

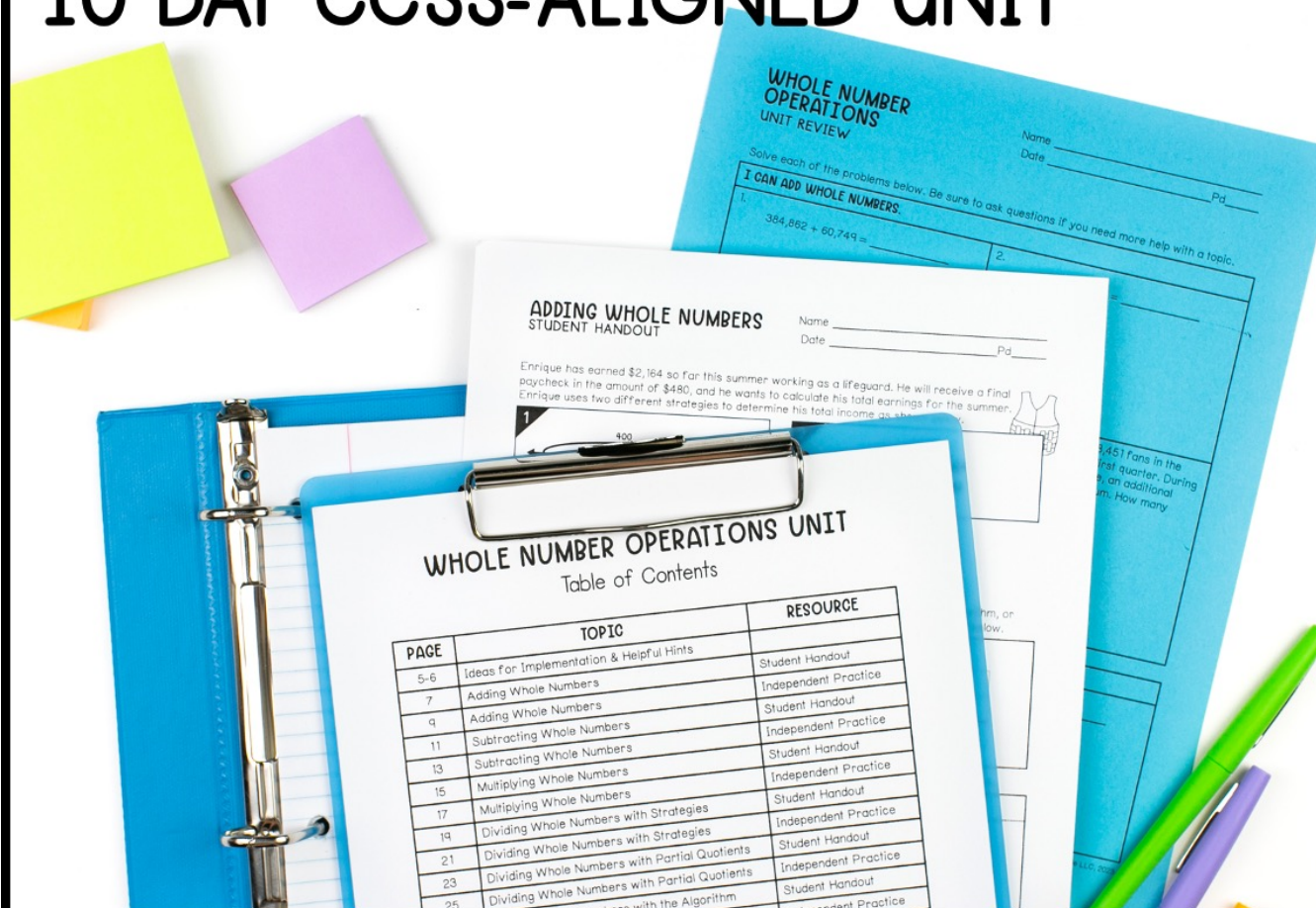
learning focus:

