., looks toward a digital clock when the hour changes – M.EE.3.MD.1; explores two containers with noticeably different weights to signal awareness of mass – M.EE.3.MD.2)*	Engages with tools or models to recognize changes in measurable attributes. *(e.g., uses a measuring cup to pour water into a container and watches the level rise to recognize change in volume — M.EE.3.MD.2; adds blocks to a tactile bar graph and notices the height increases to recognize change in data — M.EE.3.MD.3)*	Uses a measurement tool or data display to identify or describe changes in measurable attributes. *(e.g., adds cubes to a tactile bar graph and describes how the height changes — M.EE.3.MD.3)*	Uses tools or displays to track and describe changes over time or quantity. *(e.g., uses a digital clock to track how time changes during a routine — M.EE.3.MD.1)*	Uses measurement and data tools to represent and interpret changes in time, quantity, or size. *(e.g., uses a bar graph to represent changes in quantity over time — M.EE.3.MD.3)*	Uses data to analyze trends and explain changes across time or measurable attributes. *(e.g., analyzes a graph to explain how a quantity increased over several days — M.EE.3.MD.3)*
Connection	Reacts to or engages with a measurement tool during a familiar routine. *(e.g., reaches for a tactile clock during morning meeting — M.EE.3.MD.1)*	Uses a familiar math tool to engage with a measurable concept during a routine. *(e.g., selects a digital clock and points to the hour to show what activity comes next during on the daily schedule — M.EE.3.MD.1; selects a measuring cup during a cooking activity to engage with volume — M.EE.3.MD.2)*	Connects familiar routines to measurable concepts such as time or duration. *(e.g., identifies that recess starts at 10:00 and ends at 10:30 to connect a routine to elapsed time — M.EE.3.MD.1)*	Identifies measurement concepts (e.g., time, length) within familiar routines and explains their use. *(e.g., uses a visual schedule to organize activities by duration — M.EE.3.MD.1)*	Tells time to the hour on a digital clock. *(e.g., tells time to the hour on a digital clock — M.EE.3.MD.1)*	Applies measurement concepts to plan or adjust routines based on time, duration, or sequence. *(e.g., adjusts a daily schedule based on time and duration — M.EE.3.MD.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with a math concept to express awareness. *(e.g., vocalizes when liquid is poured into a measuring cup — M.EE.3.MD.1)*	Responds to a measurable concept or data display using words, signs, symbols, or gestures. *(e.g., points to a bar graph to answer questions about which category has more — M.EE.3.MD.3)*	Uses words, signs, or symbols to describe basic measurement features. *(e.g., selects "long" or "short" to describe an object — M.EE.3.MD.4)*	Uses words, signs, or symbols to describe or compare measurable features or data. *(e.g., compares two bars and indicates which is shorter — M.EE.3.MD.3)*	Communicates understanding of measurement or data using appropriate math language or representations. *(e.g., answers questions about time or data using words, signs or symbols— M.EE.3.MD.1, M.EE.3.MD.3)*	Communicates answers to questions about time, measurement tools, or data displays. *(e.g., explains how a graph shows change over time using math language — M.EE.3.MD.3)*

Third Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with equal-group arrangements shown in rectangular arrays or multi-row structures. *(e.g., looks toward a set of red cubes grouped together — M.EE.3.OA.1-2)*	Places objects into equal groups to begin repeated addition. (e.g., drags virtual counters into two equal groups (e.g., 2 and 2) — M.EE.3.OA.1–2).	Sorts items into equal groups and identifies group size for totals ≤20. *(e.g., sorts 6 counters into three groups of 2; selects "2" for each group and points to total "6" — M.EE.3.OA.1–2)*	Builds equal groups or small arrays and represents the total using repeated addition (≤20). *(e.g., builds a 2×3 array with counters and points to each row while selecting "2 + 2 + 2" on a number path to show the total 6 — M.EE.3.OA.1–2)*	Uses models to show repeated-addition totals ≤20 from equal groups/arrays. *(e.g., shows 2+2+2+2=8 with row tiles and selects the total card — M.EE.3.OA.1–2)*	Connects equal groups/arrays to repeated-addition statements across multiple models. *(e.g., points to equal groups and selects the repeated-addition statement (e.g., 3+3+3=9) that matches the total — M.EE.3.OA.1–2)*
Pattern	Reacts to or engages with a sequence of equal groups presented in a predictable order. *(e.g., tracks a row grow by +2 each step — M.EE.3.OA.9)*	Continues a simple add-one pattern using objects (totals ≤5). (e.g., adds one tile to a small set and points to the next numeral card (e.g., 3 → 4) — M.EE.3.OA.9)	Identifies the rule for a repeated-addition pattern (e.g., add 3 each step). *(e.g., indicates "+3 each time" as the rule for a three-counter row pattern — M.EE.3.OA.9)*	Extends additive patterns in arrays and shows the next total using repeated addition. *(e.g., adds another row to an array showing totals 2, 4, 6 and indicates the next total 8 by selecting a numeral on a number path — M.EE.3.OA.9)*	Applies the rule to predict totals ≤20 and selects the matching addition statement. *(e.g., predicts 12 as the next total and selects 3 + 3 + 3 + 3 (≤20) — M.EE.3.OA.9)*	Analyzes a repeated-addition pattern, locates errors and recreates the correct sequence. *(e.g., finds a missed +2 step, rebuilds the correct sequence and selects the corrected totals — M.EE.3.OA.9)*
Comparison	Reacts to or engages with changes in total when groups or rows differ. *(e.g., explores a set when more counters are added— M.EE.3.OA.8)*	Places two small collections of items side by side and indicates which has more or less. (e.g., places 3 counters next to 4 counters and points to the larger set — M.EE.3.OA.1–2)	Counts groups of items to compare totals ≤20. *(e.g., counts two arrays and indicates 'more' and 'less' (6 vs 8) — M.EE.3.OA.1–2)*	Compares totals from arrays using repeated addition (≤20). *(e.g., compares two arrays (2×2 vs 3×2) by pointing to "2 + 2" and "2 + 2 + 2" and marking which is greater — M.EE.3.OA.1–2)*	Solves a comparison of two equal-group/array models and selects which total is greater (≤20). *(e.g., builds 2 + 2 + 2 and 3 + 3 on a ten-frame and identifies which is more — M.EE.3.OA.1-2)*	Generalizes comparisons across models (arrays, groups, tallies, number path) with totals ≤20. *(e.g., uses counters, tally rows and a number path to consistently select the greater total (e.g., 8 > 6) — M.EE.3.OA.1–2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with added/removed items or whole groups in arrays. *(e.g., has a sharp intake of breath when more objects are added, vocalizes when items are removed from a set— M.EE.3.OA.8)*	Adds or removes one item in a set and shows the new total (≤5). (e.g., removes one counter from a set of 4 and points to the numeral 3 — M.EE.3.OA.8)	Constructs arrays and recounts to reflect new total ≤20. *(e.g., recounts after adding a row of 2: 2+2 → 2+2+2 = 6; selects the "6" card — M.EE.3.OA.4)*	Shows new total after adding/removing equal groups using repeated addition (≤20). *(e.g., builds 3 groups of 4 counters (12), adds one more group and points to 16 on a number path — M.EE.3.OA.8)*	Uses repeated-addition models to solve one-step add and subtraction within 20 (result unknown). *(e.g., builds 6+6+6 with counters and selects total "18" for a one-step change — M.EE.3.OA.4)*	Shows how changing groups affects total and represents with a repeated-addition or equation statement ≤20. *(e.g., shows total change with counters/tiles, then selects the matching repeated-addition statement (≤20) — M.EE.3.OA.1–2)*
Connection	Reacts to or engages with familiar routines that involve making equal groups or joining and removing items. *(e.g., explores a simple fair-share routine that creates equal piles using the hand-under-hand technique— M.EE.3.OA.8)*	Selects objects to form equal groups in a classroom routine. *(e.g., places blocks into two equal groups during clean-up and signs blue and yellow to indicate the attribute used for grouping— M.EE.3.OA.1–2)*	Counts all items after equal grouping to find total ≤20. *(e.g., counts all after grouping (three groups of 2 → 6) and selects "6" — M.EE.3.OA.8)*	Represents real-world situations with equal groups and totals using repeated addition. *(e.g., represents a story about two shelves with 4 books each by building two groups and selecting "4 + 4 = 8" — M.EE.3.OA.8)*	Represents and solves one-step add/sub contexts within 20 (result unknown). *(e.g., uses counters to solve a one-step addition and subtraction problem ≤20 and selects the total card — M.EE.3.OA.8)*	Creates and explains multiple representations for equal groups and totals ≤20 (counters, arrays, number path). *(e.g., shows the same total with counters, array rows and number-path positions; selects consistent totals across models — M.EE.3.OA.1–2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with equal groups or number representations that show combining quantities. *(e.g., smiles as favorite items are arranged in groups — M.EE.3.OA.1-2).*	Indicates equal and unequal groups. *(e.g., gestures to a "same" symbol for equal groupings and "not same" or "different" for unequal groupings — M.EE.3.OA.1–2)*	Represents equal groups and totals using numerals and symbols. *(e.g., taps 3 times to show three groups and selects the numeral 9 to represent the total — M.EE.3.OA.1-2)*	Communicates repeated addition and arrays for totals ≤20. *(e.g., selects symbols for "2 + 2 + 2 = 6" on an AAC device after points to three equal groups in an array — M.EE.3.OA.1–2)*	Communicates one-step addition and subtraction solutions within 20. *(e.g., uses words signs or symbols to say, "12 – 5 = 7" for a one-step subtraction within 20 — M.EE.3.OA.4)*	Explains equal-group reasoning using multiple representations and repeated-addition statements ≤20. *(e.g., uses words, signs, or symbols to indicate "three groups of two makes six; I can show 2+2+2 with counters, an array and a number path" — M.EE.3.OA.1–2)*

Fourth Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with small whole-number sets (1–3) and simple numerals during a counting routine. *(e.g., explores set (1–3) using hand-under-hand technique — EE.4.NBT.2)*	Selects or places 1–5 items in a structured arrangement to represent a numeral. *(e.g., after selecting "4" places 4 counters in a ten-frame — M.EE.4.NBT.2)*	Recreates from memory a counting sequence (1-10) using math models. *(e.g., student counts a group of 8 on a number rack, then the model is removed and the student creates a group of 8 on a ten-frame — EE.4.NBT.2)*	Represents numbers up to 30 using place-value models (tens and ones) and positions them relative to decade benchmarks (10, 20, 30). *(e.g., places two ten-rods and six cubes on a mat for 26 and points to the "30" markers to show closeness — EE.4.NBT.2)*	Represents numbers to 30 using tens and ones with structured tools. *(e.g., builds 27 as two tens + seven ones on a place-value mat; points to tens vs ones — EE.4.NBT.2)*	Represents numbers up to 50 across multiple models and uses place-value patterns to compare closeness to decade benchmarks; also identifies fractional parts (½, ¼) as equal partitions of a whole using fraction bars. *(e.g., shows 46 with rods and ones, places it between 40 and 50 on a number line and uses fraction bars to show one-half of a whole rectangle — M.EE.4.NBT.2, M.EE.4.NF.1-2)*
Pattern	Reacts to or engages with ordered numerals on a number path. *(e.g., tracks "1, 2, 3" along a raised number path — EE.4.NBT.3)*	Continues a 1–5 sequence by placing the next numeral or item in a structured arrangement. *(e.g., adds a counter to the next open space in a 5-frame after "3," selects the next numeral on AAC — EE.4.NBT.3)*	Groups numbers near a decade (e.g., 20) and identifies the repeated tens pattern using a math model. *(e.g., sorts cards 18, 19, 21, 22 into "near 20"; points to decade markers on a number line — EE.4.NBT.3)*	Completes or extends sequences 11–20 (fills missing numerals) and begins grouping toward ten. *(e.g., fills blanks 11, __, 13, 14, __ on a path and stacks 10 when passing 10 and 20 — EE.4.NBT.3)*	Rounds 0–30 to the nearest ten using math models. *(e.g., uses a 0–30 number line to indicate the nearest ten for 16 (→20) and 24 (→20) — EE.4.NBT.3)*	Applies rounding and decade patterns across multiple math models. *(e.g., selects rounded values on a number line and ten-frame (e.g., 28 → 30) — EE.4.NBT.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with whole vs half on simple models. *(e.g., shifts gaze between a whole shape and a partitioned shape — EE.4.NF.3)*	Separates a whole group of items into two groups of "some." *(e.g., from a group of 5 items, the student puts "some" (2) in one group and "some" (3) in another group. — EE.4.NF.3)*	Creates groups that show a whole group and a half group. *(e.g., given a set of 8 counters (whole group) the teacher says, "Move some items in this group to make two groups that are the same." The student moves 4 counters into a separate space, leaving 4 behind — EE.4.NF.3)*	Creates two equal groups and shows that each group is one-half of the original quantity. *(e.g., given a set of 10 counters (whole group), the teacher says, "Make two groups that are the same." The student moves 5 counters into a separate space, leaving 5 behind. Then labels the sets as half — EE.4.NF.3)*	Creates equal groups to show one-half and one-fourth of a whole set. *(e.g., given a set of 8 counters (whole group), the teacher says, "Make groups that represent half of this whole group." The student moves 4 counters into a separate space, leaving 4 behind. Then the teacher says, "Now make groups that show one-fourth." The student separates the counters into four groups of 2 — EE.4.NF.1–2)*	Generalizes ½ and ¼ across math models. *(e.g., identifies ½ and ¼ on a part-whole model and a number-line — EE.4.NF.1–2)*
Change	Reacts to or engages with adding or removing items in a structured arrangement. *(e.g., shifts attention when a counter is placed in an empty space on a 5-frame — M.EE.4.NBT.4)*	Adds or removes 1–2 objects in a structured arrangement and indicates a new total. *(e.g., adds two counters to a group of three on a 5-frame and selects "5" on AAC — M.EE.4.NBT.4)*	Uses place-value models (tens and ones) to combine or separate two-digit numbers and recounts to confirm the total; explains whether the result is closer to the next decade. *(e.g., joins 14 and 12 using base-ten sticks and ones, recounts 26 and indicates it is closer to 30 than 20 — EE.4.NBT.4)*	Makes a ten to support addition and subtraction to 20 using math models. *(e.g., shows 9 + 6 by making a ten (10 + 5) on ten-frames — EE.4.NBT.4)*	Adds and subtracts two-digit numbers using models and addition and subtraction strategies. *(e.g., uses make-ten strategy to add 27 + 13 by moving 3 from 13 to 27 (30 + 10 = 40) — EE.4.NBT.4)*	Uses multiple strategies for two-digit addition and subtraction (to 100). *(e.g., solves 58 – 23 using number-line jumps and a part-whole model — EE.4.NBT.4)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with numerals or quantity models during a math activity. *(e.g., moves counters on a five-frame — EE.4.NBT.2)*	Combines or separates objects to show a basic part-whole relationship. *(e.g., pushes two groups together to make a total or splits a paper rectangle into two parts — M.EE.4.NBT.3, M.EE.4.NF.3)*	Connects quantity and grouping by organizing numbers into familiar structures. *(e.g., builds a group of 9 blocks and a group of 7 blocks, places them next to a group of 10 to show which is closer to ten — M.EE.4.NBT.2, M.EE.4.NBT.3)*	Represents part–whole relationships using models for both whole numbers and fractional parts (½, ¼) and positions them relative to the whole. *(e.g., uses fraction bars to show one-half of a whole; or places two ten-rods and leftover ones on a mat to show 24 as part of the 30 benchmark — M.EE.4.NF.1-2, M.EE.4.NBT.2)*	Links rounding and decade thinking across familiar models. *(e.g., after rounding 16→20, indicates 20 on the number line and decade chart — EE.4.NBT.3)*	Explains how comparisons and rounding align across math models. *(e.g., selects rounded values and decade labels (e.g., 28→30) across ten-frames and number lines — EE.4.NBT.3)*
Communication	Reacts to or engages with two sets of objects shown for comparison. *(e.g., explores counters in one of two groups when they are placed side by side using the hand-under-hand technique— EE.4.NBT.2)*	Indicates small totals or whole vs half using math models. *(e.g., points to the larger group to indicate "more" or taps the smaller section of a divided shape to indicate "half"— M.EE.4.NBT.2, M.EE.4.NF.3)*	Communicates quantities to 10; differentiates whole vs half. *(e.g., matches a fraction tile labeled "1/2" to a divided rectangle showing one-half — M.EE.4.NBT.2, M.EE.4.NF.1-2)*	Communicates ten and ones for numbers to 20. *(e.g., points to a completed number bond for 10 as 6 and 4, or points to the fraction circle labeled "½." — M.EE.4.NBT.4, M.EE.4.NF.3)*	Describes rounding to tens and tens and ones to 30. *(e.g., uses words, signs, or symbols to indicate "16 rounds to 20" and "24 rounds to 20" — EE.4.NBT.3)*	Explains place value and fraction concepts across representations. *(e.g., uses words, signs or symbols to indicate "46 is four tens and six ones; this model shows one-half and that one shows one-fourth" while pointing to rods, ten-frame and fraction models — EE.4.NBT.2; EE.4.NF.1–2)*

