

In an effort to keep parents and guardians informed of the expectations and content being covered in math class this year, this informational handout will be provided for each chapter. Its intent is to assist in guiding you in ways to support your child in deepening their mathematical understanding.



Scan the QR code to check out teaching strategies for this chapter.

In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fourth grade. Our goal is to keep a balance of skill based learning along with enhancing our student's ability to problem solve and think conceptually.

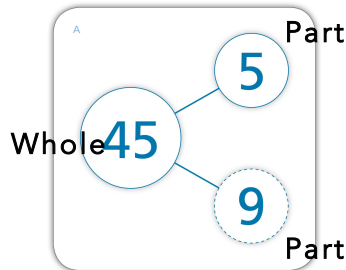
| Review Material from Prior Grades |
|--|
| <ol style="list-style-type: none"> 1) Interpret products of whole numbers. (3.OA.1) 2) Solve multiplication and division word problems. (3.OA.3) 3) Fluently multiply and divide within 100. (3.OA.7) |
| New Material for 4 th Grade |
| <ol style="list-style-type: none"> 1) I can interpret a multiplication equation as a comparison and represent verbal statements of multiplicative comparisons as multiplication equations. (4.OA.1) 2) I can solve multiplication and division word problems involving multiplicative comparison. (4.OA.2) 3) I can identify factor pairs and multiples of numbers 1-100. (4.OA.4) 4) I can recognize that a whole number is a multiple of each of its factors. (4.OA.4) |
| End of Chapter Expectations |
| <ol style="list-style-type: none"> 1) Chapter Assessment |

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.

Multiplication and Division Strategies

Number Bond

Shows the relationship between multiplication and division as “part-part-whole”.



Example:

- $5 \times 9 = 45$
- $9 \times 5 = 45$
- $45 \div 5 = 9$
- $45 \div 9 = 5$

☺ **Family Practice** ☺

Check out some of these free, math websites to practice multiplication and division skills.

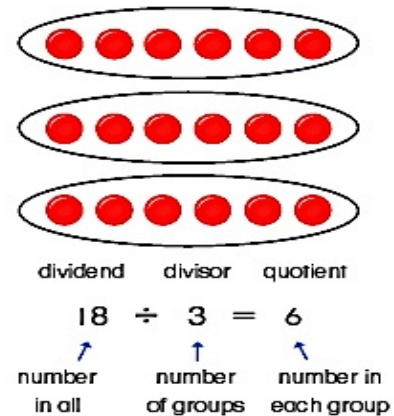
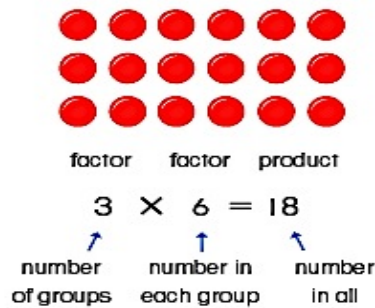
- 1) <http://gregtangmath.com/>
- 2) http://www.thinkingblocks.com/ThinkingBlocks_AS/TB_AS_Main.html

Fact Families

Use a fact family to find a missing digit (unknown) in an equation.

Example:

- $3 \times 6 = 18$
- $6 \times 3 = 18$
- $18 \div 3 = 6$
- $18 \div 6 = 3$



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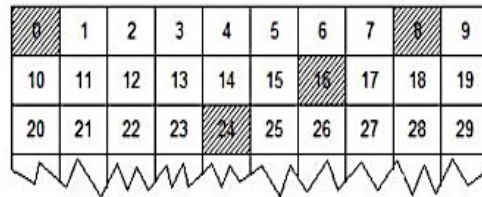
Multiplication and Division Strategies, Continued

Multiples

Multiples can be thought of as the result of skip counting by each of the factors. When skip counting, students should be able to identify the number of factors counted e.g., 5, 10, 15, 20 (there are 4 fives in 20).

