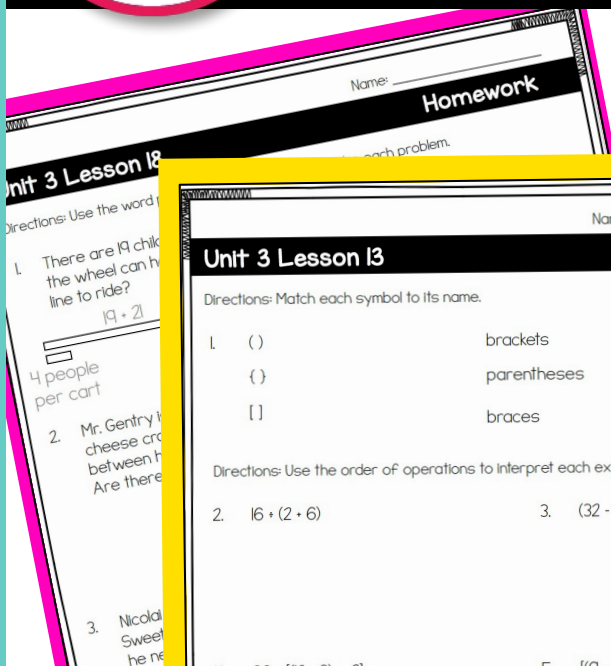




Whole Number Operations

20 full days of math lesson plans, PowerPoints, & activities



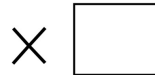
Warm Up

Lorena has 45 nail polishes. She is organizing them on racks. Each rack can hold 8 polishes. How many racks does she need?

Fact Fluency

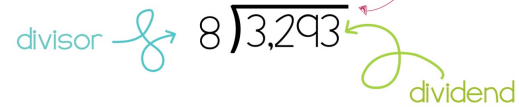
QUICK THINK!

Make it true



Partial Quotients

Let's use this way today. This symbol can be used to represent division problems.



AREA MODEL

$$34 \times 65 = \underline{2,210}$$

	60	5	
30	$30 \times 60 = 1,800$	$30 \times 5 = 150$	1,800 240 150 20
4	4×60	4×5	

WORD PROBLEM

STEP 1:
READ
Put down your pencil and read the problem.

STEP 3:

PEMDAS

the order used to

parentheses
exponents
multiplication &
division
addition &

REMAINDER

the part left over

$$5 \div 3 = 2 \text{ r}1$$

AREA MODEL

a strategy that uses expanded form to multiply

	40	5
40	$40 \times 40 = 1,600$	$40 \times 5 = 200$
5	5×40	5×5

UNIT 3: WHOLE NUMBER OPERATIONS *at a glance*

Day 1 Estimating Products	Day 2 Multiply by Single Digit Numbers	Day 3 Multiply by Multi-Digit Numbers Area Model	Day 4 Multiply by Multi-Digit Numbers	Day 5 Estimating Quotients
Day 6 Division with Partial Quotients	Day 7 Division with Partial Quotients	Day 8 Division with the Standard Algorithm	Day 9 Division with the Standard Algorithm	Day 10 Division with the Standard Algorithm
Day 11 Review	Day 12 Order of Operations	Day 13 Interpret Expressions	Day 14 Interpret Expressions	Day 15 Evaluate Expressions
Day 16 Evaluate Expressions	Day 17 Write Expressions	Day 18 Word Problems	Day 19 PBL	Day 20 Assessment

THIS UNIT COVERS THE FOLLOWING COMMON CORE MATH STANDARDS: 5.OA.1, 5.OA.2, 5.NBT.5, & 5.NBT.6



Includes a pacing guide so you can see the whole unit at a glance.



3.9 STANDARD ALGORITHM

I CAN STATEMENT
I can solve division problems using the standard algorithm.

MATERIALS
3.9 printouts

VOCABULARY
dividend

3.18 WORD PROBLEMS

I CAN STATEMENT
I can solve word problems with number operations.

MATERIALS
3.18 PPT
3.18 printouts

VOCABULARY
Factors
product
rounding
estimate
dividend
divisor
quotient

3.5 ESTIMATING QUOTIENTS

I CAN STATEMENT
I can use my knowledge of place value to estimate quotients.