Fourth Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with shapes or lines using math tools. *(e.g., brushes hand along the straight edge of a rectangle – M.EE.4.G.2)*	Identifies a shape by one feature (sides, angle, or line). *(e.g., selects a triangle for three sides – M.EE.4.G.2)*	Sorts shapes by sides or angle size. *(e.g., groups shapes with right angles – M.EE.4.MD.5, M.EE.4.MD.6)*	Represents shapes to model defining features such as parallel lines and angles. *(e.g., constructs a rectangle with two pairs of parallel lines and right angles – M.EE.4.G.1, M.EE.4.G.2)*	Creates shapes with defining features (parallel lines, symmetry). *(e.g., builds a square with equal sides and folds to show symmetry – M.EE.4.G.1, M.EE.4.G.3)*	Combines attributes to design complex shapes. *(e.g., draws a figure with parallel lines, equal angles and calculates area – M.EE.4.G.1, M.EE.4.MD.3)*
Pattern	Reacts to or engages with repeated arrangements of shapes. *(e.g., glances back and forth between two shapes placed in a row – M.EE.4.G.2)*	Selects a shape that continues a pattern using math tools. *(e.g., chooses the next shape in a triangle-square pattern using raised shapes — M.EE.4.G.3)*	Organizes shapes into a sequence showing changes in angle size or other attributes. *(e.g., arranges shapes so angles increase in size – M.EE.4.MD.6)*	Models a symmetrical pattern using math tools. *(e.g., folds a rectangle and places matching shapes on each side – M.EE.4.G.3)*	Creates patterns using symmetry and parallel lines. *(e.g., designs a border with alternating shapes that share parallel sides – M.EE.4.G.1, M.EE.4.G.3)*	Builds and continues a shape pattern using math tools. *(e.g., continues an ABBA pattern using foam shapes — M.EE.4.G.3)*
Comparison	Reacts to or engages with shapes showing different angles. *(e.g., moves fingers back and forth along the inside of a square — M.EE.4.MD.6)*	Indicates which shape has a larger angle or more sides. *(e.g., points to shape with biggest angle – M.EE.4.MD.6)*	Sorts shapes by angle size or line type. *(e.g., groups shapes with parallel lines together – M.EE.4.G.1)*	Represents comparisons among shapes based on multiple attributes such as angles, parallel lines and symmetry. *(e.g., places a rectangle next to a trapezoid to show that the trapezoid has one pair of parallel lines but different angle sizes – M.EE.4.G.1, M.EE.4.MD.6).*	Analyzes and demonstrates comparisons of shapes using symmetry and area. *(e.g., folds two shapes to check symmetry or places unit squares on each shape to compare area – M.EE.4.G.3, M.EE.4.MD.3).*	Uses comparisons of shape features (angles, lines, symmetry, area) to make decisions or solve problems. *(e.g., chooses a shape for a design because it has symmetry and the largest angle – M.EE.4.G.3, M.EE.4.MD.6).*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a shape when it is rotated or folded. *(e.g., tracks movement as a square is folded to show a crease – M.EE.4.G.3)*	Indicates when a shape changes position or size. *(e.g., points when a rectangle is flipped – M.EE.4.G.2)*	Rearranges shapes to show orientation or grouping changes. *(e.g., rotates rectangles to align parallel sides – M.EE.4.G.1)*	Models changes to create symmetry or equal areas. *(e.g., folds a shape to show symmetry and counts squares – M.EE.4.G.3, M.EE.4.MD.3)*	Creates changes to maintain patterns with angles and lines. *(e.g., rotates shapes to keep parallel lines aligned – M.EE.4.G.1)*	Redesigns arrangements to combine symmetry, angles and area. *(e.g., reorganizes tiles so each section has equal area and symmetry – M.EE.4.G.3, M.EE.4.MD.3)*
Connection	Reacts to or engages with tools or objects during area or symmetry tasks. *(e.g., touches unit squares on a grid while exploring a rectangle – M.EE.4.MD.3)*	Recognizes a shape in a familiar object. *(e.g., matches a square to a picture frame – M.EE.4.G.2)*	Relates shapes to real-world examples based on attributes. *(e.g., identifies a rectangle as similar to a door – M.EE.4.G.2)*	Demonstrates area using real-world objects. *e.g., counts unit squares to find area of a rectangular mat – M.EE.4.MD.3)*	Connects geometric features (parallel lines, symmetry, area) to real-world objects or structures. *(e.g., positions two pencils side by side to represent parallel lines – M.EE.4.G.1)*	Integrates geometric concepts to design or evaluate real-world layouts. *(e.g., arranges tiles so each section has equal area and symmetry for a floor design – M.EE.4.G.3, M.EE.4.MD.3)*
Communication	Reacts to or engages with shape names or features. *(e.g., vocalizes when hearing "triangle" in the context of working with shapes– M.EE.4.G.2)*	Labels shapes. *(e.g., selects square on AAC device after sorting squares from a mixed group of shapes– M.EE.4.G.2)*	Describes one feature using words, signs, or symbols. *(e.g., says "big angle" when comparing shapes – M.EE.4.MD.6)*	Describes multiple features (angles, sides, parallel lines). *(e.g., indicates "rectangle has two parallel lines" – M.EE.4.G.1)*	Explains relationships among features or patterns. *e.g., indicates "these match, both sides are the same" [symmetry]– M.EE.4.G.3, M.EE.4.MD.3)*	Describes how shapes were arranged using concepts such as parallel lines, intersecting lines, symmetry, or partitioning into equal areas. *(e.g., uses AAC to say "I made lines go the same way and corners the same" – M.EE.4.G.1, M.EE.4.MD.3)*

Fourth Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with a math tool used to explore length, time, or volume. *(e.g., looks toward a ruler or clock when presented during a routine — M.EE.4.MD.1)*	Uses a math tool in a simple, intentional way to explore a measurable feature. *(e.g., places a measuring cup under a water source to begin filling it — M.EE.4.MD.2.b)*	Uses a math tool to measure a feature in a familiar context. *(e.g., uses a ruler to measure the length of a pencil — M.EE.4.MD.2.c)*	Uses a math tool to measure and identify smaller units within a system. *(e.g., measures a book and identifies inches within a foot — M.EE.4.MD.1)*	Measures and compares attributes using standard tools and identifies smaller units. *(e.g., measures a book in inches and explains that 12 inches equal 1 foot — M.EE.4.MD.1)*	Selects and uses appropriate tools to measure multiple attributes and convert between units. *(e.g., measures length in inches and converts to feet — M.EE.4.MD.1)*
Pattern	Reacts to or engages with a repeated feature in a math model that represents quantity. *(e.g., explores repeated raised lines in a tactile bar graph — M.EE.4.MD.4.a)*	Places or selects objects to continue a simple AB pattern using measurable attributes. *(e.g., places measuring cups in a pattern by size— small to large — M.EE.4.MD.2.b)*	Uses a math model to create or extend a pattern tied to measurable attributes. *(e.g., arranges bars in order from shortest to tallest to extend a pattern — M.EE.4.MD.1)*	Identifies and describes patterns in data displays that reflect changes in quantity. *(e.g., identifies a growing pattern in a bar graph showing increasing quantities — M.EE.4.MD.4.b)*	Represents and interprets patterns in data using bar or picture graphs. *(e.g., completes a bar graph showing class survey results and identifies the tallest bar — M.EE.4.MD.4.a)*	Analyzes patterns in data to predict trends or explain relationships. *(e.g., predicts the next value in a data set based on a pattern of increasing bar heights — M.EE.4.MD.4.a)*
Comparison	Reacts to or engages with two objects when they show an obvious difference in size, length, or weight. *(e.g., pauses when two containers show an obvious difference in size — M.EE.4.MD.2.b)*	Places two objects side by side or uses a tool to show which is heavier/ lighter or shorter/longer. *(e.g., places both objects on a balance scale and points to the heavier one — M.EE.4.MD.2.b)*	Uses a math tool to compare and interpret differences in measurable features. *(e.g., uses a balance scale to compare two objects and states or indicates "heavier" or "lighter" to show understanding — M.EE.4.MD.2.b)*	Measures two objects and explains which is longer or heavier using standard units. *(e.g., measures two objects and explains which is longer using inches — M.EE.4.MD.2.c)*	Compares measurements and interprets differences using standard units. *(e.g., measures two objects and explains which is longer using inches — M.EE.4.MD.2.c)*	Solves multi-step problems involving comparisons across different measurement systems. *(e.g., compares two objects by length and weight using standard tools — M.EE.4.MD.2.c)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a measurable attribute when it changes in a visible or tactile way. *(e.g., looks toward a clock when the display changes — M.EE.4.MD.2.a)*	Adds or removes items to see a change in size or quantity. *(e.g., pours water into a container and notices the level rise — M.EE.4.MD.2.b)*	Uses a math tool or data display to describe changes in measurable attributes. *(e.g., adds cubes to a tactile bar graph and describes how the height changes — M.EE.4.MD.4.a)*	Tracks and describes changes over time or quantity using standard tools. *(e.g., tracks how much time passes during an activity using a digital clock — M.EE.4.MD.2.a)*	Represents and interprets changes in time, quantity, or size using graphs or measurement tools. *(e.g., uses a bar graph to show how a category increased after a second survey — M.EE.4.MD.4.b)*	Analyzes and explains trends or causes of changes using data representations. *(e.g., explains why a category increased over time using multiple bar graphs — M.EE.4.MD.4.b)*
Connection	Reacts to or engages with a math tool used in a familiar routine that involves time or measurement. *(e.g., reaches for a clock during a scheduled activity — M.EE.4.MD.2.a)*	Uses a math tool during a routine to engage with a measurable concept. *(e.g., points to a clock during a routine to show what happens next — M.EE.4.MD.2.a)*	Connects familiar routines to measurable concepts such as time or duration. *(e.g., identifies that recess starts at 10:00 and ends at 10:30 — M.EE.4.MD.2.a)*	Organizes events by elapsed time using a math model. *(e.g., uses a bar graph to organize activities by duration, placing longer activities in taller bars — M.EE.4.MD.4.a)*	Tells time using digital and analog clocks and connects to duration. *(e.g., reads an analog clock and tells time to the nearest hour — M.EE.4.MD.2.a)*	Applies measurement concepts to plan or adjust routines based on time and duration. *(e.g., calculates how much time remains for an activity using a digital clock — M.EE.4.MD.2.a)*
Communication	Reacts to or engages with a measurement or data display when it is presented. *(e.g., vocalizes when shown a measuring cup — M.EE.4.MD.2.b)*	Indicates a measurable attribute or data feature using a simple gesture or choice. *(e.g., points to a bar graph to answer which category has more — M.EE.4.MD.4.b)*	Uses words, signs, or symbols to describe measurable features or identify coins and values. *(e.g., selects a dime when asked to show 10 cents — M.EE.4.MD.2.d)*	Describes measurements or data comparisons using math language for a single attribute. *(e.g., uses words, signs, or symbols to indicate "This container holds more" after measuring volume with a standard tool — M.EE.4.MD.2.b)*	Communicates answers to questions about time, measurement tools, or data displays. *(e.g., identifies a quarter and states its value as 25 cents — M.EE.4.MD.2.d)*	Explains reasoning and interprets data trends using math language and representations. *(e.g., explains that a dime equals 10 cents and compares its value to a nickel — M.EE.4.MD.2.d)*

Fourth Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with objects arranged in same-size groups or in rows and columns. *(e.g., moves hand along two rows of blocks on a mat — M.EE.4.OA.1–2, 4.)*	Places objects into equal groups to begin repeated addition. *(e.g., places counters into two equal groups and selects corresponding numerals — EE.4.OA.1–2)*	Sorts items into equal groups and identifies group size for totals ≤50. *(e.g., sorts 6 counters into three groups of 2; selects "2" for each group and total "6" — EE.4.OA.1–2)*	Builds equal groups or arrays and begins to connect repeated addition to multiplication by showing factors or grouping structure (≤50). *(e.g., arranges 3 rows of 4 counters, places a "3 × 4" card and points to the product 12 on a number line — M.EE.4.OA.1–2)*	Shows one way to arrive at a product using equal groups or an array. *(e.g., builds a 6×4 array (6 rows of 4) with counters and indicates "24" — M.EE.4.OA.4).*	Represents the same product in two or more math models and explains the repeated-addition connection. *(e.g., shows 6×4 as a 6-by-4 array and as 6 groups of 4; indicates "4+4+4+4+4+4 = 24" — M.EE.4.OA.1–2, .4)*
Pattern	Reacts to or engages with a repeating pattern made with objects or groups of objects. *(e.g., pauses briefly when exploring an AB pattern of textured tiles (bumpy, smooth) when the texture repeats— M.EE.4.OA.5).*	Continues a simple add-one pattern and begins to notice items arranged in rows (totals ≤10). *(e.g., adds one tile to each row in a 2-row arrangement and points to the next numeral card — M.EE.4.OA.5)*	Identifies the rule for a repeated-addition pattern and predicts the next step. *(e.g., chooses "+4 each time" and predicts next total in the sequence — M.EE.4.OA.5)*	Predicts next total in a repeated grouping pattern and begins to represent it with multiplication. *(e.g., predicts the next total in a +3 pattern (9, 12, 15) and matches it to "6 × 3" using factor cards — M.EE.4.OA.5)*	Uses repeating patterns to predict totals ≤20. *(e.g., predicts 12 as the next total and selects 3+3+3+3 — EE.4.OA.5)*	Analyzes a pattern, locates errors and recreates the correct sequence. *(e.g., finds a missed +2 step, rebuilds the correct sequence and selects corrected totals — EE.4.OA.5)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with noticeable differences in amount between two arrangements of objects. *(e.g., shifts gaze between two trays of counters (one tray with a few counters, one tray with many counters) — EE.4.OA.1–2, EE.4.OA.3)*	Places two small arrangements (e.g., items in a line or loosely in rows) side by side and indicates which has more or fewer. *(e.g., places lines of counters next to 3 lines and points to the larger arrangement — EE.4.OA.1–2)*	Compares totals of two equal-group arrangements up to 50. *(e.g., counts two arrays and indicates which is more and less (24 vs 36) — EE.4.OA.1–2)*	Compares totals from arrays and begins to show equality using multiplication. *(e.g., shows that 2 × 6 and 3 × 4 both equal 12 by pairing arrays with multiplication cards — M.EE.4.OA.1–2)*	Justifies which arrangement has the greater total (≤20) using repeated-addition reasoning. *(e.g., compares 3 groups of 5 (15) vs 4 groups of 5 (20) using arrays and explains "one more group of 5 makes it greater" — M.EE.4.OA.1–2)*	Explains or shows how to compare totals across different equal-group math models. *(e.g., on a number line, shows 8 is greater than 6 and indicates "four groups of two make eight and three groups of two make six" while pointing to arrays — EE.4.OA.1–2)*
Change	Reacts to or engages with a one-step change (adding or removing items or a group) in an arrangement of objects. *(e.g., breathing pattern changes when a group is added or removed — M.EE.4.OA.1-2)*	Adds or removes one row from a set and shows the new total (≤10). *(e.g., adds one row of 3 counters to the arrangement and indicates the numeral 6 — M.EE.4.OA.3).*	Rearranges or adds rows to an existing array and recounts to confirm the new total up to 50. *(e.g., recounts after adding a row of 4: 4+4 → 4+4+4 = 12; selects "12" — M.EE.4.OA.3)*	Shows new total after adding/removing equal groups and begins to represent change with multiplication (≤50). *(e.g., models 5 groups of 6 counters (30), adds another group and places "6 × 6" to show the new total — M.EE.4.OA.3; EE.4.OA.3)*	Solves one-step addition and subtraction problems within 100 using models and equations. *(e.g., subtracts 18 from 42 using base ten blocks by removing 1 ten and 8 ones — M.EE.4.OA.3)*	Represents an additive change (≤100) in two or more models and identifies the solution. *(e.g., shows 45 + 30 on a number path and with base-ten blocks (4 tens + 5 ones; add 3 tens), then indicates 75 — M.EE.4.OA.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with classroom routines that repeatedly create equal groups or arrays using objects. *(e.g., explores as blocks are placed into compartments of a two-row tray and pauses when a row is complete — M.EE.4.OA.1–2, M.EE.4.OA.5)*	Places objects to form equal groups. *(e.g., drags virtual items into two equal groups and indicates the groups — EE.4.OA.1–2)*	Predicts or selects the next total in the repeated addition pattern without recounting. *(e.g., after seeing 10 + 10 + 10, chooses "40" as the next total — M.EE.4.OA.5)*	Represents real-world situations with equal groups and begins to show multiplication structure. *(e.g., represents a story about 4 stacks of 7 papers by building groups and placing "7 × 4" with the product 28 — M.EE.4.OA.3)*	Demonstrates repeated addition that corresponds to a product (equal groups). *(e.g., shows 2+2+2 with counters and selects the total 6 and indicates "3 groups of 2" — EE.4.OA.1–2; EE.4.OA.4)*	Connects equal groups and arrays to both repeated-addition and multiplication statements. *(e.g., uses a number line to show 4 × 5 = 20 when arranging 4 rows of 5 chairs for seating and when packing 4 boxes with 5 items each — M.EE.4.OA.4)*
Communication	Reacts to or engages with two sets of objects shown for comparison. *(e.g., looks toward blocks grouped together and later shows a brief pause or change in movement when the same blocks are rearranged into a row — M.EE.4.OA.1–2, M.EE.4.OA.5)*	Indicates equal and unequal groups and indicates total for each group. *(e.g., points to a "same" icon for equal groups and selects the numeral 2 — EE.4.OA.1–2)*	Represents the repeated addition pattern using numerals and symbols. *(e.g., selects symbols for "4 + 4 + 4 = 12" and points to three equal groups — M.EE.4.OA.4)*	Describes arrays and begins to express multiplication. *(e.g., uses words, signs, or symbols to indicate "three groups of two" → 3×2 — EE.4.OA.1–2)*	Communicates one-step addition and subtraction solutions within 100. *(e.g., uses words, signs, or symbols to indicate "38 − 12 = 26" for a one-step subtraction problem — EE.4.OA.3)*	Explains how equal groups connect to repeated addition and a product statement. *(e.g., uses words, signs, or symbols to say "four groups of two is eight; 2+2+2+2 = 8" then points to an array — EE.4.OA.1–2; EE.4.OA.4)*

