InsightMath Texas

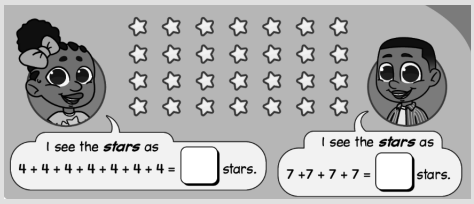
Counting in Groups

Family Guide | Grade 2 | Unit 8

Your student is exploring how creating structured, equal groups supports visualizing numbers and efficient counting.

Key Math Ideas

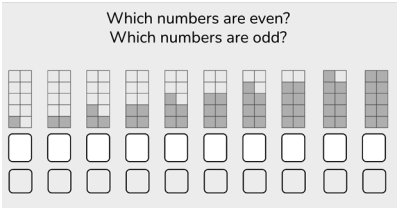
Before this unit, your student learned that multiples of ten represent groups of ten and that doubles are two equal parts. They also have sorted collections, noting that counting is quicker with equal groups or by identifying patterns. This unit will build on this understanding by exploring even and odd numbers, models for counting with groups, and data displays for larger data sets. Students will share and pair objects to see how quantities can be split evenly and use models called arrays to organize items into equal groups. They then shift their understanding of arrays to explore finding area by covering rectangles with small squares called square units.



The array of stars can be thought of two different ways, either by adding rows of 4 or rows of 7 to find the total.

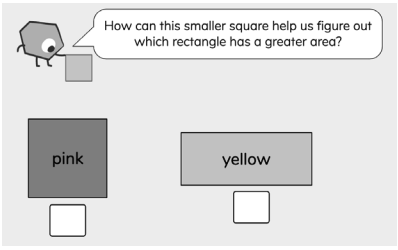
→ At the beginning of the unit, your student will learn to

- define and model even and odd numbers by creating two equal rows or rows of two with and without a leftover (as shown to the right);
- write equations to represent an even number as the sum of the same two numbers, such as 8 = 4 + 4;
- recognize and describe number patterns to identify even and odd numbers, such as even numbers ending in 0, 2, 4, 6, and 8 and odd numbers ending in 1, 3, 5, 7, and 9.



→ In the middle of the unit, your student will learn to

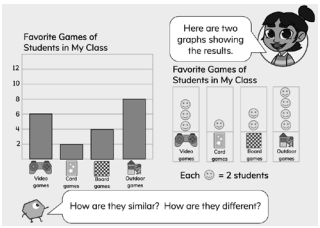
- understand how an array model is an efficient way to organize and count by equal groups;
- use skip counting by 2s, 5s and 10s as an efficient strategy for finding totals in arrays and to solve equations or word problems;
- compare the area of two rectangles and determine the area of a rectangle using square units.



Students measure the area by determining how many small squares (square units) are in each rectangle.

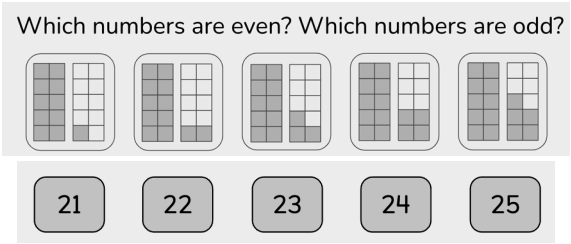
→ By the end of the unit, your student will learn to

- organize data into a pictograph and bar graph with a scale greater than 1, such as the visual to the right where the bar graph is labeled by 2s and each icon on the pictograph represents 2;
- interpret a pictograph and bar graph with a scale greater than 1.



Helpful Hint

Encourage and support your student to continue using visual models and pairs to determine if numbers are even or odd until they can confidently use the patterns in the digits.



Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ At the beginning of the unit:

- What happens when we split the number of objects into two groups or into pairs?
- How do you know if a number is even or odd?

→ In the middle of the unit:

- What is an array? How does it help in finding totals?
- Is there a different array you can make with the total? How do you know?
- How can we figure out the area of a rectangle?

→ Later in the unit:

- How can you use pictographs and bar graphs to organize large amounts of data?
- How does skip counting help you organize the data?

If...	Try...
your student has difficulty writing addition equations to represent arrays . . .	asking how many of the object they see in each row and writing the first addend, then ask about the second row and write the corresponding addend, and so on. Ask students what they notice about each row and make connections to how arrays can be represented by equations where the same number is added to itself.

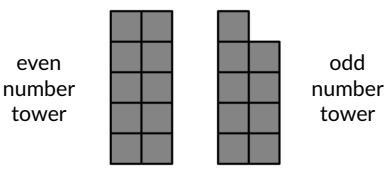
Student Strengths Spotlight

I start by observing what is happening in the problem. Your student will take time to observe and make sense of what is happening in each problem before starting to solve.

I notice when things repeat. Your student will notice and use repeating patterns when deciding if a number is even or odd, first with visual patterns then with number patterns.

Try This Together!

- **Even and Odd Towers!** Build towers to compare odd and even numbers. Use any building blocks you have at home to create a tower with two columns. Make an even number tower with two equal columns or an odd number tower where one column is one more than the other. Have your student tell you if it is even or odd without counting the number of blocks. Then have them count the blocks and make a connection to the patterns of even and odd numerals. As an added challenge, ask your student to turn an even number tower into an odd number tower, or the other way around!



- **Flexible Arrays.** Provide your students with a set of the same item, such as crackers or toys cars that are the same size. Ask your student to count them by making an array. Extend by asking them if they can make an array a different way. For example, 12 crackers could be organized in 3 rows of 4 crackers or 2 rows of 6 crackers (and more!).
- **Data Scavenger Hunt - Part 2:** Find pictographs and bar graphs used in the real world that have scales greater than 1. For bar graphs this means labels increase by 2, 5, or any other equivalent amount. For pictographs this means each icon represents more than 1. They may find them in books, magazines, or in the news. Ask your child to share what they learn from the information shown in the graph.