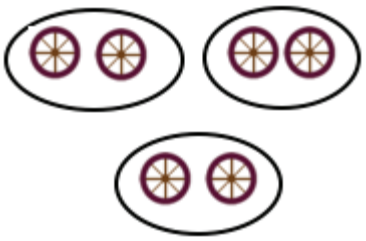
EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will learn about and create **equal groups**. We will learn the difference between 2 *groups* and *groups of* 2 and will relate equal groups to a **repeated addition** equation.

You can expect to see homework that asks your child to do the following:

- Circle or create groups of 2, 3, and 4.
- Given pictures of objects, create 2, 3, or 4 equal groups; for example, "Put the 6 wheels into 3 equal groups."(See image at right.)
- Write repeated addition sentences to match drawings of equal groups.
- Draw **tape diagrams** representing equal groups.



SAMPLE PROBLEM *(From Lesson 4)*

Draw a tape diagram to find the total.

2 + 2 + 2 + 2 + 2 = 10

5 groups of 2 = 10

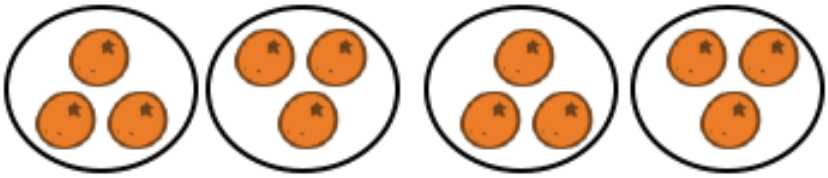
Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Encourage your child to **skip-count** by twos and fives while he washes his hair, gets dressed, or does other daily chores. For example, ask him to start at zero and skip-count by fives up to 50 and back to zero: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 45, 40, 35, 30, 25, 20, 15, 10, 5, 0. If your child shows mastery of skip-counting by fives, challenge him to skip-count by threes and fours in preparation for Grade 3. You might start the skip-counting and then encourage your child to join in.
- Look for equal groups in your home that your child can identify and skip-count. For instance, when setting the table for dinner, notice equal groups of silverware. When folding laundry, skip-count pairs of socks.
- Give your child 12 counters (e.g., pennies, buttons). Invite her to form equal groups of counters. Ask, "How many equal groups are there? How many are in each group?" She might say, for example, "There are 2 groups of 6 pennies." Then challenge her to make equal groups with the same number of pennies in a different configuration (e.g., 6 groups of 2, or 3 groups of 4).

TERMS

Equal groups: Groups with the same number of items per group. For example, in the image below, there are four equal groups of three oranges. Repeated addition of equal groups prepares students for multiplication and division in Grade 3.

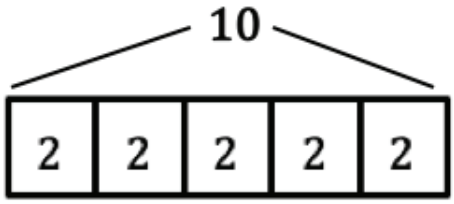


Repeated addition: Adding equal groups (e.g., 3 + 3 + 3 + 3).

Skip-count: To count by a number other than 1. For example, skip-counting by twos means counting 2, 4, 6, 8, 10, and so on.

MODELS

Tape Diagram: A problem-solving model that helps students see the relationships between quantities. In Module 6, students represent equal groups with tape diagrams.



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will learn about using equal groups to create **arrays**. (See Sample Problem.) We will learn how to organize and describe equal groups in terms of **rows** (horizontal groups) and **columns** (vertical groups). We will apply that understanding to modeling and solving word problems.

You can expect to see homework that asks your child to do the following:

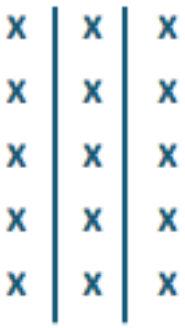
- Arrange equal groups of items in a specific number of rows or columns.
- Describe an array by using rows and columns (e.g., 3 rows of 4 is equal to 12).
- Write repeated addition equations to match drawings.
- Add or remove rows or columns to create a new array.
- Use arrays to model and solve word problems.

SAMPLE PROBLEM *(From Lesson 7)*

Draw an array that has 3 columns of 5 X's. Draw vertical lines to separate the columns. Then write a repeated addition equation to find the total number of X's.

5 + 5 + 5 = 15

3 *columns of* 5 = 15



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

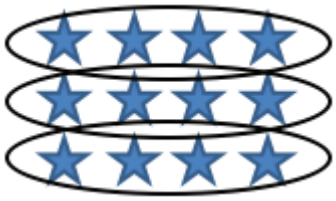
HOW YOU CAN HELP AT HOME

- Practice Happy Counting with your child. Point up (to count up) or down (to count down) repeatedly and rhythmically to help your child practice skip-counting by twos or fives in a fun and energetic way. Consider Happy Counting by threes or fours when your child is ready for a bigger challenge.
- Look for arrays in your home or community, such as rows or columns of building blocks, cupcakes in a bakery, or windows on buildings. Encourage your child to use the words *rows* or *columns* to describe how many are in the array; for example, "I see four rows of three cupcakes!" For an added challenge, invite your child to use a repeated addition equation to describe the array (e.g., $3 + 3 + 3 + 3 = 12$).
- To prepare your child for working with money in Module 7, play Coin Drop. Gather 10 dimes and 30 pennies and a metal or plastic container. Invite your child to watch, listen carefully, and count mentally as you drop a certain number of pennies, one at a time, into the container. Increase the complexity for your child by dropping dimes and then a combination of dimes and pennies. After each round, ask, "How much money is in the can?" Count together to confirm the total. For a challenge, you may wish to remove dimes and/or pennies to alternate between addition and subtraction of ones (pennies) and tens (dimes).