Fifth Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with parts or wholes of objects or sets during routines with math tools. *(e.g., explores through the hand-under-hand technique a whole group of 3 after a group of 1 and 2 are joined— M.EE.5.NF.1)*	Combines two sets (parts) to make a whole using models. *(e.g., joins two groups of 5 counters to fill one whole ten-frame — M.EE.5.NF.1)*	Represents numbers 1–10 using ones and tens with math tools. *(e.g., builds 7 using seven linking cubes and places a "0 tens" card next to the model — M.EE.5.NBT.1)*	Represents tens and ones using base-ten models to show place value. *(e.g., groups 10 ones into 1 ten using base-ten blocks — M.EE.5.NBT.1)*	Identifies and represents fractional parts and whole numbers using models that show quantity and structure. *(e.g., uses fraction strips to show 1/4, 2/4, 3/4 and 4/4 as parts of a whole — M.EE.5.NF.1)*	Represents and combines fractional parts and whole numbers using multiple models to show equivalence or extended relationships. *(e.g., builds 1/2 with fraction strips and then uses a circle model to show it equals 2/4 — M.EE.5.NF.2)*
Pattern	Reacts to or engages with repeated actions or sequences during counting routines. *(e.g., looks toward beads as they are moved one at a time on a number rack — M.EE.5.NBT.5)*	Recreates from memory the counting sequence from 1 to 10 using math models or tools. *(e.g., moves beads one at a time from 1 to 10 on a number rack — M.EE.5.NBT.1)*	Uses repeated grouping/skip-counting with models to show addition and subtraction patterns. *(e.g., moves beads on a number rack in sequence from 1 to 10 — M.EE.5.NBT.5)*	Uses repeated structures with models to show multiplication and division patterns. *(e.g., places counters in equal rows of 2 to model skip-counting by 2s — M.EE.5.NBT.5)*	Recognizes and uses repeated structures in multiplication and division (partitioning) to solve problems. *(e.g., arranges counters into equal rows to model 4 × 5 and shows the total by counting all counters or groups — M.EE.5.NBT.5)*	Uses repeated structures across operations or models to show multiplication/division relationships. *(e.g., creates a 4 × 5 array with counters and then partitions the total into 4 equal groups using a tactile divider — M.EE.5.NBT.5, M.EE.5.NBT.6-7)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with differences in size or quantity when shown two groups. *(e.g., turns toward the larger pile of cubes — M.EE.5.NBT.3)*	Selects the group with more or less items using models. *(e.g., chooses the pile with more counters when shown two groups — M.EE.5.NBT.1)*	Compares two quantities using models to show which is greater. *(e.g., builds 14 and 25 with linking cubes and places them side by side— M.EE.5.NBT.1)*	Uses comparison symbols and models to show which number is greater or less. *(e.g., places "<" between 45 and 67 using tactile symbols and number cards — M.EE.5.NBT.3)*	Compares numbers and fractions using place value and models to show relative size and relationships. *(e.g., shows 1,000 is ten times greater than 100 using base ten blocks and compares 3/4 to 2/4 using fraction bars — M.EE.5.NBT.2, M.EE.5.NF.1)*	Orders and compares numbers or fractions using models and symbols to show relative size. *(e.g., arranges 45, 67 and 89 on a virtual hundred chart and places "<" and ">" symbols between them — M.EE.5.NBT.3)*
Change	Reacts to or engages with changes in the form or arrangement of objects or shapes. *(e.g., vocalizes when a square is cut into two parts— M.EE.5.NF.1)*	Alters the arrangement of a shape or set to show parts. *(e.g., folds a square to show two equal parts— M.EE.5.NF.1)*	Partitions shapes or sets into equal parts using models. *(e.g., divides a rectangle into two equal halves using a tactile divider — M.EE.5.NF.1)*	Applies grouping or rounding with models to show how numbers change. *(e.g., shares 12 counters into 3 equal piles (M.EE.5.NBT.6-7); rounds 48 to 50 using a number line — M.EE.5.NBT.4)*	Applies rounding, multiplication, or division using models to show how numbers change and how quantity is maintained. *(e.g., rounds 68 to 70 on a number line and shows why 70 is closer than 60; groups 15 counters into 3 equal sets to show division without changing the total — M.EE.5.NBT.4, M.EE.5.NBT.6)*	Applies operations or rounding across multiple representations to show how numbers change and maintain relationships. *(e.g., rounds 68 to 70 on a number line and also shows the same rounding on a hundred chart — M.EE.5.NBT.6-7)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with familiar number representations after they are shown. *(e.g., places a counter anywhere on a ten-frame during a counting routine— M.EE.5.NBT.1)*	Recreates from memory a familiar representation after seeing a model. *(e.g., builds a group of 3 using linking cubes after a model is shown and then removed— M.EE.5.NBT.2)*	Creates equivalent representations of a fraction using different models. *(e.g., builds 1/2 with pattern blocks and shows the same fraction on a ten-frame — M.EE.5.NF.2)*	Links models to show relationships among tens, hundreds and whole numbers. *(e.g., uses base-ten blocks to show that 10 tens make 100 — M.EE.5.NBT.2)*	Connects different representations and operations to show relationships among fractions, whole numbers and place value. *(e.g., uses a number line and a hundred chart to round 62 to 60, explaining how both models show proximity; links fraction strips to a circle model to show halves and fourths — M.EE.5.NBT.4, M.EE.5.NF.1)*	Links two or more models or operations to show extended relationships among fractions and place value concepts. *(e.g., uses fraction strips and a circle model to show that halves equal fourths, then connects this to a number line to show that 1/2 and 2/4 occupy the same point — M.EE.5.NF.1, M.EE.5.NBT.2)*
Communication	Reacts to or engages with math tools during shared routines about quantity or part-whole relationships. *(e.g., touches the screen when a virtual ten-frame appears, causing a counter to move into the frame — M.EE.5.NBT.1)*	Uses models to show a fractional part during a routine. *(e.g., places two pattern blocks together to represent 1/2 of a circle — M.EE.5.NF.1)*	Shows fractional parts or groups using models and symbols together. *(e.g., builds 3 groups of 1/3 using tiles and writes with an alternate pencil "1/3" next to each group— M.EE.5.NF.2)*	Shows understanding by arranging models and symbols to represent fractional parts or place value. *(e.g., builds 3/4 using pattern blocks and writes "3/4" next to the mode— M.EE.5.NF.2)*	Shows mathematical reasoning by organizing models, selecting symbols and arranging representations to make relationships clear. *(e.g., uses a number line to remove equal groups of 5 until reaching zero to model division; places base-ten blocks and writes 10 × 10 = 100 to represent that 10 tens make 100 — M.EE.5.NBT.6-7, M.EE.5.NBT.2)*	Explains mathematical reasoning using models, symbols and words to justify fraction equivalence or place value relationships. *(e.g., indicates that 1/3 is greater than 1/10 while pointing to area models and writing "1/3 > 1/10"; explains that 10 tens equal 100 while arranging base-ten blocks and writing 10 × 10 = 100 — M.EE.5.NF.2, M.EE.5.NBT.2)*

Fifth Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with the physical features of objects using math tools. *(e.g., brief eye movement toward a cube placed on the table — M.EE.5.G.3)*	Indicates a shape with a specific feature using math tools. *(e.g., points to a cube with 6 faces — M.EE.5.G.3)*	Organizes shapes based on a shared attribute using math tools. *(e.g., places cubes in one row and cylinders in another after noticing number of faces — M.EE.5.G.1-4)*	Represents relationships among attributes by constructing or modeling with shapes. *(e.g., builds a display showing cubes grouped by flat faces and cylinders grouped by curved surfaces — M.EE.5.G.1-4)*	Creates a classification chart or system for shapes using multiple attributes. *(e.g., lists cubes, spheres and cones by faces and edges and adds a column for 2D shapes like triangles and rectangles showing number of corners — M.EE.5.G.1-4)*	Applies knowledge of multiple attributes to select and use shapes in a design or problem-solving task. *(e.g., chooses cubes for stability and cones for decoration when designing a structure — M.EE.5.G.1-4; identifies shapes needed for the design — M.EE.5.G.3)*
Pattern	Reacts to or engages with repeated shapes using math tools. *(e.g., vocalizes when two identical shapes are placed together — M.EE.5.G.1-4)*	Identifies a repeated feature in shapes. *(e.g., points to shapes that have the same number of faces, such as two prisms with 6 faces — M.EE.5.G.3)*	Pairs shapes that share a repeated feature. *(e.g., matches cones that have circular bases — M.EE.5.G.1-4)*	Models a growing pattern using shapes. *(e.g., builds a staircase with increasing cube levels — M.EE.5.MD.3)*	Designs a repeated arrangement of shapes based on one attribute. *(e.g., creates an alternating pattern of cylinders and cubes to show flat and curved surfaces — M.EE.5.G.1-4)*	Integrates multiple regularities (e.g., shape type and size) to create a complex arrangement. *(e.g., designs a structure with alternating cubes and spheres while increasing size in each row to show two patterns — M.EE.5.G.1-4)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with size differences among shapes. *(e.g., body stiffening when a larger prism is placed next to a small prism — M.EE.5.G.1-4)*	Indicates which shape is larger or has more faces. *(e.g., points to the larger prism — M.EE.5.G.1-4)*	Sequences shapes from smallest to largest. *(e.g., arranges spheres from smallest to largest — M.EE.5.G.1-4)*	Demonstrates understanding of differences in size or attributes by arranging or modeling shapes. *(e.g., fills two prisms with cubes and identifies which holds more — M.EE.5.MD.4-5)*	Uses math tools to compare volume. *(e.g., fills two rectangular prisms with cubes and explains which holds more — M.EE.5.MD.4-5)*	Compares attributes and volume across multiple shapes. *(e.g., ranks cubes, cylinders and prisms by volume and number of faces — M.EE.5.MD.4-5)*
Change	Reacts to or engages with added or removed shapes. *(e.g., startle response when a cube is added to a container — M.EE.5.MD.4-5)*	Indicates changes when shapes are added or removed. *(e.g., gestures when a circle is taken away — M.EE.5.G.3)*	Sequences shapes from smallest to largest or compares capacity. *(e.g., arranges boxes by estimated capacity using cube models — M.EE.5.MD.4-5)*	Builds a new arrangement to show understanding of a changed attribute (e.g., surface type, number of vertices) or volume. *(e.g., adds or removes unit cubes to match a target volume — M.EE.5.MD.4-5)*	Reconstructs a display based on new criteria. *(e.g., creates a new grouping for cubes, spheres and cones by number of vertices — M.EE.5.G.1-4)*	Integrates changes to redesign or reorganize shapes. *(e.g., builds a tower using cubes for stability and cylinders for height, then explains that cubes make the base strong and cylinders make it taller — M.EE.5.G.1-4)*
Connection	Reacts to or engages with familiar shapes in the environment. *(e.g., facial grimace when touching a textured cube — M.EE.5.G.3)*	Locates shapes in real-world contexts. *(e.g., points to a can as a cylinder — M.EE.5.MD.3)*	Arranges real-world objects by shape. *(e.g., places cans (cylinders) together and boxes (rectangular prisms) together — M.EE.5.G.3)*	Applies understanding of shape attributes to organize objects in a familiar context. *(e.g., arranges cubes and cylinders to fit inside a classroom bin without gaps or overlaps — M.EE.5.G.1-4)*	Uses math tools to solve a real-world spatial problem by determining or comparing volume. *(e.g., fills two boxes with unit cubes to see which holds more and chooses the larger box for storage — M.EE.5.MD.4-5; identifies cones and spheres before packing — M.EE.5.G.3)*	Integrates shape and volume concepts to design a solution for a real-world spatial problem. *(e.g., designs a storage plan using cubes, cylinders and cones to maximize space — M.EE.5.MD.4-5; identifies shapes needed for the design — M.EE.5.G.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with communication system when working with shapes. *(e.g., hand flailing when shown a triangle — M.EE.5.G.1-4)*	Indicates a shape when named. *(e.g., points to a cube — M.EE.5.G.3)*	Responds to descriptive language by grouping or positioning shapes. *(e.g., moves cones into a group when told "find ones with pointed ends" — M.EE.5.G.1-4)*	Describes shapes by connecting teacher's math vocabulary to core words for attribute. *(e.g., teacher says "vertex," student uses words, signs, or symbols to indicate "point" when describing a cone — M.EE.5.G.1-4)*	Describes area or volume using math words, signs, or symbols after organizing units. *(e.g., uses words like "same," "different," "flat," "round" to compare a cube and a cylinder — M.EE.5.G.1-4)*	Explains math ideas like volume or attributes and gives reasons for choices or comparisons. *(e.g., uses words, signs, or symbols like "big," "holds more" to justify why one shape has greater volume — M.EE.5.MD.4-5)*

