

Eureka Math Parent Guide

A GUIDE TO SUPPORT PARENTS AS THEY WORK WITH THEIR STUDENTS IN MATH.

GRADE 3
MODULE 1

GRADE FOCUS

Third Grade mathematics is about (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

» Module 1: Properties of Multiplication and Division and Solving Problems with Units of 2—5 and 10

- Module 2: Place Value and Problem Solving with Units of Measure
- Module 3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
- Module 4: Multiplication and Area
- Module 5: Fractions as Numbers on the Number Line
- Module 6: Collecting and Displaying Data
- Module 7: Geometry and Measurement Word Problems

LET'S CHECK IT OUT!

MODULE 1 FOCUS

In this first module of Grade 3, we build on second grade knowledge of addition and work toward greater fluency. We will also be building arrays (arrangements of a set of objects organized into equal groups in rows and columns), and setting the stage for multiplication and division.

MORE SPECIFICALLY, CHILDREN WILL LEARN HOW TO:

- Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.
- Understand properties of multiplication and the relationship between multiplication and division
- Fluently multiply and divide within 100
- Solve two-step word problems involving the four operations (+, −, ×, ÷)

TOPIC OVERVIEW

Topics are the lessons within a module that help children master the skills above. Here are the lessons that will guide your child through Module 1:

- Topic A: Multiplication and the Meaning of the Factors
- Topic B: Division as an Unknown Factor Problem
- Topic C: Multiplication Using Units of 2 and 3
- Topic D: Division Using Units of 2 and 3
- Topic E: Multiplication and Division Using Units of 4
- Topic F: Distributive Property and Problem Solving Using Units of 2—5 and 10

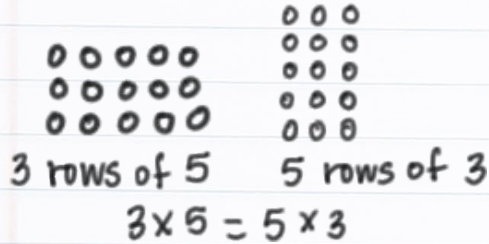
WORDS TO KNOW

- **Array:** a set of numbers or objects that follow a specific pattern, a matrix
- **Commutative Property:** e.g., rotate a rectangular array 90 degrees to demonstrate that factors in a multiplication sentence can switch places ($2 \times 3 = 3 \times 2$)
- **Equal groups:** with reference to multiplication and division; one factor is the number of objects in a group, and the other is a multiplier that indicates the number of groups
- **Equation:** a statement that 2 expressions are equal, e.g., $3 \times 4 = 12$
- **Distributive Property:** e.g. $12 \times 3 = (10 \times 3) + (2 \times 3)$. The 3 is the multiplier and the 12 is decomposed into 10 and 2.
- **Factors:** numbers that are multiplied to obtain a product
- **Quotient:** the answer when one number is divided by another

SAMPLE PROBLEMS

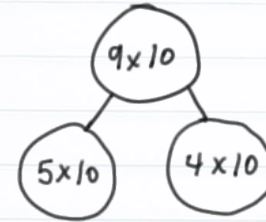
SAMPLE 1

An illustration of the Commutative Property



SAMPLE 2

A number bond illustration of the Distributive Property:



$$9 \times 10 = (5 \times 10) + (4 \times 10)$$

SAMPLE 3

Arrays: students worked with arrays toward the end of Grade 2, learning how to use them to show repeated addition. Now, in Grade 3, students put all of their knowledge to work as they learn multiplication and division skills, using arrays to demonstrate the properties of both operations.

A simple teddy bear array for 3×4 , or three rows with four in each row.



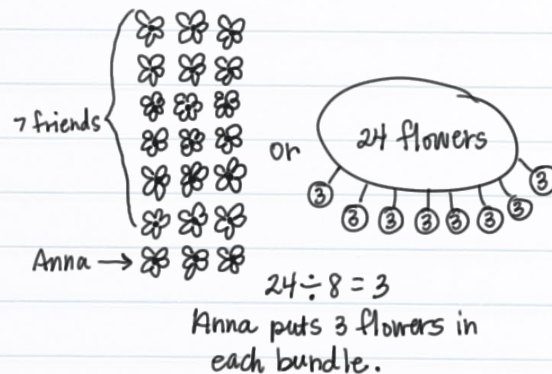
An array with multiple rows of 3 in each row, showing foundation for multiplication as repeated addition.



SAMPLE 3

Here is a sample elapsed time problem that can be solved with a number line:

The school ballet recital begins at 12:17 p.m. and ends at 12:45 p.m. How many minutes long is the ballet recital?



HOW YOU CAN HELP AT HOME

- Have your student set out groups of small objects in arrays (equal groups in rows and columns) and write the accompanying multiplication equation.
- Encourage your student to practice multiplication facts for 2s, 3s, 4s, 5s, and 10s until they know them fluently.