MATERIALS
3.5 PPT
3.5 printouts

VOCABULARY
rounding
estimate
dividend
divisor
quotient

MINI LESSON

Spend the first few minutes of the lesson completing the fact fluency slides. These slides allow students to practice multiplying by the powers of ten.

Using the PPT, complete the warm-up with students. The warm-up is a review of rounding numbers to the nearest ten or hundred.

Using the PPT, review the vocabulary terms rounding and estimate. Then, introduce the terms dividend, divisor, and quotient. Tell the students that we will be using our knowledge of place value and rounding to estimate quotients.

Model how to round 378 to the nearest hundred to estimate the quotient of $378 \div 8$. Model how to use place value to divide 400 by 8.

Model how to round 454 to the nearest ten to estimate the quotient of $454 \div 5$. Model how to use place value to divide $450 \div 5$.

INTERVENTION
Have the students solve problems where they round each factor to the nearest ten until they are confident, and then move on to problems rounding to the nearest hundred.

EXTENSION
Challenge students to complete the "Level Up" sheet to allow an opportunity to solve more problems.

3.5 MEET THE TEACHER

MATERIALS FOR TEACHER: journal pages for teacher and students, scissors, glue, pencil

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING	Model how to quickly cut and glue the journal page. Have students show you that they can do the same in a timely manner using their journal pages. Complete the first couple problems with the students. Then, allow the students to walk you through how to solve the next couple problems. Have students solve the remaining problems on their own and check together.
ON TRACK	Model how to quickly cut and glue the journal page. Have students show you that they can do the same using their journal pages. Model how to solve the first problem. Then, allow the students to work in pairs to solve each problem. Have the pairs sit quietly until everyone is finished. Check each answer as a group.
MASTERED	Model how to quickly cut and glue the journal page. Have students show you that they can do the same using their journal pages. Have students complete the sheet on their own. Then, pair students up to check their answers. Have them correct any mistakes with their partners.



Engaging whole & small group lessons are done for you, making prep & planning a breeze.

Order of Operations

This problem has addition and multiplication.
We know that multiplication comes first,
then addition.

Order of Operations

Let's solve the multiplication expression first.

PEMDAS

$$4 + 5 \times$$

$$4 + 40$$

PEMDAS

NOT SO WIMPY TEACHER

Order of Operations

Now solve the addition equation.

$$4 + 5 \times 8 =$$

$$4 + 40 = 44$$

Deliver great lessons with step-by-step
PowerPoints for teaching math skills.



WRITING EXPRESSIONS

$$18 \div (9 - 6)$$

$$25 - (4 \times 3)$$

$$(2 + 5) - (4 + 1)$$

REVIEW

board game

START
UP 2 SPACES
GO AGAIN
LOSE A TURN
BACK 3 SPACES
GO AGAIN

CARD 10:
Round each factor to the nearest ten to estimate the product.
 $32 \times 16 =$

CARD 6:
Mrs. Trinh wants to buy 327 folders for her students. Each folder cost \$3. How much money does she need to buy the folders?

NOT SO WIMPY TEACHER

UNIT THREE TASK CARDS WHOLE NUMBER OPERATIONS

NOT SO WIMPY TEACHER

Use the standard algorithm to solve.

$$3 \overline{)3,662}$$

Find the product using the standard algorithm.


$$\begin{array}{r} 6,348 \\ \times 4 \\ \hline \end{array}$$

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Get students excited with targeted, hands-on math activities & interactive notebooks.

THE RESIDENTS


The Friends Fur-ever Animal Shelter was thrilled to provide enough cats to fill your new café! Use the information on the following page to determine each cat's ID number.



Name: Purrlock Holmes
ID Number: _____



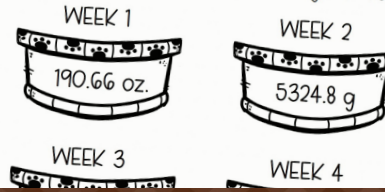
Name: Meowzart
ID Number: _____



Name: George Pawshington
ID Number: _____

FOOD LOG

As cats come and go from the café, you must keep track of the food they eat each week. Your spreadsheet only has room for four digits. Round each food amount so that each weight only has four digits. Add decimals where needed.



