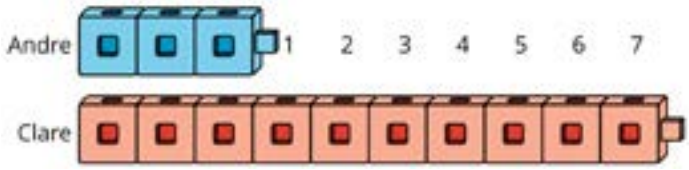
Math Moments that Matter

Grade 1: Addition and Subtraction within 20

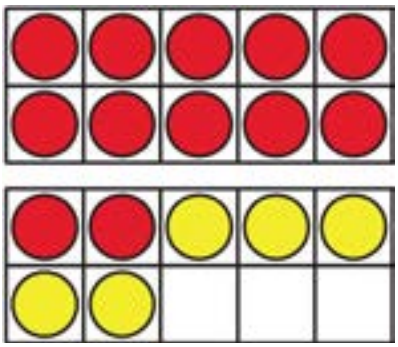
First graders extend their understanding of numbers to 20 as they build meaning for addition and subtraction. They explore joining and separating quantities, comparing amounts, and representing these situations with objects, drawings, and equations. These experiences deepen their understanding of how numbers work together and prepare them for solving more complex problems with fluency and confidence.

Students build an understanding of addition and subtraction within 20 by using visual models, such as connecting cubes and ten-frames, to show how numbers come together and apart. With cubes, they can compare two groups to see how many more or fewer one has. With ten frames, they can show what happens when some are removed or added. These visuals help students see that addition and subtraction are connected, thereby strengthening their understanding of how numbers relate to one another.

EXAMPLE: *Using connecting cubes to compare two amounts and see how they relate.*



EXAMPLE: *Using counters to show two parts that make a total.*



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Problem Solving in Math

When students solve addition and subtraction problems, they are building early habits of mathematical problem-solving. Working with numbers to represent real situations helps them make sense of what the problem is asking and decide which operation to use.

Students practice these skills when solving and reasoning through problems:

- Make sense of story problems by identifying what is known and what is missing.
- Choose tools, drawings, or equations to show their thinking.
- Try different strategies and explain why they make sense.
- Use math language to describe their process: “I added,” “I took away,” “I found how many more.”
- Justify: “I know 13 – 6 = 7 because 7 and 6 make 13.”

Talking, showing, and reasoning help students build confidence as problem-solvers who understand how numbers work together.

What You Might See in the Classroom:

Students are using counters, connecting cubes, drawings, or number lines to show joining and separating quantities.

Teachers asking:

- "How do you know that 9 and 6 make 15?"
- "Can you show it another way?"
- "What does the equation tell us?"

Students are sharing their models, strategies, and thinking with partners.

Students drawing pictures or building with tools to represent equations like 7 + 8 = 15 or 15 – 8 = 7.

Quick partner talks where students explain which operation makes sense in a story problem.

Students connecting equations to word problems and explaining how addition and subtraction are related.

What You Can Do at Home:

Use small objects: "You have 8 crackers. If I give you 4 more, how many will you have?"

Ask: "How did you figure that out?" or "Can you show me another way to make 12?"

Play: "Let's make 20 in as many ways as we can—how many combinations can you find?"

Encourage your student to explain their thinking: "Tell me how you knew that 8 and 7 make 15."

Tell stories with math: "You had 16 blocks and used 3 to build a tower. How many are left?"

Talk it out: "If 9 + 6 = 15, what subtraction equation could match it?" (e.g., 15 - 6 = 9)

Make it a Math Moment!

When students talk about joining and separating quantities, they're learning that addition and subtraction are connected ideas. Explaining how they know helps them see relationships between numbers and builds the reasoning that leads to flexible problem solving.