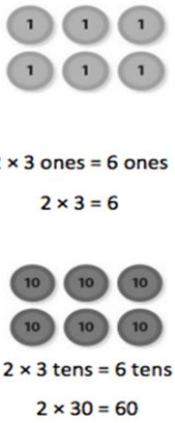
Eureka Math™ Tips for Parents

Grade 3
Module 3

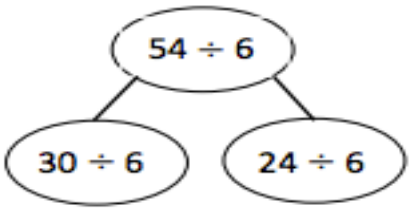
Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10

In this module we will go deep into our learning about these two related operations. Students will practice their math facts to become fluent, and will learn several strategies for multiplying and dividing numbers.



Students will learn to relate simple one-digit facts to similar facts in the place value family.

This is a strategy for division:



Students use facts they already know to help solve an unknown fact.

$$54 \div 6 = (30 \div 6) + (24 \div 6)$$
$$= 5 + 4$$
$$= 9$$

What Came Before this Module: We learned more about both measurement and the place value system. We also worked with telling time to the nearest minute and elapsed time.

What Comes After this Module: We will extend our multiplication skills by studying area and two-dimensional spaces. We will design a floor plan and calculate the area using our multiplication skills.

Key Words to Know

Array: a set of numbers or objects that follow a specific pattern

Commutative Property: e.g. 3 x 2 = 2 x 3

Distributive Property: e.g. 12 × 3 = (10 + 2) x 3 = (10 × 3) + (2 × 3)

Factors: numbers that are multiplied to obtain a product

Multiple: e.g. multiples of 9 are 18, 27, 36, 45, etc.

Number bond: model used to show part-part-whole relationships

Product: the quantity resulting from multiplying factors

Quotient: the answer when one number is divided by another

Tape diagram: a method for modeling problems

+ How you can help at home:

⇒ Continue to review multiplication and division math facts with your student

⇒ Help your student notice related math facts, e.g. 4 x 2 = 8, 4 x 20 = 80, 40 x 2 = 80

Key Common Core Standards:

- **Represent and solve problems involving multiplication and division**
- **Understand properties of multiplication and the relationship between multiplication and division**
- **Multiply and divide within 100**
- **Solve problems involving the four operations**
- **Use place value understanding and properties of operations to perform multi-digit arithmetic**

Prepared by Erin Schweng, Math Coach

Spotlight on Math Models:

Tape Diagrams

You will often see this mathematical representation in *A Story of Units*.

A Story of Units has several key mathematical "models" that will be used throughout a student's elementary years.

The tape diagram is a powerful model that students can use to solve various kinds of problems. In earlier grades, tape diagrams are models of addition and subtraction, but now in third grade we will use them to model multiplication and division as well. Tape diagrams are also called "bar models" and consist of a simple bar drawing that students make and adjust to fit a word problem. They then use the drawing to discuss and solve the problem.

As students move through the grades, tape diagrams provide an essential bridge to algebra. Below is a sample word problem from Module 3 solved using a tape diagram to show the parts of the problem.

Module 3 Sample Problem

Asmir buys 8 boxes of 9 candles for his dad's birthday. After putting some candles on the cake, there are 28 candles left. How many candles does Asmir use?

(Example taken from Lesson 11)