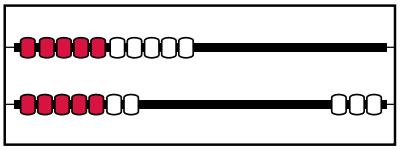
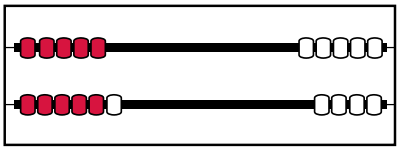
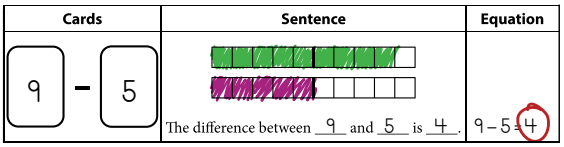
Bridges in Mathematics
Grade 2 Unit 1

Figure the Facts

In this unit, your student will:

- Explore efficient strategies to add and subtract within 20
- Work with even and odd numbers
- Solve addition and subtraction problem situations within 20
- Skip-count by 2s, 5s, and 10s
- Make and analyze bar graphs

Your student will practice these skills by solving problems such as these:

PROBLEM	COMMENTS
Show me 17 beads on your number rack. How do you see it?  *"I see 10 beads on the top row and 7 beads on the bottom."* *"I see 10 red beads and 7 white beads."*	The number rack is used to help students visualize numbers and solve addition and subtraction facts within 20. This math tool is made up of two rows of 10 beads; each row is strategically broken into a group of 5 red beads and a group of 5 white beads. The colors encourage students to think in groups of 2, 5, and 10. Over time, students will construct mental models for number combinations.
What is the sum of 5 + 6?  *"I know 5 + 5 is 10, and 1 more is 11."*	Doubles facts (such as 5 + 5) are those where a number is added to itself. Near doubles (such as 5 + 6) may also be solved by thinking about doubles. For example, a combination like 5 + 6 can be thought of as 5 + 5 + 1. Doubles facts are closely related to even numbers, and near doubles facts are closely related to odd numbers.
What is 9 – 5?  Cards: 9 – 5 Sentence: The difference between 9 and 5 is 4. Equation: 9 – 5 = 4 *"The difference between 9 and 5 is 4, so 9 – 5 = 4."*	Students review subtraction as a process of finding the difference using 10-strips to compare quantities. This model uses the one-to-one matching strategy commonly used by young students to compare sets of objects.
Choral count by 5s from 5 to 60. 5 10 15 20 25 30 35 40 45 50 55 60	In the choral counting routine, the class skip-counts by a designated number as the teacher records the numbers on the board. When the count is complete, they discuss patterns that emerge in the sequence. In Unit 1, the choral counts focus on skip-counting by 5s and 10s.

Frequently Asked Questions About Unit 1

Q: Why do some of these activities look like what my student did in first grade?

A: This unit reviews mathematical concepts while introducing and establishing routines that will be used during second grade. This review helps teachers assess students' skill level and plan future sessions in the days and months to come. Spending time on learning expectations and procedures is essential to ensure a cooperative community of learners where students work together to build mathematical concepts.

Q: Why are students spending time learning strategies? Why not just memorize addition and subtraction facts?

A: Second grade students are expected to use strategies to fluently add and subtract within 20. Bridges develops fluency with strategies to ensure a solid understanding of addition and subtraction and provides multiple opportunities to practice basic facts. Visual models like the number rack allow your student to recall a visual picture of the quantity when needed. Students who recall facts from memory are, in many cases, performing calculations based on the strategies discussed. These strategies enhance number sense and carry over to working with larger numbers, which enables your student to work flexibly and accurately as a problem solver.

Q: How can I support my student's learning?

A: As your student solves problems at home, encourage them to explain their thinking. Ask questions such as, "How did you solve that problem?" and "Is there another way you could have solved it?" These questions can help students share their reasoning and practice using strategies they have learned at school. Remember, there are often many valid ways to approach each problem.

To further support your student in learning mathematics, you can:

- Visit mathathome.mathlearningcenter.org and work through some or all of the activities in Grade 2: Set 1 together. These activities complement the learning that takes place in the classroom during Unit 1 and provide fun ways to engage children in mathematical thinking. This set also includes digital versions of familiar games that your student has learned at school, such as Turn Them Over and Battling Bugs.
- Visit apps.mathlearningcenter.org and invite your student to explore the Number Rack and Number Frames apps. Throughout Unit 1, students explore these tools in their physical forms in the classroom.
- Read books with your student that help them develop a positive math mindset and focus on skills such as addition and subtraction within 20, skip-counting, and even and odd numbers. Some suggestions for this unit include:
  - *The Math in Me* by Ashley Rougier
  - *Elevator Magic* by Stuart J. Murphy, illustrated by G. Brian Karas
  - *Even Steven and Odd Todd* by Kathryn Cristaldi, illustrated by Henry B. Morehouse; math activities by Marilyn Burns
  - *Equal Schmequal* by Virginia Kroll, illustrated by Philomena O'Neill
  - *Leaping Lizards* by Stuart J. Murphy, illustrated by JoAnn Adinolfi
  - *The Action of Subtraction* by Brian P. Cleary, illustrated by Brian Gable
  - *Ready, Set, Hop!* by Stuart J. Murphy, illustrated by Jon Buller