

MATH WORKSHOP

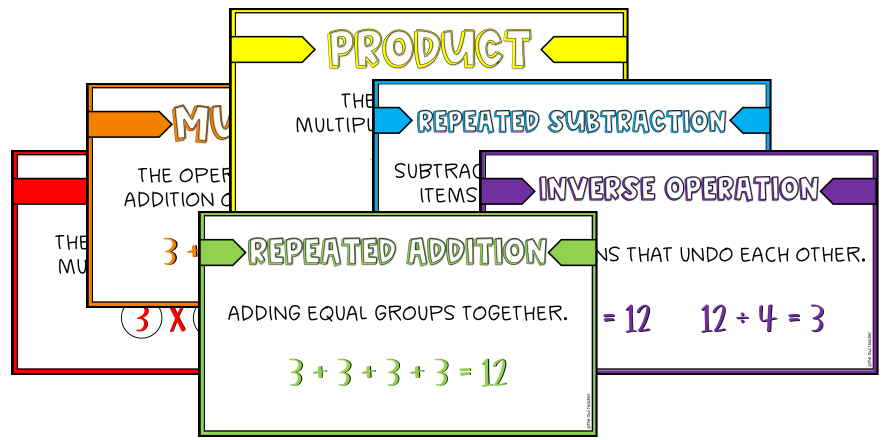
MULTIPLICATION & DIVISION



PRINTABLE & DIGITAL

VOCABULARY CARDS

CCSS aligned vocabulary cards for use during the lessons, your word walls, and so much more. These are also included in the digital version so you can project them on your board.



Name _____

MULTIPLICATION & DIVISION PROTECT

1) Name the parts of the multiplication problem below.

$6 \times 7 = 42$

2) Solve the following multiplication problems using the strategies.

REPEATED ADDITION	4×5
EQUAL GROUPS	
ARRAYS	
NUMBER LINES	

3) Write the inverse operations of each problem below.

a) $4 \times 8 = 32$ b) $4 \times 5 = 20$ c) $2 \times 3 = 6$

4) Name the parts of the division problem.

$81 \overline{) 729}$

5) Solve the division problems using the strategies named.

EQUAL SHARING	$24 \div 6$	$36 \div 9$
REPEATED SUBTRACTION		

6) Solve the problems with the missing numbers.

a) $36 \div ___ = 9$ c) $8 \times ___ = 48$
 b) $4 \times ___ = 56$ d) $48 \div ___ = 7$

7) Solve the problem below.

They had 48 candy bars that he had to share among his 6 friends. They was not getting a candy bar if he shares them equally. How many candy bars will each friend get?

PRE-TESTS & POST TESTS

Pre-tests and Post-tests are provided so that you can determine what your students know and don't know. This also helps determine growth after the unit is complete.

UNIT OVERVIEW

A suggested unit overview and pacing is provided, though it's not necessary to follow it. This is to help make planning easy on you. It is also set up so you can just click on the lesson and it'll take you directly to it.

UNIT OVERVIEW				
Click on the box to go directly to that lesson. Click here to access the full unit in digital form.				
LESSON 1 What does multiplication mean? (Strategy: repeated addition)	LESSON 2 How do I multiply? (Strategy: equal groups)	LESSON 3 How do I multiply? (Strategy: arrays)	LESSON 4 How do I multiply? (Strategy: number lines/skip counting)	LESSON 5 How do I multiply? (Review)
pg. 24	pg. 29	pg. 41	pg. 47	pg. 62
LESSON 6 What is the relationship between multiplication and division? (Strategy: sharing)	LESSON 7 How do I divide? (Remainders)	LESSON 8 How do I divide? (Strategy: repeated subtraction)	LESSON 9 How do I divide? (Review)	LESSON 10 How do I divide? (Review)
p. 64	pg. 74	pg. 80	pg. 88	pg. 91
LESSON 11 How do I multiply and divide with missing numbers?	LESSON 12 How do I multiply and divide with story problems?	LESSON 13 How do I multiply and divide with story problems?	LESSON 14 How do I use input and output tables?	LESSON 15 How do I use strategies to multiply & divide? (Review)
pg. 106	pg. 111	pg. 122	pg. 124	pg. 131
Pre-test pg. 20-23		Post-test pg. 184-191		
VOCABULARY COVERED		CCSS COVERED		
remainder fact family repeated addition repeated subtraction inverse operation skip counting column row equal sharing equation pattern		array number line equal groups divide divisor multiply quotient dividend factor product		
		3.OA.A.1 3.OA.A.2 3.OA.A.3 3.OA.A.4 3.OA.B.4 3.OA.C.7 3.OA.D.8 3.OA.D.4		