WEEK	FOOD EATEN
Week 1	190.7 oz.
Week 2	_____ g

PBL ACTIVITY

PLACE VALUE & WHOLE NUMBER OPERATIONS

A CAT-CAFÉ THEMED
PROJECT-BASED
LEARNING ACTIVITY



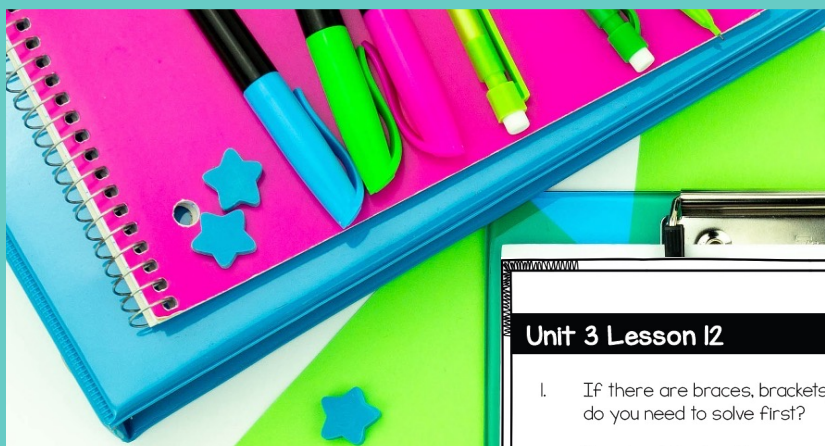
INVENTORY

Track of inventory using both exponents and standard form by filling in the missing amounts on the table.

PAW-SITIVE VIBES ONLY WEEKLY INVENTORY		
ITEM	EXPONENTIAL FORM	STANDARD FORM
Treats	4×10^2	900.0
Treats	6×10^4	80
Cat Litter	10^3	2,000
Cups	5×10^1	

Includes an engaging standards-based math PBL that your students will love.





Name: _____

Unit 3 Lesson 12 Homework

1. If there are braces, brackets, and parentheses in an expression, which do you need to solve first?

You should solve the expression in parentheses first.

2. If there are braces, brackets, and parentheses in an expression, which do you need to solve second?

Directions: Circle the part of the expression that needs to be solved first.

3. $16 - 4 - 12 + 3$	4. $12 \times 2 - 9$
5. $18 + (19 - 2) \times 2$	6. $5 \times 2 + (8 \times 7)$
7. $5 \times [4 + (4 \times 1)]$	8. $3 + [3 \times (2 + 1) \times 2]$
9. $(3 + [3 + (4 + 4)]) \times 8$	10. $2 + (4 \times [4 + (4 + 1)])$

Directions: Solve using the order of operations.

10. $7 \times 4 - 2$	11. $10 + 36 + 4$
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NOT SO WIMPY TEACHER

Name: _____

Unit 3 Lesson 12 Exit Ticket

Directions: Circle the part of the expression that needs to be solved first.

1. $8 \times 5 - 9$	2. $17 + (8 + 2) + 8$
3. $7 + [8 \times (2 + 5)]$	4. $((2 + 3) + 3) - 2 \times 5$

Name: _____

Homework

h symbol

to interpret each expression.

5. $(5 - 5) + 2$

7. $2 \times [4 + (5 + 5)]$

Name: _____

Unit 3 Lesson 18 Exit Ticket Answer Key

Directions: Use the word problem solving strategy to solve the problem.

1. Mayari filled 3 buckets of seashells at the beach. Each bucket had 38 seashells. Then she gave 25 seashells to her sister. How many seashells does she have left?

$38 \times 3 = 114$

$114 - 25 = 89$

Mayari has 89 seashells left.



Includes problem sets, homework, and exit tickets for each day.

Name: _____

Unit 3 Assessment A

Directions: Round each dividend to the nearest ten to estimate the quotient.

