

Dimensions Math
Grade 3 Letter Home
Chapter 4 Multiplication and Division

Home Connection

In second grade your child was introduced to multiplication and division as working with equal groups. In this chapter your child will formalize their knowledge of multiplication and division. They will practice strategies for finding facts they don't know, such as using a known fact to derive an unknown fact. For example, 8×4 can be derived as shown in the picture.

$8 \times 2 = 16$

$8 \times 2 = 16$

$8 \times 4 = 32$

If I know 8×4 , I also know 4×8 .

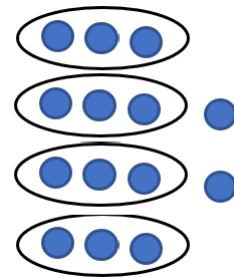
$8 \times 4 = 16 + 16$

2 2

They will learn the concept of division with remainders.

$14 \div 3$ is 4 with a remainder of 2.
 $14 = 4 \times 3 + 2$

We can use R to stand for with a remainder of.
 $14 \div 3$ is 4 R 2.
 4 is the quotient.



Students will further develop the use of bar models to represent and interpret multiplication and division word problems. Students benefit from bar model drawing because it provides a strategy to visualize the problem pictorially and determine an approach to solving it.

Students will be expected to:

- Draw a bar model for each problem.
- Write expressions and solve them for each computation step needed to solve the problem
- Put the answer in a complete sentence.

Ms. Davis bought 6 skeins of wool yarn for \$5 each and a set of knitting needles for \$12. How much did she spend?

Find the cost of the yarn first.

5 12

1 unit \rightarrow 5
 6 units \rightarrow $6 \times 5 = 30$ (cost of yarn)

$30 + 12 = 42$ (total spent)

She spent \$ 42 .

They will also use bar models to represent and interpret multi-step problems for all four operations of addition, subtraction, multiplication, and division.

What can we do at home?

Here are two fun activities that help reinforce concepts taught in this chapter:

Leftovers

Division Facts with Remainders

Materials: Die or a regular deck of playing cards with face cards removed
45 Counters (can use buttons, cereal, Legos, etc.)

Directions:

- Play with two players.
- The object of the game is to have the most counters when the game is over.
- Player One rolls the die or draws a card and divides the 45 counters by the number on the die or card. For example, Player One rolls a 2. She divides the counters into 2 equal groups with 1 left over. That player keeps the leftover counter and play continues with the remaining 44 counters.
- Player Two rolls a 3 and divides the remaining 44 counters by 3. She has 3 groups of 13, with 5 counters left over. Player Two keeps the 5 counters and returns the 39 remaining counters.
- Play continues until no more divisions can be made.
- The player with the most counters is the winner.

Capture! (Fences)

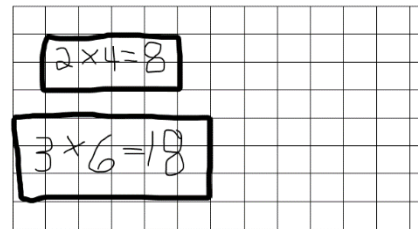
Multiplication

Materials:

- Graph paper (almost any size will work or you can print graph paper from the TCA website [Elementary Parent Resources](#))
- 2 die and 2 different colored pencils or markers

Directions:

- Play with two players.
- Player One rolls the two dice and makes one the number of groups and the other the amount in each group. They enclose that many squares on the graph paper and writes the multiplication problem in the rectangle.
- Player Two plays the same way capturing a different group of squares.
- Example game:
- Player one rolls 2 and 4 and encloses 4 rows of 2
- Player two rolls a 3 and 6 and encloses 3 rows of 6
- The winner is the last player to complete a turn before the graph paper is full.



Check out the TCA website for a video demonstration of each of these activities as well as other great resources for multiplication and division.

[Elementary Parent Resources](#)