Fifth Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with a math tool or object associated with measuring length, weight, or time. *(e.g., looks toward a ruler or clock when presented — M.EE.5.MD.1.a)*	Uses a math tool in a simple, purposeful way to measure or indicate length, weight, or time. *(e.g., places a ruler on an object and looks at the numbers to begin identifying length — M.EE.5.MD.1.b)*	Chooses and uses a math tool to measure a feature in a familiar context. *(e.g., uses a ruler to measure a pencil in inches — M.EE.5.MD.1.b)*	Uses a math tool or representation to determine and explain relative value or measurable differences. *(e.g., measures a desk twice with a ruler and writes down both measurements to confirm they match — M.EE.5.MD.1.b)*	Measures and records length or weight using standard units. *(e.g., measures a book as 24 inches long, writes it down and converts it to 2 feet — M.EE.5.MD.1.b)*	Uses math tools to compare and convert between measurement units. *(e.g., measures a desk in inches, converts the result to feet and explains the conversion — M.EE.5.MD.1.b)*
Pattern	Reacts to or engages with repeated marks or features in a math model that represent quantity. *(e.g., touches repeated marks on a tactile bar graph — M.EE.5.MD.2)*	Places or arranges items to reproduce a simple pattern using measurable features. *(e.g., arranges two sizes of blocks in an AB pattern — M.EE.5.MD.1.b)*	Groups or orders data features to prepare for a visual representation. *(e.g., groups coins by size to prepare for a graph — M.EE.5.MD.1.c)*	Creates and interprets a simple bar graph or line plot to show a pattern in data. *(e.g., places picture cards on a tactile bar graph to complete the graph and points to the tallest bar — M.EE.5.MD.2)*	Represents and interprets patterns in data using bar graphs or line plots. *(e.g., completes a bar graph showing favorite fruits and states "Apples have the tallest bar" — M.EE.5.MD.2)*	Analyzes patterns in data to predict trends or explain relationships across multiple data sets. *(e.g., examines two-line plots showing rainfall and predicts that next month will have more rain based on the upward trend — M.EE.5.MD.2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with two objects that show an obvious difference in size, weight, or value. *(e.g., pauses when two containers show an obvious difference in size — M.EE.5.MD.1.b)*	Places two objects side by side or uses a math tool to show which is heavier/lighter or shorter/longer. *(e.g., places two objects on a balance scale and points to the heavier one — M.EE.5.MD.1.b)*	Uses a math tool to compare and interpret differences in measurable features. *(e.g., uses a balance scale to compare two objects and indicates heavier/lighter — M.EE.5.MD.1.b)*	Measures two objects and organizes them by length or weight using standard units. *(e.g., measures two books with a ruler and moves the longer book to the "longer" side of a mat or places both in order from shortest to longest — M.EE.5.MD.1.b)*	Compares measurements and interprets differences using standard units and relative coin values. *(e.g., compares two-coin collections and explains "This group has $1.25, which is more than the other group with $1.00" — M.EE.5.MD.1.c)*	Solves multi-step problems involving comparisons across different measurement systems and coin collections. *(e.g., calculates the total value of two-coin collections and compares their weight using a scale — M.EE.5.MD.1.b, M.EE.5.MD.1.c)*
Change	Reacts to or engages with data that is added or removed, or when a measurable attribute changes. *(e.g., vocalizes when a new picture is added, or pauses when the water level in a container rises — M.EE.5.MD.2)*	Uses a math tool or display to show that something has changed in size, weight, or time. *(e.g., moves a cube to show that something was added — M.EE.5.MD.2)*	Uses a math tool or data display to describe changes in measurable attributes. *(e.g., adds blocks to a tactile bar graph and notices the height increases — M.EE.5.MD.2)*	Represents changes in data on a bar graph or line plot and explains what changed. *(e.g., adds three cubes to the soccer bar on a tactile graph after new votes and touches the taller bar to show the change — M.EE.5.MD.2)*	Interprets changes in data using graphs and explains trends over time. *(e.g., looks at two bar graphs and says "Soccer increased by 5 students from last week to this week" — M.EE.5.MD.2)*	Analyzes and explains causes of changes using multiple data representations and measurement tools. *(e.g., compares two bar graphs of class survey results and explains that more students chose soccer after a new sports program was introduced — M.EE.5.MD.2)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to or engages with a math tool used in a familiar routine that involves data collection. *(e.g., turns head toward the picture graph shows classmates' pets — M.EE.5.MD.2)*	Uses a math tool during a routine to indicate time or measurement. *(e.g., points to a clock when asked what happens next — M.EE.5.MD.1.a)*	Connects familiar routines to measurable concepts such as time or duration. *(e.g., identifies that recess starts at 10:00 and ends at 10:30 — M.EE.5.MD.1.a)*	Tells time to the half or quarter hour using an analog or digital clock. *(e.g., moves the clock hands to 3:30 when asked to show half past 3 — M.EE.5.MD.1.a)*	Applies time concepts to organize events and calculate elapsed time. *(e.g., calculates that 45 minutes passed between 9:15 and 10:00 and explains "That's less than an hour" — M.EE.5.MD.1.a)*	Plans or adjusts routines based on time and duration using multiple tools. *(e.g., uses a digital clock and a schedule to calculate that there are 15 minutes left for reading and adjusts the plan to finish a shorter book — M.EE.5.MD.1.a)*
Communication	Reacts to or engages with a math concept when a measurement or data display is presented. *(e.g., explores the coins by touching or moving them when presented — M.EE.5.MD.1.c)*	Uses words, signs, symbols, or gestures to name or indicate a measurable feature or a familiar coin. *(e.g., identifies a coin when shown (e.g., "nickel") — M.EE.5.MD.1.c)*	Uses words, signs, or symbols to describe measurable features or identify coins and values. *(e.g., selects a dime when asked to show 10 cents — M.EE.5.MD.1.c)*	Describes measurements or data comparisons using math language for multiple attributes or combined values. *(e.g., sorts two coin collections into "greater" and "less" piles based on total value, or uses symbols to show which collection is worth more — M.EE.5.MD.1.c)*	Communicates answers to questions about time, measurement tools, or data displays. *(e.g., signs "The bar graph shows that 8 students chose soccer" when asked which category has the most — M.EE.5.MD.2)*	Explains reasoning and interprets data trends using math language and representations. *(e.g., uses AAC to say, "The bar for soccer is taller because 3 more students chose soccer in the second survey" — M.EE.5.MD.2)*

Fifth Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with two sets of concrete items that differ in number. *(e.g., touches or looks toward a group of 2 blocks and a group of 5 blocks during a sorting or matching activity — M.EE.5.OA.3)*	Identifies an object with a specific attribute using a math tool. *(e.g., selects a shape with three sides from a set of pattern blocks — M.EE.5.OA.3)*	Sorts objects by a shared numerical attribute using a math tool. *(e.g., groups items that show the same quantity, such as three blocks, three counters and three dots, using a sorting mat — M.EE.5.OA.3)*	Classifies items by a numerical attribute (e.g., even/odd, count = 3) using a math model. *(e.g., places counters only on even numbers along a number line to show grouping by a numerical rule [even/odd]— M.EE.5.OA.3)*	Identifies and describes number properties using a math model. *(e.g., places odd numbers on a hundred chart and explains that when skip-counting by 2, no even numbers appear— M.EE.5.OA.3)*	Demonstrates a rule based on attributes using a math model. *(e.g., builds a sequence of square numbers using a hundred square — M.EE.5.OA.3)*
Pattern	Reacts to or engages with a repeated number sequence. *(e.g., explores or pauses when presented with a sequence of soft–rough–soft–rough blocks arranged in a line — M.EE.5.OA.3)*	Continues a repeating pattern using a math tool. *(e.g., adds red–blue–red–blue using linking cubes — M.EE.5.OA.3)*	Continues a numerical sequence using a math tool. *(e.g., adds the next group of linking cubes to continue a sequence such as 2, 4, 6 — M.EE.5.OA.3)*	Predicts the number in a consistent numerical structure using a math model. *(e.g., predicts the 5th term, then creates a +2 pattern using a number path to confirm prediction — M.EE.5.OA.3)*	Applies a rule to extend a pattern. *(e.g., continues a +3 pattern on a number line — M.EE.5.OA.3)*	Applies a rule to extend a pattern and identifies the equation that represents it. *(e.g., continues a +3 pattern on a number line and writes the rule as "__ + 3" — M.EE.5.OA.3)*
Comparison	Reacts to or engages with two sets with different quantities. *(e.g., manipulates the counters in the sets, one group has 2 counters, the other has 5 — M.EE.5.OA.3)*	Determines which of two sets is greater using a math tool. *(e.g., selects the heavier side on a balance scale — M.EE.5.OA.3)*	Compares two patterns to identify differences in numerical structure using a math model. *(e.g., uses a number rack to show that one pattern increases by 1 and another increases by 2 — M.EE.5.OA.3)*	Compares two numerical patterns to identify differences in rate of change of the pattern's step size using a math model. *(e.g., uses a number line to show that one pattern adds 2 and another adds 3 — M.EE.5.OA.3)*	Compares two patterns and explains differences in rate of change of the pattern's step size using a math model. *(e.g., builds a +2 and a +3 pattern on a number rack and explains that the second pattern increases faster — M.EE.5.OA.3)*	Justifies which pattern grows faster using a math model based on the step size and explains why. *(e.g., uses base ten blocks to show +5 pattern increases more quickly than +2 pattern — M.EE.5.OA.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a change in a familiar sequence using a math tool. *(e.g., pauses or shifts gaze when the expected "1, 2, 3" sequence is replaced with "1, 2, 5 — M.EE.5.OA.3)*	Identifies a break in a familiar sequence using a math tool. *(e.g., selects the item that disrupts a pattern on a ten-frame — M.EE.5.OA.3)*	Identifies how a pattern changes using a math model. *(e.g., selects or points to pairs of numbers that increase by 2 when shown a sequence, indicating recognition of the change — M.EE.5.OA.3)*	Identifies and shows how a numerical pattern changes using a math model. *(e.g., uses a number path to show the pattern by making equal jumps of 2 between numbers, visibly representing how the sequence grows — M.EE.5.OA.3)*	Applies a rule of change to extend a pattern and predicts future terms using a math model. *(e.g., continues a +4-pattern using base ten blocks and predicts the 10th term — M.EE.5.OA.3)*	Uses math models to show how a pattern changes and applies the rule to build a new pattern. *(e.g., builds a +4-pattern using linking cubes and extends it — M.EE.5.OA.3)*
Connection	Reacts to or engages with familiar math tools representing quantity. *(e.g., touches a number path or a set of number cards used daily— M.EE.5.OA.3)*	Applies a familiar numerical pattern to a real-life task using a math tool. *(e.g., selects 1, then 2, then 3 blocks to match a growing number sequence during a building activity — M.EE.5.OA.3)*	Demonstrates a real-world numerical pattern using a math model. *(e.g., arranges classroom schedule cards in order by time — 9:00, 10:00, 11:00 — using a visual timeline — M.EE.5.OA.3)*	Builds a real-world pattern using a math model. *(e.g., shows 10-minute intervals on a clock face — M.EE.5.OA.3)*	Applies a pattern rule to a real-world situation using a math model. *(e.g., uses coins to show a pattern of adding 25 cents — M.EE.5.OA.3)*	Applies a pattern rule to a real-world situation and represents it with an equation using a math mode. *(e.g., uses a ruler to show a pattern of increasing lengths by 5 cm and writes the rule as "___ + 5" — M.EE.5.OA.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with a structured arrangement of concrete items that follow a numerical pattern. *(e.g., looks from one group to another when shown a row of blocks arranged in sets of 2; 2 red, 2 blue, 2 yellow, to represent a 2, 4, 6 pattern— M.EE.5.OA.3)*	Extends a numerical pattern using a math tool. *(e.g., selects the next dot card to continue a pattern showing increasing quantities — M.EE.5.OA.3)*	Uses words, signs, or symbols to describe a numerical pattern on a math model. *(e.g., uses AAC to describe a growing pattern shown with a number rack — "add" or "more" — M.EE.5.OA.3)*	Uses words, signs, or symbols to describe a pattern using a math model. *(e.g., signs "2, 4, 6" while pointing to the beads on a number rack — M.EE.5.OA.3)*	Explains a pattern rule and represents it symbolically using a math model. *(e.g., says "add 3 each time" and circles the pattern as 3, 6, 9, 12 using a number chart — M.EE.5.OA.3)*	Justifies a pattern rule using a math model. *(e.g., indicating "I added 4 each time because it is a +4 pattern" using digit cards — M.EE.5.OA.3)*

Sixth Grade – Number Sense

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to and engages with sets of different sizes to show quantity. *(e.g., explores a group of 2 objects and a group of 5 by touching each item — M.EE.K.CC.4)*	Places and counts items using math models to show quantity. *(e.g., counts and moves three counters onto a number path — M.EE.K.CC.4)*	Counts and arranges quantities in sequence using math tools, showing one-to-one correspondence. *(e.g., places counters on a number path while indicating each number 1-10— M.EE.6.NS.3)*	Uses math models to show quantities or parts of a whole. *(e.g., places the 10th counter and indicates "10" to show the total or partitions a strip into five equal parts to represent 1/5— M.EE.6.NS.3, M.EE.6.NS.1)*	Uses models to represent unit fractions and ratios. *(e.g., groups counters to show a ratio of 1:4 or partitions a strip into equal sections to represent 1/3 and 1/6 — M.EE.6.RP.1, M.EE.6.NS.1)*	Uses models to show equivalence or proportional relationships. *(e.g., groups counters to show 1:4 and then adds another group to show 2:8, or places fraction strips for 1/4 and 2/8 side by side to demonstrate they represent the same amount — M.EE.6.RP.1, M.EE.6.NS.1)*
Pattern	Reacts to and engages with simple sequences using math tools. *(e.g., listens and vocalizes as peers count in sequence on the calendar — M.EE.6.NS.3)*	Arranges items to show ordinal position (first, second, third…) within a short sequence using a math model. *(e.g., positions counters in order from first to third position on a five-frame, indicating positions— M.EE.6.NS.3)*	Counts and arranges quantities in sequence using math tools. *(e.g., places counters in order while indicating numbers — M.EE.6.NS.3)*	Shows repeated groupings or equal shares to represent multiplication or division. *(e.g., models 5 × 2 as 2 + 2 + 2 + 2 + 2 using counters or divides 15 counters into 3 equal groups — M.EE.6.NS.3, M.EE.6.NS.2)*	Creates structured sequences involving unit fractions or ratios. *(e.g., orders fraction strips 1/2, 1/3, 1/4 — M.EE.6.NS.3, M.EE.6.NS.2)*	Creates sequences involving integers or mixed fractions. *(e.g., orders -10, -5, 0, 5 on number line or arranges 1/2, 2/3, 3/4 — M.EE.6.NS.5-8, M.EE.6.NS.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to and engages with whole and part models to show partitioning. *(e.g., explores a whole shape and a divided shape by touch — M.EE.6.NS.1)*	Selects a part when shown a whole and its parts. *(e.g., chooses one half from a circle divided into two equal parts — M.EE.6.NS.1)*	Orders unit fractions by size using models. *(e.g., arranges fraction strips to show 1/2, 1/3 and 1/4 in order from largest to smallest— M.EE.6.NS.1)*	Identifies which fraction or quantity is greater, smaller, or equal using math models. *(e.g., shows that 1/5 is smaller than 1/2 using fraction strips or compares two groups to determine which has more counters — M.EE.6.NS.1, M.EE.6.RP.1)*	Compares unit fractions and ratios using models. *(e.g., determines that 1/6 is smaller than 1/3 using fraction strips or compares two ratios using grouped counters — M.EE.6.NS.1, M.EE.6.RP.1)*	Compares proportional relationships or multi-step changes. *(e.g., places fraction strips for 1/4 and 1/2 side by side to show that 1/4 is smaller than 1/2 — M.EE.6.NS.1)*
Change	Reacts to and engages with directional movement to show increase or decrease. *(e.g., shifts gaze as an adult moves a marker up and down a tactile number path — M.EE.6.NS.5-8)*	Moves along a math model to show directional change. *(e.g., slides a marker up and down a tactile number path — M.EE.6.NS.5-8)*	Uses a math model to show whether a value increases or decreases. *(e.g., moves a marker forward on a number path to show an increase and backward to show a decrease — M.EE.6.NS.5-8)*	Represents increases or decreases in value using math models. *(e.g., uses a number path and highlights money spent (decreases) in red and money received (increases) in green to show changes in value — M.EE.6.NS.5-8)*	Shows increases and decreases in value using integers. *(e.g., moves left on a number line to show a $20 withdrawal and right to show a $10 deposit — M.EE.6.NS.5-8)*	Shows multi-step changes or compares magnitude of changes. *(e.g., represents net change after multiple transactions — M.EE.6.NS.5-8)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Connection	Reacts to and engages with routines that represent quantity. *(e.g., turns head toward a number board as an adult places counters one by one and verbalizes the count — M.EE.6.RP.1)*	Shows a small quantity during a routine. *(e.g., places 1–5 counters on a ten-frame — M.EE.6.NS.5-8)*	Uses math models to show equal shares or simple ratios. *(e.g., divides a shape into equal parts and selects one to represent a share or arranges 1 red counter with 4 yellow counters to show 1:4— M.EE.6.NS.2, M.EE.6.RP.1)*	Connects models to real-world situations involving ratios, fractions, or changes in value. *(e.g., places 1 red counter next to 4 blue counters and indicates, "One red for every four blue" or uses a strip diagram to show equal shares when dividing a set of objects — M.EE.6.RP.1, M.EE.6.NS.2)*	Connects operations and representations to real-world contexts involving ratios, fractions and integers. *(e.g., uses a number line to show temperature changes above and below zero or applies equal shares to divide a set of objects for fair distribution — M.EE.6.NS.5-8, M.EE.6.NS.2)*	Uses models to solve multi-step real-world problems involving ratios or operations. *(e.g., builds a ratio table with counters to show how many items are needed for 3 sets when 1 set requires 4 items — M.EE.6.RP.1, M.EE.6.NS.3)*
Communication	Reacts to and engages with math routines to show consistent quantity representation. *(e.g., turns head toward a large-print number board as an adult places counters one by one and verbalizes the count — M.EE.6.RP.1)*	Indicates a small quantity during a routine using math tools. *(e.g., points to the numeral 4 after counting 4 objects— M.EE.6.RP.1)*	Indicates the name or value of a fraction, quantity, or group shown in a math model. *(e.g., when shown a fraction strip, uses AAC to select "one-half" or points to the strip and signs "half" — M.EE.6.NS.3)*	Shows or indicates what a math model represents in terms of quantity or relationship. *(e.g., points to a section of a fraction strip and uses an AAC device to select "one-fifth" or uses eye gaze to indicate three groups of five counters on a board— M.EE.6.RP.1, M.EE.6.NS.3)*	Uses math models to show or describe how quantities relate in ratios, fractions, or operations. *(e.g., shows a ratio of 1:4 by grouping counters and indicates, "One counter for every four counters", or uses fraction strips to explain why 1/6 is smaller than 1/3 — M.EE.6.RP.1, M.EE.6.NS.1)*	Indicates comparisons or multi-step relationships. *(e.g., uses a strip diagram to show equal shares when dividing a set of objects among more people — M.EE.6.RP.1)*