Lesson 1: How do I multiply? (Strategy: repeated addition)		Lesson 2: How do I multiply? (Strategy: equal groups)	
I Can Statement I can multiply to find a product. I can show products by skip counting or using a number line.	CCSS 3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4	I Can Statement I can multiply to find a product. I can show products using equal groups.	CCSS 3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4
Vocabulary multiply, factor, product, number line, skip counting	Materials 100 chart, number line, equal groups	Vocabulary multiply, factor, product, equal groups	Materials 100 chart, multiplication anchor chart (Lesson 1), counting by 5, Spinner Sheet, Equal Group Sheet, Group Practice Sheet, Double Ten Frame
Mini-Lesson Sit for... ask them to talk about the various ways we can represent show it through repeated addition or equal groups or on a number line... more ways... If it called skip counting by using a number line... last year... start like modeling or subtracting... we can draw a chart... from lesson 1... demonstrate how to use a number line... introduce the term "number line" if needed... you may wish to draw a line... then to students really grasp the concept?	Active Engagement How is your partner trying to try it out... I'm going to provide you with a drawing a number line & modeling the multiple as you skip count with a multiplication fact & have them draw it either on a stick or students work through an example of two... take notes of what together... discuss anything you may have noticed.	Mini-Lesson Yesterday we discussed that multiplication is just a faster way to add repeatedly... especially when we start getting to bigger numbers... today, I want to talk to you a little bit about how many are in that group... the number of equal groups... write this on your chart... continue to copy the equal groups... boys and girls, when we see a number written like this... a 4 x 6... we are saying 4 equal groups of 6... so the 4 groups & place 4 items in each group... provide a few more examples if needed.	Active Engagement Ask the number of groups & how many are in each group... ask you to verify they understand... take note of who may need further intervention... then together... discuss the problem.
Link and Independent Practice After your 100 chart, you are going to practice modeling number... how many... take a chart & number line... have represent the multiplication facts or skip out of a paper bag... Check 1: Provide students with string & beads... include... Check 2: Provide students with the "hang on to Multiplication" cards... create number lines using the facts to go each course... Check 3: Provide the practice sheet, Number Line Facts.	Extension Students who are struggling may need to physically count each number on a number line... while interacting with manipulatives. Closing For closing, have students discuss which representation they call on a few students to show their models.	Link and Independent Practice I'm very impressed with how well you are creating equal groups... today you are going to work with a partner & continue practicing how to make equal groups from a multiplication equation... you will first spin the spinner... then to create a multiplication equation... then you will write that multiplication equation... then you will place items in the groups.	Extension Have students brainstorm a list of things that come in groups... then have them create multiplication equations based on these groups... be prepared.
Intervention Students who are struggling may need to physically count each number on a number line... while interacting with manipulatives.		Intervention Pull students who are struggling in a group with skip & using manipulatives... have these students count each group & the total number to understand the concept.	
Closing For closing, have students discuss which representation they call on a few students to show their models.		Closing Kick out the door... have students write on a sticky note what multiplication is.	

LESSON PLANS

Detailed and thorough lesson plans to help you work through the workshop model. It includes the "I Can" statement, CCSS, vocabulary, materials used, intervention ideas, and extensions.

DIGITAL VERSION

This unit includes a digital version. You can assign parts of the resource to your students whether you are at school or distance learning.

WHAT REMAINS Directions: Complete each problem below. Use counters to help you.

Amount of candy you have 37	Number of people you share it with equally 8	Amount each person gets	Candy left over (remaining)	Division equation	Amount of candy you have 25	Number of people you share it with equally 3	Amount each person gets	Candy left over (remaining)	Division equation
Amount of candy you have 13	Number of people you share it with equally 4	Amount each person gets	Candy left over (remaining)	Division equation	Amount of candy you have 26	Number of people you share it with equally 6	Amount each person gets	Candy left over (remaining)	Division equation
Amount of candy you have 17	Number of people you share it with equally 5	Amount each person gets	Candy left over (remaining)	Division equation					

ARE YOU A PROBLEM SOLVER?

McKenzie could not wait to eat the birthday cake her mom had baked. She needed to share it with all her party guests. Her mom had cut it into 12 pieces, and she had five friends coming (6 people eating it total). How many pieces could each person have?

ARE YOU A PROBLEM SOLVER?

Alyssa had 24 markers in her desk that she didn't need anymore. She decided to give them to three of her friends. How many markers would each of her friends receive if she shared them equally?

REPRESENTING MULTIPLICATION

REPEATED ADDITION
 $4 + 4 + 4 + 4 + 4 = 20$

MULTIPLICATION
 $6 \times 4 = 24$

EQUATION
 $6 \times 4 = 24$

EQUAL GROUPS

INVERSE OPERATIONS
 Operations that are the **opposite** of one another, such as **multiplication** and **division**. It is helpful because you can use multiplication to divide and use division to multiply.