- ✓ add and subtract whole numbers using the standard algorithm and strategies
- ✓ multiply and divide whole numbers using the standard algorithm and strategies
- ✓ apply the order of operations to evaluate expressions including parentheses and brackets

WHOLE NUMBER OPERATIONS UNIT

10 DAY CCSS-ALIGNED UNIT

5th
GRADE



A MANEUVERING THE MIDDLE ® RESOURCE

WHOLE NUMBER OPERATIONS



a 10 day CCSS-aligned unit

CCSS: 4.NBT.B.4, 5.NBT.5, 5.NBT.6, 5.OA.1, 5.OA.2

ready-to-go, scaffolded
student materials

WHOLE NUMBER OPERATIONS UNIT

Table of Contents

PAGE	TOPIC	RESOURCE
5-6	Ideas for Implementation & Helpful Hints	
7	Adding Whole Numbers	Student Handout
9	Adding Whole Numbers	Independent Practice
11	Subtracting Whole Numbers	Student Handout
13	Subtracting Whole Numbers	Independent Practice
15	Multiplying Whole Numbers	Student Handout
17	Multiplying Whole Numbers	Independent Practice
19	Dividing Whole Numbers with Strategies	Student Handout
21	Dividing Whole Numbers with Strategies	Independent Practice
23	Dividing Whole Numbers with Partial Quotients	Student Handout
25	Dividing Whole Numbers with Partial Quotients	Independent Practice
27	Dividing Whole Numbers with the Algorithm	Student Handout
29	Dividing Whole Numbers with the Algorithm	Independent Practice
31	Operations with Whole Numbers Quiz	Quiz
33	Order of Operations	Student Handout
35	Order of Operations	Independent Practice
37	Evaluating Expressions	Student Handout
39	Evaluating Expressions	Independent Practice
41	Whole Number Operations Unit Review	Review
45	Whole Number Operations Unit Test	Test
49	Whole Number Operations Unit Answer Key	Answer Key

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student friendly + real-world application

DIVIDING WHOLE NUMBERS WITH PARTIAL QUOTIENTS
STUDENT HANDOUT

Name: _____
Date: _____ Pd: _____

MJ works at a local Theater Club and is designing a rectangular stage for performances. The stage needs to have an area of 640 square feet and the width must be 20 feet. To determine the length, MJ draws the model shown below. To get close to an area of 640 square feet, he starts by multiplying 20×30 which he knows is 600.

a. Describe how to find the missing area labeled A.

b. Describe how to find the missing length labeled B.

c. Use the model to complete the division statement: $640 \div 20 = \underline{\hspace{2cm}}$

In the area model above, the area of the rectangle represents the _____, and the width dimension represents the _____. The partial quotients of 30 and 2 were added to determine the final _____. The area model helps us visualize the process of dividing with partial quotients as described below.

DIVIDING USING PARTIAL QUOTIENTS

- Using the divisor, choose a friendly number of groups that you know will fit into the _____. Record this partial quotient to the right of the problem.
- _____ the divisor by the partial quotient and subtract this amount from the dividend.
- Continue this process with the amount remaining until the difference is 0 or less than the divisor.
- Add the _____ quotients to determine the final _____.

Describe how you can check that your quotient is correct. Then use that process to check your answer.

scaffolded concepts

self-checking practice

SUBTRACTING WHOLE NUMBERS
INDEPENDENT PRACTICE

Name: _____
Date: _____ Pd: _____

Solve each problem below. Match your answers in the table to solve the riddle.

1	$587,620 - 220,417$	2	$15,248 - 9,357$	3	$14,000 - 7,658$
4	$372,208 - 41,356$	5	$7,358,490 - 23,527$	6	$432,800 - 8,652$
7	$167,364 - 124,557$	8	$7,203,520 - 82,413$	9	$7,482,950 - 105,747$

A: 367,203	I: 7,334,963	C: 424,148	O: 7,121,107	G: 6,383,217	E: 330,852
N: 43,213	T: 6,342	M: 7,377,203	H: 42,807	S: 5,891	R: 7,658

WHAT IS A BUTTERFLY'S FAVORITE SUBJECT IN SCHOOL?