Sixth Grade – Geometry

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with unit squares or cubes in context. *(rests a hand on top of educator's hand [hand-under-hand] while exploring the attributes of a square – M.EE.6.G.1)*	Places several unit squares or cubes together to begin forming an area or volume model. *(e.g., places two or three cubes side by side — M.EE.6.G.2)*	Groups unit squares or cubes into rows or layers to represent measurable space. *(e.g., arranges cubes into a complete layer — M.EE.6.G.2)*	Aligns units accurately without gaps or overlaps to represent area or volume. *(e.g., fills a rectangle completely with squares in straight rows — M.EE.6.G.1)*	Uses measurable features (faces, edges, layers) to verify area or volume after calculation. *(e.g., checks cube layers match calculated volume — M.EE.6.G.2)*	Determines units for irregular spaces by breaking them into measurable parts. *(e.g., divides a space into sections and counts total cubes — M.EE.6.G.2)*
Pattern	Reacts to or engages with repeated arrangement of cubes. *(e.g., student who moves a lot stills when cubes are presented in an arrangement [rows, circle] – M.EE.6.G.2)*	Places squares or cubes in a simple repeated arrangement. *(e.g., arranges two rows of squares — M.EE.6.G.1)*	Creates repeated structures (rows or layers) to represent area or volume. *(e.g., places squares in rows to cover a rectangle — M.EE.6.G.1)*	Forms complete arrays or layers with consistent repetition for measurement. *(e.g., stacks layers of cubes evenly to fill a box — M.EE.6.G.2)*	Chooses a repeated structure (rows/layers) that fits the space accurately. *(e.g., alternates cube layers to fit a box with minimal gaps — M.EE.6.G.2)*	Evaluates two patterns and selects the one that minimizes gaps or overlaps. *(e.g., given two grids, one with squares aligned in straight rows and one with squares staggered, the student points to the straight-row grid because it covers the rectangle completely without gaps — M.EE.6.G.1)*
Comparison	Reacts to or engages with contrasting sizes. *(e.g., looks back and forth between squares of different sizes – M.EE.6.G.1)*	Selects a larger or smaller of two shapes. *(e.g., chooses the bigger cube— M.EE.6.G.1)*	Compares two shapes by counting or estimating units. *(e.g., counts squares to decide which rectangle is bigger — M.EE.6.G.1)*	Compares area or volume by analyzing unit arrangements for accuracy. *(e.g., checks which box has more layers of cubes — M.EE.6.G.2)*	Confirms which shape has greater area or volume by organizing and counting units. *(e.g., arranges squares and signals which rectangle is bigger — M.EE.6.G.1)*	Determines if two different arrangements represent equal measurements. *(e.g., signals that a 3×4 grid and a 4×3 grid cover the same area — M.EE.6.G.1)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a cube when it is added or removed. *(e.g., vocalizes when a tile is added to or taken from a tray— M.EE.6.G.1)*	Adds or removes several units to change size. *(e.g., adds squares to enlarge a grid — M.EE.6.G.1)*	Shows how adding or removing units changes measurable space. *(e.g., removes a row of unit squares to change the area of a rectangle— M.EE.6.G.1)*	Adjusts arrangements to maintain accurate representation of area or volume. *(e.g., reorganizes squares to eliminate gaps — M.EE.6.G.1)*	Calculates new area or volume after adding or removing units. *(e.g., computes new volume after removing cubes — M.EE.6.G.2)*	Chooses the best way to change size for accuracy. *(e.g., indicates adding a layer will increase volume more than adding a single cube — M.EE.6.G.2)*
Connection	Reacts to or engages with familiar arrangements of units (Area: grids, rows or columns, checkerboard pattern. Volume: stacks, rows, two or more layers, clusters). *(e.g., smiles when fingers brush across a row of cubes — M.EE.6.G.2)*	Places unit cubes in a box to begin creating a layer for volume. *(e.g., stacks cubes in a box — M.EE.6.G.2)*	Arranges unit squares or cubes to represent area or volume in a familiar context. *(e.g., covers a sheet of paper with squares to show area — M.EE.6.G.1)*	Uses unit squares or cubes to accurately represent area or volume in a real-world example. *(e.g., arranges cubes to model the space inside a small box — M.EE.6.G.2)*	Solves real-world problems using area or volume reasoning. *(e.g., determines how many squares are needed to cover a poster — M.EE.6.G.1).*	Chooses between two ways of arranging units in a real-world task and selects the one that accurately fills the space without gaps or overlaps. *(e.g., given two cube layouts for a box— one with gaps and one fully filled—the student points to the fully filled layout — M.EE.6.G.2).*
Communication	Reacts to or engages with math tools for area or volume. *(e.g., pauses repetitive movement when shown a stack of cubes — M.EE.6.G.2)*	Indicates which shape has more or less area. *(e.g., looks at the grid with fewer squares — M.EE.6.G.1)*	Identifies area or volume using words, signs, or symbols. *e.g., uses "more" to describe a larger box—M.EE.6.G.1, M.EE.6.G.2)*	Connects teacher's math vocabulary for area or volume to core words or actions. *(e.g., teacher says "layer," student places cubes in a stack to represent a layer — M.EE.6.G.2)*	Describes area or volume using math words, signs, or symbols after organizing units. *(e.g., uses words or symbols like "full," "covered," or "layer" to show a rectangle is tiled or a box is filled — M.EE.6.G.1-2)*	Describes area or volume and indicates why one arrangement is more accurate or efficient. *(e.g., uses words, signs, or symbols like "fits," "no gaps," or "holds more" to show why one cube layout is better — M.EE.6.G.1-2)*

Sixth Grade – Measurement, Data and Analysis

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with organized sets of data using math tools. *(e.g., touches raised bars on a tactile graph or visually tracks colored bars — M.EE.6.SP.1-2)*	Uses math tools to identify and group items by one shared feature. *(e.g., places cubes into two groups by color — M.EE.6.SP.1-2)*	Uses math tools to sort and prepare data by one attribute. *(e.g., sorts shapes by size and places them in separate bins — M.EE.6.SP.1-2)*	Uses math models to organize data into multiple categories. *(e.g., organizes picture cards into three categories on a tactile chart — M.EE.6.SP.1-2)*	Uses math models to label and organize data across multiple categories and attributes. *(e.g., labels columns on a tactile bar graph to show categories and attributes — M.EE.6.SP.1-2)*	Uses math models to represent and summarize variability across multiple attributes. *(e.g., creates a table showing two attributes (color and size) and summarizes variability — M.EE.6.SP.5)*
Pattern	Reacts to or engages with repetition in a data set or graph. *(e.g., explores repeated textures on a tactile bar graph or visually scans for identical shapes — M.EE.6.SP.1-2)*	Identifies a repeated element in a data display using math tools. *(e.g., selects matching tactile symbols from a graph — M.EE.6.SP.1–2)*	Identifies a pattern in a data set using math tools. *(e.g., groups data by repeated values and places them in a tactile chart — M.EE.6.SP.1-2)*	Builds or extends a pattern in data using models. *(e.g., adds cubes to extend a growing pattern in a tactile bar graph — M.EE.6.SP.1-2)*	Uses math models to analyze patterns and describe trends in data. *(e.g., completes a bar graph and points to the tallest bar to show trend — M.EE.6.SP.5)*	Predicts future values or explains relationships based on patterns and variability in data. *(e.g., uses two line plots to predict which category will increase next based on variability — M.EE.6.SP.5)*
Comparison	Reacts to or engages with a change in the amount or size in a data display. *(e.g., explores the raised surface of the bars on a graph — M.EE.6.SP.1-2)*	Uses a math tool to show which item is more or less. *(e.g., touches the column on a graph with more pictures — M.EE.6.SP.5)*	Uses a math tool to compare two data points or categories. *(e.g., explores two tactile bars and selects the one showing more — M.EE.6.SP.1–2)*	Uses math models to compare multiple categories and interpret differences. *(e.g., arranges tactile markers to show which category has the most — M.EE.6.SP.5)*	Compares data distributions and explains differences using graphs or tables. *(e.g., compares two graphs and points to the one with greater variability — M.EE.6.SP.5)*	Performs multi-step comparisons across categories and explains variability in data sets. *(e.g., uses a table and a graph to show which category has the largest range and variability — M.EE.6.SP.5)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Change	Reacts to or engages with a change in a data display or math model. *(e.g., pauses when a new cube is added to a tactile graph — M.EE.6.SP.1–2)*	Moves or adds items to show a change in a data set. *(e.g., moves a cube to a different column on a tactile graph — M.EE.6.SP.1-2)*	Uses math tools to adjust a data set to reflect change. *(e.g., adds tactile markers to a chart to show new votes — M.EE.6.SP.1–2)*	Uses math models to display changes and describe what changed. *(e.g., updates a tactile graph by adding new data cards and points to the changed category — M.EE.6.SP.1-2)*	Explains how changes affect data interpretation and variability using graphs. *(e.g., compares two graphs and points to the category that increased the most — M.EE.6.SP.5)*	Analyzes causes of changes and summarizes trends across multiple data representations. *(e.g., uses two graphs to explain that variability increased after adding new data — M.EE.6.SP.5)*
Connection	Reacts to or engages with a real-world routine linked to data or measurement. *(e.g., turns head toward a tactile graph during a class survey or uses AAC to select "graph" — M.EE.6.SP.1-2)*	Chooses a real-world context for a data display. *(e.g., selects favorite recess activities to include in a tactile graph — M.EE.6.SP.1–2)*	Organizes data from a familiar context into a graph or table. *(e.g., organizes survey results into a tactile bar graph — M.EE.6.SP.1-2)*	Applies data organization to answer questions about real-world scenarios. *(e.g., uses a tactile graph to answer "Which category has more?" by pointing — M.EE.6.SP.1-2)*	Uses data summaries to make decisions or explain real-world outcomes. *(e.g., uses a completed graph to decide which activity to schedule first based on popularity — M.EE.6.SP.5)*	Plans or adjusts actions based on data analysis and variability in real-world contexts. *(e.g., adjusts a plan based on summarized data showing variability in preferences — M.EE.6.SP.5)*
Communication	Reacts to or engages with different aspects of a data display or math model. *(e.g., explores coins by touching — M.EE.6.SP.1-2)*	Selects a specific feature in a graph or table. *(e.g., identifies the tallest bar on a tactile graph — M.EE.6.SP.5)*	Uses words, signs, or symbols to indicate "more" or "less" in a data display. *(e.g., selects "more" or "less" to indicate differences in a tactile graph — M.EE.6.SP.1-2)*	Describes and compares data points using math language. *(e.g., places a "greater than" marker on the taller bar in a tactile graph — M.EE.6.SP.1-2)*	Answers specific questions about data distributions and variability using math language. *(e.g., uses a symbol or AAC device to indicate "peak" when pointing to the highest point on a line plot — M.EE.6.SP.5)*	Explains reasoning and summarizes data trends using math language and multiple representations. *(e.g., uses math language or AAC to explain "This category has the widest range" while pointing to a graph — M.EE.6.SP.5)*

Sixth Grade – Algebraic and Functional Reasoning

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Attribute	Reacts to or engages with grouping or separating of objects using math tools. *(e.g., tracks movement of linking cubes as they are combined or split — M.EE.6.EE.1-2)*	Indicates sets with equal groups using math tools. *(e.g., selects two sets with same number of counters — M.EE.6.EE.1-2)*	Combines two sets to show a total using math tools. *(e.g., joins tiles to represent a total — M.EE.6.EE.3)*	Uses math tools to show that two expressions have the same total and begins to identify equivalence. *(e.g., uses ten-frames to show that 3+4 and 2+5 both equal 7 — M.EE.6.EE.1–2)*	Uses math tools to apply properties of addition to create equivalent expressions. *(e.g., rearranges 2 + (3 + 5) as (2 + 3) + 5 using linking cubes to show the associative property — M.EE.6.EE.3)*	Reproduces and justifies equivalent expressions using math models and algebraic reasoning. *(e.g., rearranges 2 + (3 + 5) as (2 + 3) + 5 using linking cubes and explains that the total stays the same because of the associative property — M.EE.6.EE.3)*
Pattern	Reacts to or engages with repeated groupings using math tools. *(e.g., touches or looks at sets arranged the same way — M.EE.6.EE.3)*	Selects a repeated group in a pattern using math tools. *(e.g., identifies repeating color tiles — M.EE.6.EE.3)*	Arranges equal groups to represent repeated addition using math tools. *(e.g., builds 3+3+3 with linking cubes to show equal groups added together — M.EE.6.EE.3)*	Uses math tools to show repeated addition and its equivalence to a multiplication expression. *(e.g., represents 4+4+4 with a number path and connects the pattern to 3 groups of 4 — M.EE.6.EE.3)*	Uses math models to apply the associative and commutative properties to extend a pattern. *(e.g., uses ten-frames to show that (2 + 3) + 4 and 2 + (3 + 4) follow the associative property and that 3 + 4 and 4 + 3 follow the commutative property — M.EE.6.EE.3)*	Reproduces and extends patterns using the associative property with math models. *(e.g., uses ten-frames to show that (2+3)+4 and 2+(3+4) follow the same pattern and explains the structure — M.EE.6.EE.3)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Comparison	Reacts to or engages with differences in quantity using math tools. *(e.g., shifts gaze between two sides of a balance scale — M.EE.6.EE.1-2)*	Indicates which set is larger using math tools. *(e.g., selects the group with more counters — M.EE.6.EE.1-2)*	Compares two expressions using math models. *(e.g., uses a number line or set of counters to show that 3 + 4 equals 2 + 5 — M.EE.6.EE.1–2)*	Uses math tools to compare two expressions and identify if they are equal. *(e.g., uses a number rack to show that 6+2 and 4+4 are equal expressions — M.EE.6.EE.1–2)*	Uses math models to determine if expressions are equal. *(e.g., uses a number rack to compare 5 + 3 and 4 + 4 and explain whether they are equal or not — M.EE.6.EE.1–2)*	Shows and explains equivalence of expressions using math models. *(e.g., uses a number rack to compare 5+3 and 4+4 and explains how both expressions represent the same quantity — M.EE.6.EE.1–2)*
Change	Reacts to or engages with a change in quantity using math tools. *(e.g., shifts attention when items are added to or removed — M.EE.6.EE.5–7)*	Adds or removes one item using math tools. *(e.g., adds a cube to a group — M.EE.6.EE.5–7)*	Uses math tools to show change in a group. *(e.g., removes 2 counters from 5 to represent subtraction — M.EE.6.EE.5–7)*	Uses math tools to show how a quantity changes when a part is unknown. *(e.g., builds a group of 3 blocks and models "3 + __ = 5" — M.EE.6.EE.5–7)*	Uses math models to represent a real-world problem with a variable. *(e.g., uses a ten-frame to model "6 + x = 10" and explains what the variable represents — M.EE.6.EE.5–7)*	Uses math models to explore how changing a variable affects an equation's outcome. *(e.g., models "6 + x = 10" using a ten-frame and adjusts x to maintain equality — M.EE.6.EE.5–7)*
Connection	Reacts to or engages with combining or separating quantities in a familiar routine. *(e.g., looks between items being added to or removed from a group — M.EE.6.EE.5–7)*	Selects or places objects to show a change in quantity using math tools. *(e.g., adds or removes blocks from a bin during a familiar routine — M.EE.6.EE.5–7)*	Uses real-world objects to model a math problem using math tools. *(e.g., uses crayons to show "5 + __ = 8" — M.EE.6.EE.5-7)*	Uses math tools to model a real-world change when a part is unknown. *(e.g., uses markers to model "I have 4 and need 10" as 4 + ___ = 10 — M.EE.6.EE.5–7)*	Uses math models to represent a real-world situation with an equation that includes a variable. *(e.g., uses linking cubes to show "x + 3 = 7" to represent "I had 3 apples and now I have 7," and identifies what x stands for — M.EE.6.EE.5–7)*	Uses math models to explain how a real-world situation connects to an equation, emphasizing the meaning of each part. *(e.g., uses linking cubes to show "x + 3 = 7" and explains that "x is the number of apples I got today and 3 is what I had before" — M.EE.6.EE.5–7)*

