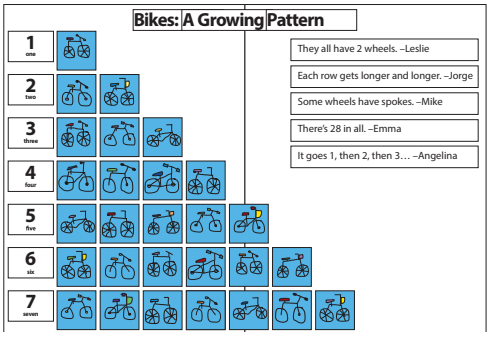
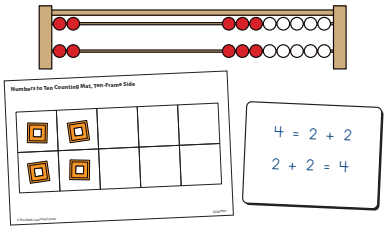
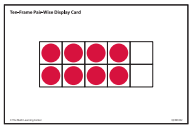
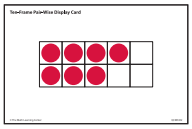
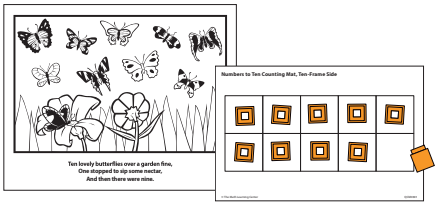
Bridges in Mathematics
Kindergarten Unit 3

Bikes & Bugs: Double, Add & Subtract

In this unit your child will:

- Count by 2s to 20
- Explore even numbers as doubles
- Add 1 and subtract 1 to numbers from 1 to 10
- Compare and order numbers from 1 to 10
- Write equations to show sums up to 5

PROBLEM	COMMENTS
What patterns do you see in the rows of bicycles? How many bicycle wheels in each row? 	Students notice things that come in twos: bicycle wheels, eyes, toys and food. In this unit, the class creates a chart with rows of bicycles. Students use the chart to count by 2s and notice the patterns in even numbers. 
How many bikes? How many bike wheels? _____ bikes _____ wheels *"I can count the wheels by 2s. 2… 4."*	Sets from 1–10 are explored on ten-frames and the number rack. Students learn that when a number is added to itself, like 3 + 3, it's called a double. They also discover that even numbers (2, 4, 6, 8, 10) are doubles sums. The ten-frame model shows the pair combinations and 1 more and 1 less.  **double** (even number)  **double +/–** (odd number)
When 1 butterfly stops to sip nectar, how many are left?  *"If I take away 1 butterfly (cube), 9 are left."*	The book *Butterfly Countdown* explores subtracting 1 and counting backward. *Munch, Crunch, What a Lunch* looks at adding 1 by counting forward. Students learn that 1 more is the same as saying the next number in the counting sequence. One less means the number that comes before the number they are working from. Understanding what number comes before and after any number promotes the computation strategies of counting on and counting back. 5 + 1 is 6 because 6 is 1 more than 5. 4 – 1 is 3, because 3 is 1 less than 4. Students no longer need to count from 1!
Use the pictures to solve the problems. *"3 cubes and 1 more cube is 4. 3…4!"*	

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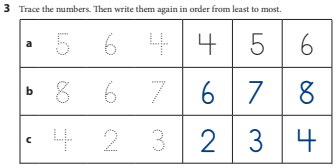
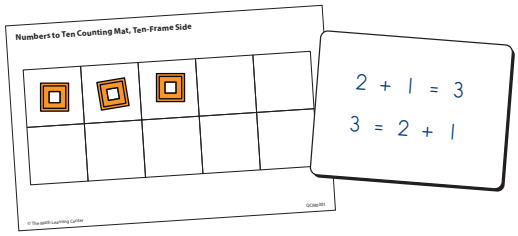
PROBLEM	COMMENTS
Count the cubes in each train. Which train is longer? 	Students play the game Grab Bag More or Less. Partners take turns grabbing cubes out of a bag, counting them out, and putting the cubes together to make a train. By lining up the trains of cubes, they can see which is greater and which is less. Some students may even say exactly how many more or less one quantity is compared to the other. Being able to count forward from a number other than 1 is a skill kindergarteners will practice this year. Even when children are able to count accurately, putting numbers in order may be challenging. They might need to refer to a number line or printed examples to check their answers and to practice writing numbers correctly.
Write the numbers in order from least to most.  3 Trace the numbers. Then write them again in order from least to most. a 5 6 4 4 5 6 b 8 6 7 6 7 8 c 4 2 3 2 3 4	
Two students brought their bicycles to school. Then 1 more student brought her bicycle to school. How many bicycles are there in all?  Numbers to Ten Counting Mat, Ten-Frame Side 2 + 1 = 3 3 = 2 + 1 *"2 + 1 is the same as 3."* *"3 equals 2 + 1."*	In this example, the student has placed 2 cubes on the ten-frame counting mat to show 2 bikes, and then she added 1 more cube to represent the additional bike. The teacher models how to write the equation to show the two parts that were added together to make a whole new set. The number symbols represent the concrete objects students have been working with. You may notice that the equation is written two ways. The teacher is emphasizing that both sides of the equal sign have the same value. Students learn that ***equal*** means ***the same as***.

FREQUENTLY ASKED QUESTIONS ABOUT UNIT 3

Q: Why is there an emphasis on counting by 2s?

A: Counting by 1s, then 2s, 5s, and 10s helps children understand that the quantity stays the same whether it's counted by 1s or in groups. While some students may be able to count by 2s from memory, they may not understand how counting by 2s is connected to quantities, doubles, and even numbers. Once it's understood, counting by 2s is a way to solve many problems more efficiently. Many students learn the easy addition doubles facts (2 + 2, 3 + 3, 4 + 4) through counting by 2s.

Q: My child writes some numbers backward. Should I be concerned?

A: Kindergarteners are just learning to form their numbers correctly. For many, the hand-eye coordination necessary to look at a number (or letter) and write it with a pencil or marker is still developing. Some children may not realize that the orientation of the number is important. If your child reverses a number, kindly point to the number and show them how to form the numeral correctly. The numeral writing rhymes introduced in Units 1 and 2 can also be helpful reminders.

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