Example:

Hundred chart illustrating multiples of 8
We can use a number line to skip count by the specified number.



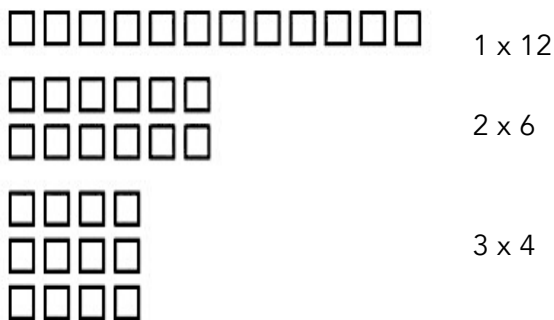
Factors

A whole number that divides exactly into another number. A whole number that multiplies with another number to make a third number.

To determine if a number between 1-100 is a multiple of a given one-digit number, some helpful hints include the following:

- all even numbers are multiples of 2
- all even numbers that can be halved twice (with a whole number result) are multiples of 4
- all numbers ending in 0 or 5 are multiples of 5

Example:



The factors of 12 are: 1, 2, 3, 4, 6, and 12.

Example:



Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
 Multiples : 1,2,3,4,5...24
 2,4,6,8,10,12,14,16,18,20,22,24
 3,6,9,12,15,18,21,24
 4,8,12,16,20,24
 8,16,24
 12,24
24

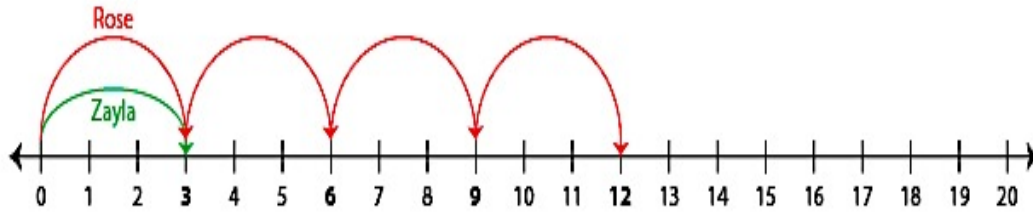
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Multiplication and Division Strategies, Continued

Number Line: Multiplicative Comparisons

Example: Zayla has 3 dolls. Her sister Rose has four times as many dolls. How many dolls does Rose have?

We can use a number line to represent the problem.



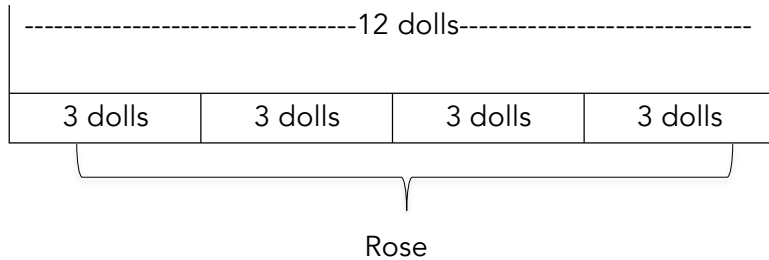
Zayla is the beginning number (3).

4 times as many means beginning at zero, jump 4 times on the line counting by 3 to give you Rose’s amount (12).

Model Drawing: Multiplicative Comparison (using bar units)

Example:

Zayla has 3 dolls. Her sister Rose has four times as many dolls. How many dolls does Rose have?



Zayla: 3 dolls

Steps to Model Drawing: Multiplicative Comparison Word Problems

- 1) Draw a rectangle.
- 2) Divide the rectangle into parts based on the comparison. (i.e., 4 times as many...)
- 3) Find the beginning amount. (i.e., 3)
- 4) In the bar diagram, write the beginning amount the number of times the problem states. (i.e., 4 times)
- 5) Solve by using repeated addition. (i.e., 3 added 4 times is 12)

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