Criteria	Developing	Level 1	Level 2	Level 3	Level 4	Level 5
Communication	Reacts to or engages with changes in quantity using math tools. *(e.g., looks toward a number path as the number of items increases or decreases — M.EE.6.EE.1–2)*	Selects a group that shows the same quantity as another using math tools. *(e.g., chooses a second set of 3 blocks to match a group of 3 — M.EE.6.EE.1–2)*	Recognizes that two sets have the same total, without identifying them as equivalent expressions. *(e.g., matches a group of 5 counters and a group made from 2 and 3 counters — M.EE.6.EE.1–2)*	Uses math tools to identify and represent equivalent expressions. *(e.g., uses number tiles to show that 3+4 and 2+5 both equal 7 and identifies them as equivalent expressions — M.EE.6.EE.1–2)*	Uses math models to express equivalence between two expressions using words, signs, or symbols. *(e.g., writes or signs "3 + 4 = 2 + 5" while showing both expressions with number tiles and explains why they are equivalent — M.EE.6.EE.1–2)*	Explains why two expressions are equivalent using math models and expressive communication. *(e.g., Uses a number rack to show 6+2 and 4+4 and says "both sides are 8 because the beads match"— M.EE.6.EE.1–2)*

Student Evidence

NOTE: For each piece of evidence (3) collected and used to report the overall score at the end of each reporting window, an evidence score sheet is required to be completed and retained with the piece of evidence.

Student Record

Name: _____ **State ID:** _____ **Grade:** _____

Number Sense (Grades K-6)

	Attribute	Pattern	Comparison	Change	Connection	Communication
Fall Date:						
Winter Date:						
Spring Date:						

Geometry (Grades K-6)

	Attribute	Pattern	Comparison	Change	Connection	Communication
Fall Date:						
Winter Date:						
Spring Date:						

Student Record

Name: _____ **State ID:** _____ **Grade:** _____

Measurement, Data and Analysis (Grades 1-6)

	Attribute	Pattern	Comparison	Change	Connection	Communication
Fall Date:						
Winter Date:						
Spring Date:						

Algebraic and Functional Reasoning (Grades K-6)

	Attribute	Pattern	Comparison	Change	Connection	Communication
Fall Date:						
Winter Date:						
Spring Date:						

Number Sense Evidence Cover Sheet (Grades K-6)

Name: _____ **State ID:** _____ **Grade:** _____ **Date:** _____

Assessment Window: Fall Winter Spring **Evidence:** 1 2 3

Student Performance Score: D 1 2 3 4 5

	Attribute	Pattern	Comparison	Change	Connection	Communication
Date of the teaching and learning event						
Score						
What support was given to the student?						
How did the teacher engage the student in the activity? What were the student behaviors?						
Summary of how this evidence was collected including AT or AAC Use (*description should have enough detail that another educator would score the sample the same***)**						

Geometry Evidence Cover Sheet (Grades K-6)

Name: _____ **State ID:** _____ **Grade:** _____ **Date:** _____

Assessment Window: Fall Winter Spring **Evidence:** 1 2 3

Student Performance Score: D 1 2 3 4 5

	Attribute	Pattern	Comparison	Change	Connection	Communication
Date of the teaching and learning event						
Score						
What support was given to the student?						
How did the teacher engage the student in the activity? What were the student behaviors?						
Summary of how this evidence was collected including AT or AAC Use (*description should have enough detail that another educator would score the sample the same***)**						

Measurement, Data and Analysis Evidence Cover Sheet (Grades 1-6)

Name: _____ **State ID:** _____ **Grade:** _____ **Date:** _____

Assessment Window: Fall Winter Spring **Evidence:** 1 2 3

Student Performance Score: D 1 2 3 4 5

	Attribute	Pattern	Comparison	Change	Connection	Communication
Date of the teaching and learning event						
Score						
What support was given to the student?						
How did the teacher engage the student in the activity? What were the student behaviors?						
Summary of how this evidence was collected including AT or AAC Use (*description should have enough detail that another educator would score the sample the same***)**						

Algebraic and Functional Reasoning Evidence Cover Sheet (Grades K-6)

Name: _____ **State ID:** _____ **Grade:** _____ **Date:** _____

Assessment Window: Fall Winter Spring **Evidence:** 1 2 3

Student Performance Score: D 1 2 3 4 5

	Attribute	Pattern	Comparison	Change	Connection	Communication
Date of the teaching and learning event						
Score						
What support was given to the student?						
How did the teacher engage the student in the activity? What were the student behaviors?						
Summary of how this evidence was collected including AT or AAC Use (*description should have enough detail that another educator would score the sample the same***)**						

Examples of Changes in Instructional Approach

Distributed Instruction: Spread practice across multiple short sessions rather than one long block to increase retention and engagement.

Explicit Instruction: Give clear, direct explanations and model concepts using math tools and models while thinking aloud. Provide immediate, both affirmative and corrective, feedback to guide understanding. Focus on clarity, logical sequencing and active student engagement rather than passive observation of teacher demonstrations.

Systematic Instruction: Organize learning in a logical, intentional sequence that moves from simple to more complex concepts, using scaffolds within and across lessons. Instruction should consistently integrate the six key ideas—attribute, pattern, comparison, change, connection and communication—in ways that deepen understanding of the mathematical concept at the center of instruction.

Multiple Modalities: Incorporate tactile, visual and auditory representations of math mathematical concepts to support diverse access needs.

Embedded Instruction: Integrate mathematical learning opportunities into daily routines and authentic contexts (e.g., sequencing steps in an activity, measuring during a classroom project).

Observation and Responsive Feedback: Closely observe how the student responds during instruction, through actions and communication and use those observations to provide immediate, meaningful feedback. This feedback should reinforce successful attempts, clarify misunderstandings and guide the student toward the next step in the task. The focus is on noticing patterns in engagement and performance and responding in ways that support progress, rather than conducting formal assessments.

Increased Opportunities for Active Engagement: Provide repeated, meaningful interactions with mathematical tools and models (e.g., number paths, ten-frames, measuring tools) in varied contexts.

Strategic Use of Visual Supports: Visual supports help make abstract concepts concrete and visible for students. This means going beyond simply showing diagrams or charts—teachers should use structured layouts like five-frames, ten-frames, number paths and function tables to represent relationships clearly. Making learning visible involves organizing information so students can see patterns, connections and steps in a process. For example, when teaching addition, a number path can show movement from one quantity to another, while a five-frame highlights how numbers build toward five. In geometry, diagrams can illustrate how shapes fit together or how attributes compare. Teachers can also use color coding, consistent spatial arrangements and labeled models to clarify meaning. The goal is to create visual anchors that students can refer to during instruction, helping them understand not only the “what” but also the “how” and “why” of mathematical ideas.

Co-Constructed Problem Solving with Student Leadership: Problem solving should center on the student actively demonstrating understanding by taking the lead in exploring strategies and completing steps, with the adult providing support only when necessary. The teacher sets up the problem and ensures access to appropriate tools and models, then encourages the student to show understanding through actions, such as selecting tools, organizing information, building models or completing calculations. For example, a student might show understanding of measurement by choosing the correct ruler and aligning it to measure an object, or demonstrate number sense by arranging counters to represent a given quantity. In geometry, the student might construct a shape using pattern blocks or identify attributes by sorting shapes into categories. In algebraic reasoning, the student could extend a pattern using Cuisenaire rods or fill in a function table to show relationships. When the student encounters difficulty, the adult offers targeted scaffolding, such as modeling a step, providing a visual cue, or asking guiding questions, while maintaining the student’s ownership of the process. This approach emphasizes active engagement and shared thinking, helping students build confidence and independence while still benefiting from responsive support.

Levels

Level	Description
Developing: Reacts and Engages with Math	Students are learning to use behaviors, gestures and actions that may signal early awareness of mathematical ideas (e.g., looking toward objects when they move, reacting to changes in quantity). These behaviors are often not intended to show math understanding, but people who know the student well can interpret them and apply meaning. At this stage, students are supported in increasing attention, engagement and interaction with mathematical materials, emphasizing learning to understand and use more conventional and intentional forms of engagement.
Level 1: Early Concepts	Students intentionally interact with mathematical materials (e.g., pointing to a number, placing objects together). They begin to explore basic structures such as grouping or ordering and may start using simple representations (e.g., lining up blocks). Engagement is mostly within familiar routines and students are learning that their actions have predictable mathematical outcomes.
Level 2: Building Foundation	Students use math tools and models for familiar tasks (e.g., counters, number path, ten-frame, shape model) and begin to understand their specific purposes. They show organized actions such as matching, adding, or comparing quantities and can represent ideas concretely. Students engage in structured activities and demonstrate growing independence in using tools.
Level 3: Building Connections	Students begin to connect representations and ideas within familiar contexts. They can show how one representation relates to another (e.g., adding a block changes the total shown on a ten-frame) and use tools to represent relationships in simple ways. At this level, students extend understanding across similar tasks and engage in basic exchanges about mathematical ideas, but typically work on single-step problems or short sequences.
Level 4: Flexible Use (Target Level)	Students independently select and use appropriate tools and models to represent and solve problems. They apply mathematical concepts in familiar and novel contexts, recognize connections across representations and mathematical systems (e.g., number line, area model, bar graph, equation) and demonstrate reasoning through representations, actions, or explanations. At this level, students demonstrate the Essential Elements for their grade.
Level 5: Extended Application	Students apply and adapt strategies across systems and contexts, demonstrate reasoning through representations, actions, or explanations and show conceptual flexibility beyond grade-level expectations. They evaluate how structure supports function in tools and models (e.g., why a number line helps visualize values) and communicate mathematical ideas clearly. Students at this level show deeper understanding and generalization.

Criteria

Criteria	Description
Attribute	This criterion reflects a student's ability to recognize and describe characteristics or properties of objects or sets. These may include size, shape, color, number, or position. Example in context: Identifying that one group has more items (numerical attribute) or recognizing that a shape is round (geometric attribute).
Pattern	This criterion captures a student's understanding of predictable sequences or structures that repeat or grow. Recognizing patterns supports early algebraic thinking and helps students generalize across mathematical situations. A regularity is a consistent feature—such as a repeating color, shape, or numerical change—that allows students to anticipate what comes next and describe the rule behind the pattern. Identifying regularities helps students make sense of math by revealing structure and predictability. Example in context: Noticing that a number sequence increases by 2 (e.g., 2, 4, 6, 8) or identifying a repeating color pattern (red-blue-red-blue).
Comparison	This criterion reflects a student's ability to examine two or more quantities, objects, or sets to identify similarities and differences. It supports reasoning about relative size, number, or other attributes. Example in context: Determining which group has more, fewer, or the same number of items, or comparing the length of two objects.

Criteria	Description
Change	This criterion focuses on a student's understanding of how quantities or attributes vary over time or in response to actions. It includes recognizing the effects of adding, removing, or transforming items. Example in context: Explaining that adding 2 blocks to a group of 3 results in 5, or noticing that a shape looks different after being rotated.
Connection	This criterion reflects a student's ability to relate mathematical ideas, representations, or contexts. It includes linking concepts across domains and recognizing how one idea supports another. Example in context: Connecting counting to addition, or recognizing that both a number path and a set of blocks represent quantity.
Communication	This criterion captures how a student expresses mathematical thinking using words, signs, symbols, models, or actions. It includes describing reasoning, representing ideas and participating in mathematical conversations. Example in context: Explaining a solution using a drawing, or using gestures or AAC to show how many items are in a group.

Mathematical Tools and Models (Common Examples)

Mathematical Models: Structured representations of mathematical ideas, relationships, or processes. Conceptual models: diagrams showing part–whole relationships, change over time, or comparisons). Math models help students organize and communicate their understanding. They show how students are making sense of mathematical concepts, often revealing patterns, connections, or strategies.

Visual Models	Description
Five-Frames (tool and model)	A five-frame is a rectangle divided into 5 spaces in a row. Students can put one object in each space to help them see and count up to 5. It is great for learning numbers and how they go together. Think of it like a mini tray with 5 spots, if some are full and some are empty, you can quickly tell how many! It can be positioned vertically and horizontally.
Ten-Frames (tool and model)	A ten-frame is a rectangle with 10 spaces in two rows of 5. Students can use it to show numbers up to 10 by placing objects in the spaces. It helps them see patterns and understand how numbers like 6 or 9 are made. It is like a puzzle that shows how numbers fit together, like 5 on top and 3 on the bottom makes 8! It can be positioned vertically and horizontally.
Arrays	An array is a group of objects arranged in rows and columns. It helps you see multiplication and counting in a neat way. Imagine lining up toy cars in rows, if students have 3 rows with 4 cars each, they can count them faster: 3 × 4 = 12.
Bar Models	A bar model is a drawing that looks like a bar or rectangle. Students use it to show parts of a number or compare numbers. It helps them solve problems by showing how numbers relate to one another. It is a mathematical picture that helps them figure out how much is missing, shared, or added!

Symbolic Models	Description
Equations	An equation is a mathematical sentence that shows two things are equal. It uses numbers and symbols like =, +, −, ×, ÷ to show a mathematical idea. Example: 3 + 2 = 5 means "three plus two equals five." or "three plus two is the same as five."
Number Sentences	A number sentence is a mathematical statement that uses numbers and symbols to show a problem or idea. It can be true or false and sometimes has a variable or blank to fill in. Example: 7 − ___ = 3 is a number sentence asking, "What is 7 minus 3?"
Function Tables	A function table is a chart that shows how numbers change in a pattern. Students put a number in, follow a rule and get a new number out. Example: If the rule is "add 2," the table might show: In: 1 → Out: 3, In: 2 → Out: 4, In: 3 → Out: 5

Conceptual Models	Description
Diagrams (part–whole relationships)	These help students see how a number is made up of smaller parts. They show how parts come together to make a whole or how a whole can be split into parts. Example: If you have 10, a part–whole diagram might show 6 and 4 as the parts that make 10.
Charts and Graphs (change over time)	These help students track how something grows, shrinks, or changes over time. Students might see a line going up or down to show what's happening. Example: A chart could show how many books students read each month; more in June, fewer in July.
Comparison (charts or diagrams)	These help students compare two or more things to see which is bigger, smaller, or the same. Students might use bars, pictures, or numbers to show the differences. Example: A bar chart could show how many apples, bananas and oranges there are and which one has the most of.

Mathematical Tools: Physical or digital objects that students manipulate to explore, represent, or solve mathematical problems. Mathematical tools support hands-on engagement and help students externalize their thinking. They are especially important for students with sensory or motor differences who may use alternate access methods.

