Grade 3 Advanced Math

Unit 2: Exploring Multiplication

Dear Families,

We want to make sure that you understand the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit 2.

Each standard is in bold print, and below each one is an explanation with examples. Please let your teacher know if you have any questions. We appreciate your partnership and support.

3.PAR.3.1: Describe, extend, and create numeric patterns related to multiplication. Make predictions related to the patterns.

Students should be able to…

- identify a numeric pattern and then solve for the solution based on the numeric pattern.

Example:

In a sticker book, each page has 6 stickers on the page. How many stickers would 4 pages of the sticker book have?

1 page	2 pages	3 pages	4 pages
6	12		

Answer:

24 stickers

3.PAR.3.2*: Represent single digit multiplication and division facts using a variety of strategies. Explain the relationship between multiplication and division (*Only multiplication in this unit).

Students should be able to…

- represent a multiplication sentence using repeated addition, a number sentence, and express it as a word problem.

Example:

Which examples represent the total number of tickets?



a. 5 x 3
b. 3 + 3 + 3
c. 5 + 5 + 5
d. 5 + 5 + 5 + 5 + 5

Answer:

a. and c.

3.PAR.3.3: Apply properties of operations (i.e., commutative property, associative property, distributive property) to multiply and divide within 100.

Students should be able to…

- understand the various properties and use them in multiplication and division problems.

Note: Students at this grade level are *not* expected to identify the specific properties by their formal names.

- 7 x 3 is known, then 3 x 7 is also known (commutative property)
- 3 x 5 x 2 can be found by 3 x 5 = 15 x 2= 30 OR 5 x 2 = 10 x 3 = 30 (associate property)
- Knowing 8 x 5 = 40 and 8 x 2 = 16
    - 8 x 7 can be found as the sum of these partial products: 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56 (distributive property)

Examples:

1. Billy's farm has 5 rows of corn in the field. Each row of corn has 6 stalks on it. How many stalks of corn are in the field?
2. Sally and her mom are baking chocolate chip cookies. The pan has 4 rows of cookies with 6 cookies in each. How many cookies are Sally and her mom baking?

Answers:

1. 5 x 6 = 30 stalks
2. 4 x 6 = 24 cookies

3.PAR.3.4: Use the meaning of the equal sign to determine whether expressions involving addition, subtraction, and multiplication are equivalent.

Students should be able to…

- build upon their prior knowledge of equality to extend to relational understanding.

- determine whether an expression is equivalent.

Helpful Vocabulary:

- equivalent- two or more values, expressions, or equations represent the same quantity or have the same solution, even if they appear different.
- expression- mathematical statements that have a minimum of two terms containing numbers, variables, or both which are connected by an operation such as addition, subtraction, multiplication, or division.

Example:

1. Which set of equations are equivalent?
   a. 2 x 6 and 12 x 1
   b. 3 x 9 and 9 x 2
   c. 4 x 3 and 3 x 4
   d. 8 x 2 and 8 x 4

Answer:

1. a. and c.

3.PAR.3.6: Solve practical, relevant problems involving multiplication and division within 100 using part-whole strategies, visual representations, and/or concrete models.

Students should be able to…

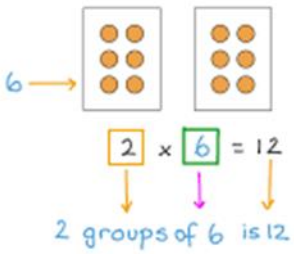
- solve multiplication and division problems within 100 including multiplication and division of two whole numbers with whole number answers, and with product or dividend in the range of 0-100 (ex. 39 ÷ 3 = 13).

Example:

The cars on the Big Dip Roller Coaster ride at the amusement park are the same size. There are 2 cars. Each car has 6 seats. How many seats are on the roller coaster ride?

Answer:

Students would draw a model of 12 seats representing 6 x 2 or 6 + 6 = 12 seats.

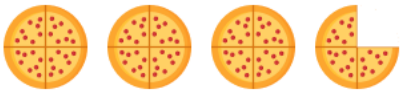
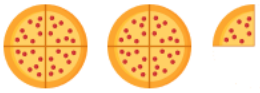
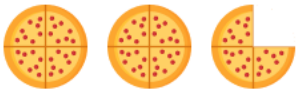


3.MDR.5.1: Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.

Students should be able to…

- review and analyze data to solve relevant problems which can include word problems that are meaningful to a student's real environment.

Examples:

Flavor	Number of Children
Cheese	
Corn	
Veggie	
Key :  represents 4 children	

1. How many more children wanted cheese pizza over veggie pizza?
2. How many total children picked a pizza flavor?

Answers:

1. 4 children
2. 35 children