11. $76 \div 4 \approx \underline{20}$
 $\underline{80} \div \underline{4} = \underline{20}$

12. $59 \div 3 \approx \underline{20}$
 $\underline{60} \div \underline{3} = \underline{20}$

Directions: Round each dividend to the nearest hundred to estimate the quotient.

13. $225 \div 4 \approx \underline{50}$
 $\underline{200} \div \underline{4} = \underline{50}$

14. $489 \div 10 \approx \underline{500}$
 $\underline{500} \div \underline{10} = \underline{50}$

Name: _____

Unit 3 Whole Number Operations Pre-assessment

Directions: Solve each problem.

1.
$$\begin{array}{r} 6,894,609 \\ + 3,795,097 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 546,892 \\ + 45,806 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 342,097 \\ + 432,895 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 728,329 \\ - 443,283 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 8,382,492 \\ - 647,377 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 823,274 \\ - 342,462 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 933 \\ \times 8 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 3644 \\ \times 4 \\ \hline \end{array}$$

Name: _____

Assessment

Directions: Round each factor to the nearest ten to estimate the product.

2. $21 \times 55 \approx \underline{\quad}$
 $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

Directions: Round each factor to the nearest hundred to estimate the product.

4. $524 \times 12 \approx \underline{\quad}$
 $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

Directions: Solve.

15.
$$\begin{array}{r} 123 \\ 3 \overline{)369} \\ \underline{-36} \\ 09 \\ \underline{-9} \\ 0 \end{array}$$

17.
$$\begin{array}{r} 326 \text{ r } 2 \\ 5 \overline{)1632} \\ \underline{-15} \\ 13 \\ \underline{-10} \\ 32 \\ \underline{-30} \\ 2 \end{array}$$

Skill	Estimating Products	Multiplication	Estimating Quotients	Division	Order of Operations	Evaluating Expressions	Writing Expressions	Interpreting Expressions	Word Problems	
Student	1-4	5-10	11-14	15-22	23-28	29-34	35-39	40-41	42-43	TOTAL
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43
	___ / 4	___ / 6	___ / 4	___ / 8	___ / 6	___ / 6	___ / 5	___ / 2	___ / 2	___ / 43

16.
$$\begin{array}{r} 425 \\ \times 8 \\ \hline \end{array}$$

18.
$$\begin{array}{r} 272 \\ \times 24 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 1778 \\ \times 5 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 2,382 \\ \times 37 \\ \hline \end{array}$$



Track student progress with pre- & post-assessments and recording sheet.

Unit 3 Lesson 12 Name: _____
Problem Set

1. What does P

Directions: Circle the

2. $5 \cdot 7 \times 2 - 9$

4. $36 \div (12 - 3)$

6. $127 \div (16$

8. $1(75 +$

Directions:

10. $7 \times$

12. 6

3.5 ESTIMATING QUOTIENTS

<p>LCAN STATEMENT I can use my knowledge of place value to estimate quotients.</p>	<p>MATERIALS 3.5 PPT 3.5 printouts</p>	<p>VOCABULARY rounding estimate dividend divisor quotient</p>
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MINI LESSON

Spend the first few minutes of the lesson completing the fact fluency slides. These slides allow students to practice multiplying by the powers of ten.

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<p>INTERVENTION Have the students solve problems where they round each factor to the nearest ten until they are confident, and then move on to problems rounding to the nearest hundred.</p>	<p>EXTENSION Challenge students to complete the "Level Up" sheet to allow an opportunity to solve more rigorous problems.</p>
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PARTIAL PRODUCTS

parts of an answer to a

$6 \times 11 =$
 $60 + 6$

AREA MODEL

a strategy that uses expanded form to multiply

	40	5
40	$40 \times 40 = 1600$	$40 \times 5 = 200$
5	$5 \times 40 = 200$	$5 \times 5 = 25$

ESTIMATE

when we roughly calculate a number

a burger and fries cost about \$10

UNIT 3: WHOLE NUMBER OPERATIONS at a glance

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Teach with confidence; each day is fully planned for you with all the tools you need!