Physical Tools	Description
Counting Blocks	Counting blocks are small objects that students can touch and move to help them count, add, or subtract. They can use them to build numbers and see how mathematics works. Example: If a student has 3 blocks and adds 2 more, the student can count them all to see that they have 5.
Number Path (tool and model)	A number path is a visual model that shows numbers in a straight line or curved path, with each number in its own space. It helps students see how numbers grow, compare numbers and count forward or backward. Example: If a student jumps from 2 to 5 on a number path, they can see that they added 3. It is like a number line, but each number has its own box or step, making it easier to follow for beginning learners.
Number Lines (tool and model)	A number line is a straight line with numbers in order. Students can use it to count, add, subtract, or compare numbers by moving forward or backward. Example: If a student starts at 4 and jumps 3 spaces forward, they land on 7.
Rulers	A ruler is a tool with numbers and marks that helps students measure how long or tall something is. It shows length in inches or centimeters. Example: Students can use a ruler to see how long their pencil is, maybe it is 6 inches.
Balance Scale	Balance scales are tools that help students compare the weight of two objects. If both sides are even, the weights are the same. If one side goes down, it is heavier. Example: A student can use a balance scale to see if a rock weighs more than a toy car.
Clocks	Clocks help students tell time. They have numbers and hands that move to show the hour and minutes. Some clocks are digital and show the time with numbers only. Example: If the short hand is on 3 and the long hand is on 12, it is 3 o'clock.
Thermometers	Thermometers measure temperature, how hot or cold something is. They use numbers and a line that goes up or down to show the temperature. Example: A student can use a thermometer to see if it is warm enough to play outside or cold enough to wear a coat.
Measuring Cups and Spoons	Measuring cups and spoons help students measure how much of something they have, like water, flour, or sand. They show amounts in cups, tablespoons, or milliliters. Example: A student might use a measuring cup to pour exactly 1 cup of water into a bowl.
Base-Ten Blocks	Base-ten blocks are special blocks that show ones, tens, hundreds and more. They help students build an understanding of big numbers by showing how place value works. Example: A small cube is 1, a long stick is 10 and a big square is 100.

Physical Tools	Description
Two-Color Counters	Two-color counters are small chips with one color on each side. Students can flip them to show different choices or changes in math problems. Example: Students might use red for subtraction and yellow for addition or flip them to show a pattern.
Tangrams	Tangrams are flat shapes that fit together like a puzzle. They include triangles, squares and parallelograms. Students can use them to build pictures and explore geometry and spatial thinking. Example: A student might use tangrams to make a cat, a rocket or a house by arranging the pieces.
Geometric Solids	Geometric solids are 3D shapes students can hold and explore. Typically have length, width and height and include shapes like cubes, spheres, cones and cylinders. They have volume, occupy space and cannot lie flat. Example: A cube has flat square sides and a sphere is round like a ball.
Geoboards	A geoboard is a flat board with pegs where students stretch rubber bands to make shapes and patterns. It helps them learn about geometry, area and perimeter. Example: A student can make a triangle or a square by connecting rubber bands around the pegs.
Cuisenaire Rods	Cuisenaire rods are colorful blocks of different lengths. Each color represents a number and students use them to build math concepts like addition, subtraction and fractions. Example: A red rod might be 2 units long and a purple rod might be 4 units long, so they can see how they compare.
Linking Cubes	Linking cubes are small cubes that snap together. Students can use them to count, build, measure and model math problems. Example: A student might link 5 cubes together to show the number 5 or build a tower to compare sizes.
Pattern Blocks	Pattern blocks are colorful flat shapes like triangles, hexagons and trapezoids. Students use them to make designs, explore symmetry and learn about fractions and geometry. Example: A student can fit two trapezoids into a hexagon to see how shapes work together and that a trapezoid is half of the hexagon.
Fraction Manipulatives (towers, circles, tiles/bars, fraction strips and squares)	These are tools that help students see and understand fractions. They come in different shapes: Towers: Stackable pieces that show how fractions build up to a whole. Circles: Round pieces divided into equal parts like halves, thirds, or fourths. Tiles/Bars or fraction strips: Long rectangles that show parts of a whole side by side. Squares: Flat pieces divided into equal parts to compare fractions. Example: A student can use a fraction square to see that two ¼ pieces make ½.
Unit Squares	Unit squares are square tiles that each represent one unit. Students use them to count, measure area, or build arrays. Example: If a student covers a rectangle with 12-unit squares, its area is 12 square units.

Digital Tools	Description
Virtual Manipulatives	Virtual manipulatives are online math tools that students can click, drag and move on a screen. They work like real blocks, counters, or number lines, but students use them on a tablet or computer. Example: They might use virtual base-ten blocks to build numbers or a digital ten-frame to show how many dots make 7.
Interactive Number Paths (tool and model)	An interactive number path is a digital line of numbers that lets students tap, slide, or jump to different numbers. It helps them count, add, subtract and see patterns in numbers. Example: Students can jump from 2 to 5 to see that they added 3 or slide back to subtract.
Calculator	A calculator is a digital tool that performs arithmetic operations such as addition, subtraction, multiplication and division. Students press buttons to enter numbers and the calculator shows the result. Calculators can help students check work, explore large numbers, or complete multi-step problems when the goal is reasoning rather than computation. However, calculators do not show how numbers relate or why a solution works. They support access, but they do not replace the need for students to build number sense, place-value understanding, or mental and written strategies. Example: A student might use a calculator to verify an answer after solving with base-ten blocks or a number line, or to participate in a word problem where the focus is reasoning rather than computation.

Accessible Tools	Description
Tactile Counters	Tactile counters are math objects that students can touch and feel. They help them count, add, subtract, or sort. Some tactile counters have different textures, which makes them easier to feel and use for students who are visually impaired. Example: A student might use smooth counters for one group and bumpy counters for another to help tell them apart by touch.
Communication Systems	Communication systems are tools that help students share their ideas in ways that work best for them. This might include symbols, signs, switches, or devices that speak out loud. In math, they help students show answers, explain thinking, or ask questions. Example: A student might use a tablet with an icon button to say “more” or “same.”

Rubric Vocabulary

Term	Definition
AB Pattern	An AB pattern consists of two elements that repeat in the same order: 'A' represents one feature (e.g., color, shape, texture, size).'B' represents a different feature.
Addition Relationship	Shows how two or more sets can be combined to make a whole. It helps students understand that when you put groups together, the total gets larger.
Additive Sequence	A sequence of numbers where each term increases by a consistent amount, called the interval or step size. This means the difference between any two consecutive numbers in the sequence is always the same. Examples: Skip counting by 3: 3, 6, 9, 12, 15. Odd numbers: 1, 3, 5, 7, 9 (interval of 2). Even numbers: 2, 4, 6, 8, 10 (interval of 2). Decimal sequence: 0.5, 1.0, 1.5, 2.0 (interval of 0.5)
Analyze	To examine parts of a concept, structure, or problem to understand how they relate, identify patterns, or draw conclusions.
Area (geometry)	Tells how much space is inside a flat, two-dimensional shape. Examples: The area of a rectangle is all the space inside its sides. If you put tiles inside a square, the number of tiles shows the area. A rug’s area is the space it covers on the floor.
Area Models	An area model is a math model that uses a rectangle divided into parts to represent quantities, operations, and mathematical relationships. Area models can be used to solve problems involving whole numbers, fractions, decimals, ratios, and percentages. They help students visualize how numbers are composed, decomposed, and related to one another, making abstract mathematical ideas more accessible.
Arithmetic Patterns	Refers to regularities or predictable changes in numbers that follow a consistent rule, usually involving addition or subtraction. For example, a pattern like 2, 4, 6, 8 shows a repeating increase by 2. A pattern like 10, 9, 8, 7 shows a repeating decrease by 1.
Associative Property	This means you can change how the numbers are grouped when you add and the total stays the same. It is like saying it doesn’t matter which group of numbers you add first — the answer will be the same. Example: (2 + 3) + 4 is the same as 2 + (3 + 4). Both equal 9.
Attribute Meaning	At the developing stage, students may show behaviors that are not yet intentional, such as reflexive movements or accidental contact with materials. Teachers can attribute meaning by noticing these actions and connecting them to math concepts in natural ways. For example, if a student reacts or engages with an object’s size or shape (Attribute), you might say, “You touched the big block!” If the student reacts to repeated sounds or visuals (Pattern), you could comment, “You noticed the same color again! That color is yellow.” When a student turns toward two objects side by side (Comparison), you might add, “You’re looking at both blocks together. They are different.” If they move when something changes position (Change), acknowledge, “I saw you raise your hands up. You felt it move! We turned it over.” For Connection, link their reaction to a familiar routine: “You saw the clock like we do before snack.” And for Communication, respond to any vocalization or gesture as if it relates to the math activity: “You made a sound when I showed the number path! I think you might be telling me to move the block.” These small steps help students learn that their actions have meaning and can lead to intentional communication.

Term	Definition
Awareness	Refers to a student's observable response that indicates they are noticing, attending to, or interacting with a mathematical concept, tool, or feature, even if they are not yet intentionally using it for a specific purpose. It can include: Sensory engagement (e.g., touching, looking toward, vocalizing); Physical orientation (e.g., turning head, reaching); Gestural or expressive behavior (e.g., smiling, pausing, exploring). Importantly, awareness at the Developing Level is often pre-intentional or emerging, meaning the student may not yet understand the math concept but is showing signs of recognizing its presence or relevance in a routine or activity.
Benchmark Number	A reference point or “friendly” number used to make comparisons, estimates, or calculations easier. These numbers are typically simple, well-known values that help students reason about size, magnitude, or proximity without needing exact computation. Examples: Whole numbers: 0, 1, 5, 10, 25, 50, 100 (used for rounding or comparing). Fractions: ½, ¼, ¾ (used for estimating fraction size). Decimals: 0.5, 0.25, 0.75 (linked to fraction benchmarks). Percentages: 25%, 50%, 75% (common benchmarks for estimation).
Cardinality	Cardinality means “how many things are in a group.” When you count toys, blocks, or pictures, the last number you say tells you the total number in that group. If you counted “1, 2, 3” blocks, the group has three blocks—and you can answer the question “How many?” without counting again.
Classification	Sorting things into groups that are alike. Examples: Putting all red blocks in one group and blue blocks in another. Sorting shapes so circles are together and squares are together.
Commutative Property	This means you can switch the order of numbers when you add or multiply and the total stays the same. It is like saying it doesn’t matter which number comes first, you still get the same answer. Example: 4 + 6 = 6 + 4 or 8 X 7 = 7 X 8.
Compose	To put parts together to make a whole. Example: If you have 3 blocks and 2 blocks, you compose them to make 5 blocks.
Composite Figure	A composite figure is a picture or object made from different shapes joined together. Example: A train made from circles (wheels) and rectangles (cars).
Composite Shapes	A composite shape is a large shape made by combining two or more smaller shapes. Example: Two triangles joined to make a square.
Consistent Numerical Structure	A pattern in which each term follows a specific, repeatable rule such as adding the same number each time (e.g., +2), multiplying by a constant (e.g., ×3), or following a positional rule (e.g., every third number). The structure remains the same across the sequence, allowing students to identify, describe and eventually predict future terms. Examples: Additive structure: 2, 4, 6, 8 (add 2 each time). Multiplicative structure: 3, 6, 12, 24 (multiply by 2 each time). Positional structure: 5th term in a +3 pattern is 15
Corners or Vertices	The point where two sides or edges meet. A square has 4 corners. A triangle has 3 corners. A circle has no corners.
Data Display	A data display is a visual representation of information that organizes and shows data in a way that makes patterns, relationships and comparisons easier to understand. Examples: bar graphs and picture graphs.
Decompose	To break a whole into parts. If you have 10 blocks, you can decompose them into 6 blocks and 4 blocks.
Defining Feature	The special part that makes something what it is. It is the detail that helps you tell it apart from other things.
Different	Unlike other items. A foundational comparison skill where sets are judged equal or unequal in size or structure.
Division	Sharing or splitting a number into equal parts or groups. It is like when you have 12 cookies and you want to share them with 3 friends—each friend gets 4 cookies.

Term	Definition
Engages with	Is self-initiated and focused on physically exploring or manipulating math tools or models (e.g., touches, moves, places, taps, rotates, grasps, explores using hand-under-hand support). When teachers observe these behaviors, they should attribute meaning by drawing attention to the math concept involved—such as an attribute, pattern, comparison, change, connection, or communication. This helps the student begin to connect their actions to mathematical ideas. Only used at the Developing Level. See examples under "Attribute Meaning."
Equal	The same in amount, size, or value. If two things are equal, they match or are the same as each other. Examples: Numbers: 4 is equal to 4 because they are the same amount. Objects: Two piles of blocks are equal if they have the same number of blocks. Shapes: Two squares are equal if they are the same size.
Equal Groups	Arranging objects into sets that each contain the same number of items.
Equal Groups Problem	An equal groups problem involves arranging objects into sets that each contain the same number of items and then determining the total number of objects or how they are distributed (e.g., A student has 6 counters and wants to divide them into 2 equal groups. The student places 3 counters in each group and then uses counting or addition to find the total: 3 + 3 = 6. These problems support an early understanding of addition, repeated addition and fair distribution and are foundational for later concepts of multiplication and division.
Equal Shares	Dividing something into parts that are all the same size. No one gets more and no one gets less, every part is fair and equal. Sharing Pizza: If you cut a pizza into 4 equal slices, each slice is the same size. Each person gets one equal share. Sharing Blocks: If you have 12 blocks and 3 friends, you give 4 blocks to each friend. That's equal shares because everyone gets the same amount. Splitting Time If you have 30 minutes and want to split it into 3 equal parts, each part is 10 minutes.
Equivalent	Equal in value or amount, even if they look different. Two things are equivalent when they represent the same quantity. Examples: Numbers: 8 + 2 is equivalent to 10 because both equal 10. Fractions: ½ is equivalent to 2/4 because they are the same size as the whole. Money: 10 dimes is equivalent to 1 dollar because both are worth the same.
Expression	A math expression is a way to show a number or idea using numbers, symbols, or letters. It can include things like addition, subtraction, or a letter that stands for a number. It does not have an equal sign. Examples: 3 + 4 (just shows a total). 5 + x (uses a letter to stand for a number).
Extend Pattern	To keep the pattern going by adding more in the same order. Examples: Number Sense: If the pattern is 2, 4, 6, you add 8 and 10 to make it longer. Geometry: If the pattern is circle, square, circle, square, you add another circle and square to keep it going. Measurement and Data: If the pattern is short cup, tall cup, short cup, you add another tall cup and short cup to continue the pattern.
Familiar Routine	Refers to classroom activities, transitions, or instructional practices that occur regularly and are known to the student. These routines provide a predictable structure and context, allowing students to engage with math concepts in a way that feels safe and accessible. Familiar routines may include morning meetings, center time, snack counts, lining up, calendar activities, repeated storybook readings and many more. Because these routines are consistent, they offer natural opportunities to observe and document math-related behaviors without introducing unfamiliar demands.
Fraction	A way to show a part of something. When you split a whole into equal pieces, a fraction tells you how many of those pieces you have. Examples: ½ means one out of two equal parts. ¼ means one out of four equal parts. ¾ means three out of four equal parts.
Fractional Part	A piece of something that has been split into equal parts. When you cut or divide a whole into equal pieces, each piece is a fractional part. Examples: Pizza: If you cut a pizza into 4 equal slices, each slice is a fractional part of the whole pizza. Numbers: In the fraction ½, the "½" means one fractional part out of two equal parts. Shapes: If you fold a square into two equal halves, each half is a fractional part of the square.