TERMS

Columns: The vertical groups in a rectangular array.

Rows: The horizontal groups in a rectangular array.



MODELS

Array: An arrangement of objects in rows and columns.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will use square tiles and math drawings to **compose** and **decompose** rectangular arrays that show equal rows and equal columns. Students will use repeated addition to find the total number of squares. Students will also discover that rectangular arrays can be constructed in different ways. For example, 12 tiles can be arranged to show one column of 12, two rows of 6, three rows of 4, and so on.

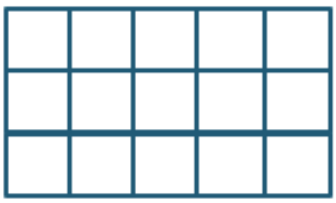
You can expect to see homework that asks your child to do the following:

- Draw an array that has a given number of rows and columns.
- Add or remove rows or columns from arrays and write a repeated addition equation for the new array.
- Construct an array, break it into two parts, and write a number bond and repeated addition equation to match. (See Sample Problem.)
- Shade an array to show a given number of rows and columns.

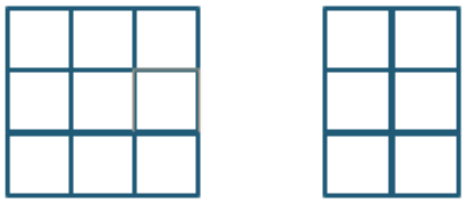
SAMPLE PROBLEM *(From Lesson 13)*

Cut out and use your square tiles to complete the steps for the problem.

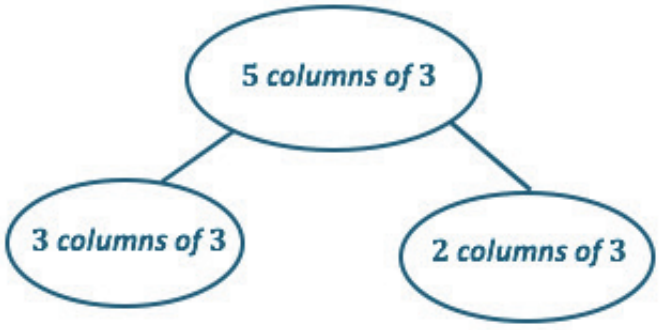
Step 1: Construct a rectangle with 5 columns of 3.



Step 2: Separate 3 columns of 3.



Step 3: Write a number bond to show the whole and two parts. Write a repeated addition sentence to match each part of the number bond.

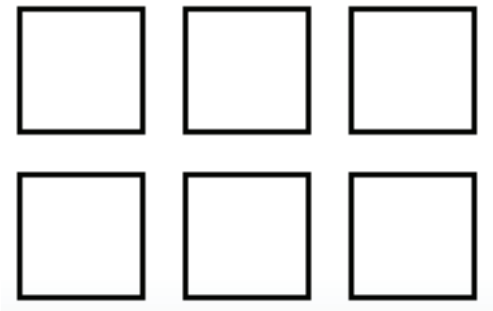


$3 + 3 + 3 = 9$ $3 + 3 = 6$

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Invite your child to use sticky notes to create various arrays. Ask her to say the repeated addition equation for the rows and for the columns in each array. For example, if the array has two rows of 3 and three columns of 2, your child should say, "3 + 3 = 6" and "2 + 2 + 2 = 6." (See image below.)



- After your child creates an array and says the addition equations to match it, ask him to remove a row or column and then say the equations that match the new array.
- Play games with your child that involve arrays, such as Memory, Connect 4, or Tic-Tac-Toe.

TERMS

Compose/Decompose: To make (compose) or break apart (decompose) a number, a figure, or an array.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will explore the meanings of **even** and **odd numbers**. Students will make pairs of up to 20 objects and learn that when objects can be paired with none remaining, the total number is even. They will learn that when starting from an even number, a number that occurs when skip-counting by twos is even. They will also learn that the double of any number is even, as are numbers whose last or only digit is 0, 2, 4, 6, or 8. Students will learn that any whole number that is not even is an odd number.

You can expect to see homework that asks your child to do the following:

- Draw groups of doubles and write the matching addition equation. For example, draw two groups of four and write the doubles equation, 4 + 4 = 8.
- Pair objects and skip-count the objects by twos to determine whether the total number of objects is even.
- Use rectangular arrays to investigate even and odd numbers.
- Add various combinations of even and odd numbers (even + even, even + odd, and odd + odd) to discover whether the sum is odd or even in each case.

SAMPLE PROBLEM *(From Lesson 20)*

Is the **bold** number even or odd? Circle the answer, and explain how you know.

39 even / odd	**Explanation:** *This number does not have 0, 2, 4, 6, or 8 in the ones place. I know that 40 is even, so 40 − 1 has to be odd.*

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Invite your child to notice different items around the home that appear in twos (e.g., socks, shoes, earrings).
- Give your child up to 20 counters, such as pennies or beans. Invite her to arrange a given number of counters (e.g., 7 counters) in as many pairs as possible to determine whether the total number is even or odd. Ask your child to share her reasoning. For example, "The number 7 is not even because there's a penny left over when I make pairs."
- Challenge your child to apply what he has learned to determine whether larger numbers are even or odd. For example, if you ask, "Can you prove that 73 is odd?," your child may respond, "I know that 73 is odd because it doesn't end in 0, 2, 4, 6, or 8."

TERMS

Even number: A whole number whose last or only digit is 0, 2, 4, 6, or 8.

Odd number: A whole number whose last or only digit is 1, 3, 5, 7, or 9.