9 8 3 7 4 9 1 3 5 6 2

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WHOLE NUMBER OPERATIONS



a 10 day CCSS-aligned unit

CCSS: 4.NBT.B.4, 5.NBT.5, 5.NBT.6, 5.OA.1, 5.OA.2

unit study guide + assessments

✓ quizzes

✓ editable unit test

OPERATIONS WITH WHOLE NUMBERS

QUIZ

The table shows the number of passengers who flew into different airports on Saturday. Use the table to answer 1-2.

1. The number of passengers who flew into DFW airport was 13,586 more than the number of passengers who flew into JFK. How many passengers flew into DFW?

- a. 160,960
- b. 171,843
- c. 294,117
- d. 144,671

2. The number of passengers who flew into ATL was 12,345 more than the number of passengers who flew into DFW. How many passengers flew into ATL?

- a. 193,089
- b. 104,347
- c. 213,111
- d. 214,605

Answer the questions below. Be sure to show your work.

3. Shonda lives at an apartment complex. She has paid in rent after living at the complex for 6 months. How much has she paid in rent?

4. Mrs. Caldwell wrote the following problem. Which of the following is NOT a true statement?

- a. The dividend is 3,210 and the divisor is 21.
- b. I can think of this as a multiplication problem.
- c. I can estimate that the quotient should be 150.
- d. The quotient is 214.

Name _____
Date _____ Pd _____

Answers
1. _____
2. _____
3. _____

WHOLE NUMBER OPERATIONS UNIT REVIEW

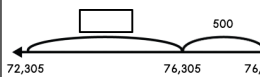
Name _____
Date _____ Pd _____

Solve each of the problems below. Be sure to ask questions if you need more help with a topic.

I CAN ADD WHOLE NUMBERS.

- 1. $384,862 + 60,749 =$ _____
- 2. $74,208 + 6,354 =$ _____

3. A student drew an open number line to find the sum of 72,305 and 4,592.



- a. Fill in any missing blanks on the number line.
- b. Write the problem and sum below.

I CAN SUBTRACT WHOLE NUMBERS.

- 5. $2,384,641 - 573,856 =$ _____

MULTIPLYING WHOLE NUMBERS

Name **Answer Key** _____
Date _____ Pd _____

STUDENT HANDOUT

Gabriel drew the area model shown below to multiply 342×8 .

a. Complete the model to find the solution.

$$2,400 + 320 + 16 = 2,736$$

	300	+ 40	+ 2
8	2,400	320	16

b. How could Gabriel use an area model to find the solution to 342×18 ?

Sample answer: He could add another row where he multiplies each place value by 10.

c. Draw an area model to find the solution to 342×18 .

	300	+ 40	+ 2	
8	2,400	320	16	$= 2,400 + 320 + 16 = 2,736$
10	3,000	400	20	$= 3,000 + 400 + 20 = 3,420$

$$2,736 + 3,420 = 6,156$$

The area model demonstrates that when multiplying two numbers, you can find partial products and add them together to find the overall product. The standard algorithm follows a similar process and provides an alternate way to organize your work.

MULTIPLYING WITH THE ALGORITHM

- 1. Line up the numbers by place value.
- 2. Multiply each digit in the top number by the ones place of the bottom number.
- 3. Put a zero under the ones place in the first answer line and repeat the process with the tens digit of the bottom number.
- 4. Add the partial products together to find the final product.

*Remember to regroup and carry as necessary

What other strategies could you use to find 342×18 ? Explain.

Sample answer: Multiply 342 by 20 and then subtract 342 times 2.

		342 × 18		
		3	4	2
×			1	8
	2,	7	3	6
	3,	4	2	0
	6,	1	5	6

answer keys included