Term	Definition
Group	A set of things that are put together because they belong or go together in some way. When you group things, you collect them into smaller sets instead of leaving them all mixed up. Examples: Grouping by color: Put all the red blocks together in one group and all the blue blocks in another. Grouping by number: Make groups of 5 counters from a pile of 20 counters. Grouping by size: Put big shapes in one group and small shapes in another.
Grouping Pattern	A repeated arrangement of objects into equal-sized sets that can be recognized, counted, or labeled.
Growing Pattern	Patterns in which the numbers increase and the amount added changes each time in a predictable way. Example: 1, 2, 4, 7, 11,…
Identifies	“Shows which one it is” — by pointing, touching, saying the name, choosing it on a device, or doing something else to show the student knows the right one.
Integer	An integer is a whole number that can be positive, negative, or zero (e.g., …, −3, −2, −1, 0, 1, 2, 3, …). Integers are commonly represented on a number line, where numbers to the right of zero increase in value (positive numbers) and numbers to the left decrease in value (negative numbers). Integers are useful for representing changes in value that move in two directions, increases and decreases, within a single, continuous system. Examples: Moving right 5 spaces on a number line (+5) shows an increase in value. Moving left 3 spaces (−3) shows a decrease in value. A $10 deposit can be represented as +10, while a $20 withdrawal can be represented as −20. A temperature change from 2° to −1° shows a decrease that crosses zero.
Justifies	A student uses words, signs, or symbols to explain or show why a mathematical idea, answer, or action makes sense (e.g., a student says, signs, or selects “I added one more” to explain why two groups are now equal).
Layer	A group of shapes or objects stacked on top of each other. Example: In a stack of cubes, the bottom set of cubes is one layer. If you have 2 layers of cubes, one is on top of the other.
Magnitude	How big or how small something is. It tells us the size or amount of a number. Bigger numbers have a greater magnitude and smaller numbers have a smaller magnitude. Examples: Comparing numbers: 100 has a greater magnitude than 10 because it is bigger. Distance: A jump of 5 feet has a greater magnitude than a jump of 2 feet. Temperature: 80 degrees has a greater magnitude than 40 degrees.
Mathematical Relationship	It is a way to show how changing one value affects another — often using operations like addition, subtraction, multiplication, division, or patterns.
Measurable attribute	Length – How long something is (like a string or a pencil). Height – How tall something is (like a block tower). Size – How big or small something is. Weight – How heavy or light something feels. Time – When something happens (like morning, afternoon, or today). Shape – The way something looks (like a circle, a square, or a triangle). Color – What color something is (like red or blue). Category – A group of things that belong together (like all the round things together).
Model	A model is a way to show an idea or problem using pictures, objects, or drawings instead of just words or numbers. Examples: Number Sense: A number line or a group of blocks can be a model to show counting or adding. Geometry: Using shapes to build a picture of a house is a model of how shapes fit together. Measurement and Data: A chart or graph can be a model to show how much water is in different cups.
Multi-digit Operation	A math problem that involves numbers with more than one digit. These are bigger numbers like 12, 45, or 678. You can add, subtract, multiply, or divide these numbers to find an answer. Examples: Addition: 45 + 32 = 77 Subtraction: 123 − 45 = 78 Multiplication: 12 × 3 = 36 Division: 84 ÷ 4 = 21
Multi-Step Problem	A multi-step problem involves a sequence of two or more changes to a quantity, requiring the student to apply multiple operations (such as addition and subtraction) in a logical order to determine the final amount. The student must also be able to explain their reasoning, showing how each step contributes to the solution.

Term	Definition
Number Property	A characteristic or rule that applies to numbers or sets of numbers. These properties help us understand how numbers behave and relate to one another, especially in patterns and operations. Examples: Odd and Even: Even numbers can be split into two equal groups (e.g., 2, 4, 6). Odd numbers cannot be split evenly (e.g., 1, 3, 5). Multiples: A multiple of a number is the result of multiplying that number by whole numbers (e.g., multiples of 5 are 5, 10, 15, 20…). Skip-counting patterns: These are based on adding the same number repeatedly (e.g., counting by 2s, 5s, or 10s). Increasing or decreasing patterns: Numbers go up or down by a consistent amount (e.g., +3 each time or –2 each time).
Numerals	The symbols we use to show numbers. For example, 1, 2 and 3 are numerals that tell us how many things there are.
One more/One Less	One More means increasing a quantity by adding one to it. One Less means decreasing a quantity by taking one away from it. These concepts help students begin to understand how numbers change when we add or subtract a single unit. They are foundational for developing number sense and understanding addition and subtraction.
One-to-one Correspondence	Refers to the foundational math concept where each item in one set is matched with exactly one item in another set. This skill helps students understand quantity, counting and equivalence. In early math, one-to-one correspondence is often observed when a student counts objects by touching or moving each one while saying a number word, ensuring that each object is counted once and only once. It supports the development of cardinality and is essential for understanding number relationships.
Orientation	The position or direction of a shape in space relative to a reference point or plane. It describes how the shape is placed—whether it is upright, rotated, flipped, or turned—without changing its size or shape. Key aspects of orientation: Rotation: Turning a shape around a point (e.g., a triangle rotated 90°). Reflection (flip): Mirroring a shape across a line (e.g., trapezoid flipped horizontally). Direction: The way the shape faces (e.g., arrow pointing up vs. down). Position consistency: Matching shapes that have the same orientation means they are aligned in the same direction, not rotated or flipped.
Parallel Lines	Straight lines that go the same way and never meet. They stay the same distance apart.
Part-Whole Relationships	A whole thing can be split into smaller parts and all the parts together make the whole. Examples: Fractions- A pizza cut into 4 slices. Each slice is a part and all 4 slices make the whole pizza. Numbers- The number 10 can be split into 4 and 6. When you add 4 and 6, you get the whole number 10. Place Value: The number 345 is made of 3 hundreds, 4 tens and 5 ones. These parts together make the whole number. Sets and Groups- A basket with 12 apples can be split into 3 groups of 4 apples. Each group is a part of the whole set. Measurement- A 1-meter stick can be divided into 100 centimeters. The centimeters are parts and the meter is the whole. Time- 1 hour is made of 60 minutes. The minutes are parts of the whole hour.
Partition	To split or divide something into parts. When you partition, you break a whole into smaller pieces or sections. Examples: Shapes: Cut a rectangle into 4 equal parts. Numbers: Partition 10 into 6 and 4. Sets: Partition 12 counters into 3 groups of 4
Pattern	A pattern is a predictable sequence or structure that repeats or grows. Understanding patterns helps students make predictions, recognize regularities and develop algebraic thinking. Example in context: Noticing that a sequence of numbers increases by 2 each time (e.g., 2, 4, 6, 8) or identifying a repeating color pattern in blocks (red-blue-red-blue).
Pattern Rule	A clear, repeatable instruction that describes how a numerical pattern is built or extended. It tells you what happens from one term to the next — for example, how much is added, subtracted, multiplied, or divided each time.
Perceptual Cues	Observable features—such as size, length, area, spacing, or arrangement—that help a person distinguish between groups of objects without counting. These cues rely on sensory input (e.g., visual or tactile) and support early quantity comparison by allowing students to notice which group appears to have more, fewer, or the same number of items.

Term	Definition
Predict Outcomes	Using an understanding of quantity, pattern, or previous experience to anticipate what the total will be after putting together or taking from a set, before verifying with a model or count (e.g., a student sees a growing pattern [adding one block each time] and indicates, “Next will be 5 blocks,” before building it). Use known information in order to make a logical guess as to a future outcome.
Prism	A solid shape with flat sides and the two ends are the same shape. Examples: A box is a prism because the ends are rectangles. A tent can look like a prism if the ends are triangles. A cube is a special prism with square ends.
Product	The result when one number is multiplied by one or more numbers; the answer to a multiplication computation.
Quantity	The countable or measurable amount of items, objects, or units in a set. It can be represented using numbers, symbols, or mathematical tools and can change through addition, subtraction, multiplication, or division.
Ratio	a way to compare two things by showing how many times one thing happens compared to another. It is like saying, “For every ___ of this, there are ___ of that.” Examples: If you have 2 apples and 3 oranges, the ratio of apples to oranges is 2 to 3. We can write it as: 2:3 or say “two to three.”
Reacts to	Indicates an observable, often spontaneous response to a mathematical-related stimulus or situation. This may include physical movement, vocalization, eye gaze, or other behaviors that show the student noticed or engaged with a mathematical concept, even if unintentionally. Teachers can attribute meaning by acknowledging these responses as connected to the math activity, helping the student learn that their actions matter. Only used at the Developing Level. See examples under "Attribute Meaning." 1. Neurological Responses Startle reflex: Sudden jerking or blinking in response to loud sounds or unexpected touch. Eye gaze shifts: Turning eyes toward or away from a stimulus. Changes in muscle tone: Tensing up or relaxing depending on the stimulus. Motor planning or inhibition: Pausing movement or initiating movement in response to a cue. 2. Sensory Responses Flinching or withdrawing: Pulling away from tactile, auditory, or visual stimuli. Covering ears or eyes: Attempting to block overwhelming input. Seeking sensory input: Moving closer to lights, textures, or sounds. Repetitive movements: Rocking, hand-flapping, or tapping in response to sensory overload or excitement. 3. Autonomic Nervous System Responses These are involuntary and often reflect emotional or stress-related reactions: Heart rate changes: Accelerated or slowed heartbeat. Breathing changes: Rapid, shallow breathing or deep sighs. Skin responses: Sweating, goosebumps, or flushing. Pupil dilation or constriction: Changes in pupil size due to light or emotional arousal. 4. Behavioral Indicators Vocalizations: Laughing, crying, humming, or other sounds. Facial expressions: Smiling, frowning, grimacing. Postural changes: Leaning in, turning away, slumping, or standing tall. Gestures: Pointing, waving, or reaching. 5. Communication Responses For students with significant cognitive or physical disabilities, biophysical responses may be their primary mode of communication: Eye gaze toward a preferred item. Intentional movement (e.g., reaching, nodding, lifting eyes) Changes in breathing or vocalization patterns to indicate preference or discomfort.

Term	Definition
Real-World Context	Using mathematics to show or solve something that happens in everyday life. Examples: Counting apples in a basket or steps on a staircase. Using shapes to make a picture of a house or a playground. Measuring water in cups or showing favorite colors on a chart.
Real-world Objects	Physical items from everyday life that students can see, touch and manipulate to explore mathematical ideas. These objects provide concrete, meaningful contexts for abstract concepts, helping students connect mathematics to their environment. Examples: Classroom items: books, pencils, erasers, chairs and sticky notes. Household items: cups, plates, doors and windows. Nature items: leaves, rocks and sticks. Everyday tools: rulers, clocks and measuring cups.
Recreates	The student intentionally produces or constructs a mathematical idea, relationship, or representation from memory, even if the model or structure was just seen and then removed. This reflects the student's ability to retain and reconstruct a concept they've previously encountered, using math tools, models, or alternate access methods.
Repeated Addition	The process of adding equal-sized groups together to determine a total. This strategy helps build an understanding of multiplication.
Repeated Addition Structure	A quantity organized as equal-sized groups that can be represented and solved using repeated addition. This structure provides a foundation for understanding multiplication.
Repeated Sensory Input	The presentation of the same sensory feature—such as a sound, visual pattern, tactile texture, or movement—multiple times in a sequence or across different objects or events. The repetition creates predictability and helps students notice patterns or similarities. Examples: Visual: Showing several blocks of the same color or shape in a row (Pattern). Auditory: Clapping a rhythm or repeating a counting chant during an activity (Communication). Tactile: Offering multiple objects with the same texture for sorting (Attribute). Movement: Rolling two balls in the same direction repeatedly to highlight change (Change).
Repeating Pattern	A pattern that is cyclical in nature, with each cycle repeating elements in the same order.
Representations	Representations are the different ways students show or express mathematical thinking. Gestural or expressive representations: Using pointing, eye gaze, signs, or AAC devices to indicate understanding or communicate a math concept. Concrete representations: Using physical objects like blocks, counters, or toys to show a math idea (e.g., combining 2 and 3 blocks to show 5), Visual representations: Using drawings, ten-frames, number lines, or number bonds to show relationships between quantities. Symbolic representations: Using numbers, equations, or number sentences (e.g., 2 + 3 = 5) to express a math idea. They support conceptual understanding, especially when students can connect different types of representations (e.g., matching a set of counters to a number sentence).
Responds	Reflects intentional engagement in response to instructional interaction, such as a question, comment, or modeled behavior.
Reproduces	Indicates that the student intentionally constructs or arranges a math concept, model, or structure based on prior experience or understanding. This action reflects memory-based engagement and conceptual awareness, rather than rote copying.
Rounding	Finding a number close to the one you have, but easier to work with. You look at the number and decide if it is closer to the next higher 'friendly' number or the lower one. Examples: Rounding to the nearest ten: 68 rounds to 70 because it is closer to 70 than to 60. 32 rounds to 30 because it is closer to 30 than to 40. Rounding to the nearest hundred: 245 rounds to 200 because it is closer to 200 than to 300.
Row	A straight line of shapes or objects that go side by side. Example: In an array of cubes, the cubes in one line across are a row. If you have 3 cubes in a line, that's one row.
Same	Sets that are identical; not different. A foundational comparison skill where sets are judged equal or unequal in size or structure.
Sequence	An ordered list of numbers or objects that follow a specific rule or pattern. A counting sequence: 1, 2, 3, 4, 5... A skip-counting sequence: 2, 4, 6, 8... A growing pattern: 1 block, 2 blocks, 3 blocks...

Term	Definition
Shape Composition	Shape composition means building a new shape by combining smaller shapes. Example: Using a rectangle and a triangle to make a house shape.
Skip Counting	Counting by numbers other than 1. Instead of saying every number, you jump by a certain amount each time. For example, counting by 2s means you say 2, 4, 6, 8 and so on. Example: By 2s: 2, 4, 6, 8, 10 (like counting pairs of shoes). By 5s: 5, 10, 15, 20 (like counting nickels or fingers on hands). By 10s: 10, 20, 30, 40 (like counting dimes or tens on a number chart).
Stills	Refers to a moment when a student who typically moves frequently becomes quiet and physically still while thinking, listening, or focusing intently on a math concept, tool, or interaction. This behavior may indicate deep concentration or engagement and is considered a valid form of observable evidence, especially for students who express understanding through subtle or nonverbal cues.
Subitizing	Being able to look at a small group of things and know how many there are without counting them one by one. For example, if you see three apples on a table, you just know there are three without saying “one, two, three.”
Sustained Gaze	When a student looks at a person, object, or activity for a noticeable period of time, long enough to show interest, attention, or recognition. For students at the developing level, this might mean holding their gaze for a few seconds without being prompted, especially during a learning activity or when interacting with materials.
Subtraction Relationship	Shows how a total can be separated into parts, or how taking some away from a group leaves a smaller amount.
Symmetrical Pattern	A pattern arranged so that its parts form a mirror image across a line of symmetry. For example, a butterfly's wings, a heart shape, or a color pattern that matches on both sides of a center line.
Symmetry	A property of a shape, object, or design in which one side matches the other side across a line, point, or plane of balance. For example, if a shape is folded along a line of symmetry, the two sides align.
Time Concepts	Time concepts are words and ideas that help us understand when things happen. Examples: Today – the day we are in now. Tomorrow – the day after today. Yesterday – the day before today. Morning – the early part of the day. Afternoon – the middle part of the day. Night – the dark part of the day when we sleep.
Total	The whole amount or the sum when adding.
Trend	On a graph or chart, “tends” shows the general direction or pattern of the data. Examples: “The line tends to go up” means the numbers are usually getting bigger. “The bars tend to get shorter” means the amounts are usually getting smaller. It is about the overall trend, not every single point.
Unit	A unit is a standard quantity used as a basis for measurement. It defines “how much” of a measurable attribute is being counted or compared. Examples: Inch, foot, centimeter, meter (length), Minute, hour (time), Gram, kilogram, liter (mass or volume)
Unit Cube	A 3-D shape that measures 1 unit on each side. It is like a building block that is 1 long, 1 wide and 1 tall. We use unit cubes to measure volume (how much space is inside a shape).
Unit Fraction	A fraction where the top number (numerator) is 1 and the bottom number (denominator) tells how many equal parts make a whole. Examples: 1/2 → One out of two equal parts (half). 1/3 → One out of three equal parts. 1/4 → One out of four equal parts (a quarter).
Unit Square	A square that measures 1 unit on each side. If each side is 1 inch, the unit square is 1 inch × 1 inch. We use unit squares to measure area (the amount of space inside a flat shape).
Value	A value is the numerical amount or worth assigned to a unit or object. It represents “how many” units or the monetary worth of something. Examples: 6 inches (length), 10 minutes (time), A dime = 10 cents (coin value)
Variable	A variable is a symbol (usually a letter) that stands for a number we do not know yet. It helps us write mathematical problems in a simple way and figure out missing parts.

Term	Definition
Volume	How much space something takes up inside.