DIVISION
 To separate into **equal groups**. To find the number in each group or the number of groups.

QUOTIENT
 The number that always has no **remainders**.

DIVISOR
 Outside the box. The number that divides the **dividend**.

DIVIDEND
 Inside the box. The number being divided.

FACT FAMILIES
 Related to one another. These include the inverse operations.

IT CAN ALSO BE WRITTEN
 $\frac{24}{6} = 4$ quotient OR $24 \div 6 = 4$ quotient

ANCHOR CHARTS

Detailed anchor charts that break things down for your students to help them understand important concepts.

ACTIVITIES

Hands-on, concrete activities that use manipulatives. Activities are created based on research and best practices. Students are engaged and enjoy math more.

REPEAT THIS!

Division

- Draw a handful of pattern blocks. Draw one on your partner.
- Draw your pattern blocks based on shapes for rectangles, place all of the squares together, and so on.
- Take one group of pattern blocks, count as the triangles, and trace.
- Underneath the shape, write how many sides it has. Repeat this four more, add an additional step for each new shape.
- Write a multiplication equation for the repeated addition sentence. Repeat this four more, add an additional step for each new shape.
- Repeat with the other shapes.

MULTIPLICATION REPRESENTATION MODEL

PRACTICE

- Take a paper plate and fold it in half. Glue, tape or staple the paper plate into position.
- Along the folded edge, spaced out evenly, glue punch four holes.
- Write multiplication equations in the blank space. Show in the center.
- Use only one set each time.
- Draw and label each hole with space and the folded paper plate.
- Use the credit that is on the corner of the paper plate.
- Draw a strip across the top to the punch hole. Use the end of the hole to punch through together with the other hole.
- Place your name in the back of the folded plate.

INVERSE OPERATIONS

Look at the numbers on each roof. Create the four equations that belong.

34

9 6

63

9 7

24

6 4

NUMBER LINE FACTS

Represent each fact below on the number line by skip counting. Be sure to label each "hop" on the number line and include arrows. Then write the product on the line.

(1) $5 \times 3 = \underline{\quad}$ (2) $7 \times 4 = \underline{\quad}$

(3) $2 \times 4 = \underline{\quad}$ (4) $4 \times 3 = \underline{\quad}$

(5) $7 \times 1 = \underline{\quad}$ (6) $3 \times 5 = \underline{\quad}$

(7) $4 \times 5 = \underline{\quad}$ (8) $2 \times 7 = \underline{\quad}$

(9) $8 \times 5 = \underline{\quad}$ (10) $4 \times 4 = \underline{\quad}$

MODIFY FOR ARRAYS!

Draw an array to represent the provided multiplication equation below. Don't forget to label the product.

(1) $5 \times 5 = \underline{\quad}$ (2) $7 \times 6 = \underline{\quad}$ (3) $9 \times 4 = \underline{\quad}$

(4) $9 \times 8 = \underline{\quad}$ (5) $2 \times 7 = \underline{\quad}$ (6) $8 \times 3 = \underline{\quad}$

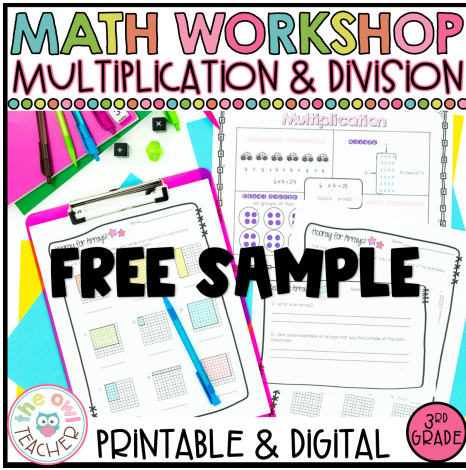
(7) $8 \times 8 = \underline{\quad}$ (8) $2 \times 0 = \underline{\quad}$ (9) $7 \times 7 = \underline{\quad}$

(10) $5 \times 4 = \underline{\quad}$ (11) $4 \times 8 = \underline{\quad}$ (12) $1 \times 7 = \underline{\quad}$

PRACTICE WORKSHEETS

Worksheets are provided to give students a chance to practice the newly learned skills and to work their way to mastery. This also provides you the opportunity to check for understanding. Answer keys are included.

INCLUDES COLOR AND B/W VERSIONS!



**FOR A LESSON
SAMPLE OF THE
THIRD-GRADE MATH
UNITS, CLICK HERE!**



**THE FULL BUNDLE COVERS
THE ENTIRE YEAR OF THIRD-
GRADE STANDARDS AND
INCLUDES EDITABLE LESSON
PLANS!
CLICK HERE TO CHECK IT OUT!**