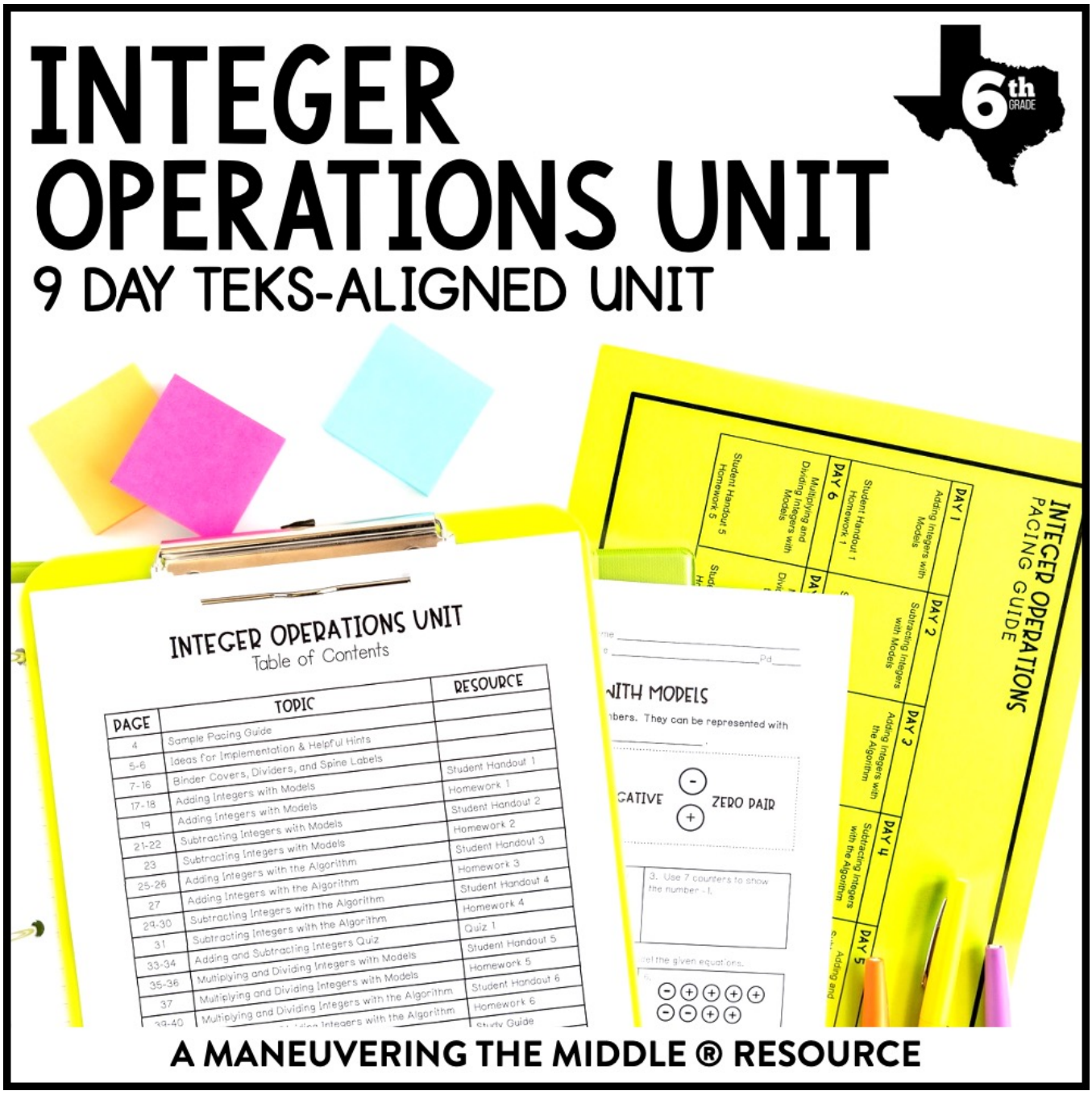
learning focus:

- ✓ represent integer operations with concrete models
- ✓ connect integer operation models with algorithms
- ✓ understand and apply integer operations to real-world situations



INTEGER OPERATIONS

a 9 day TEKS-aligned unit
TEKS: 6.3C, 6.3D

ready-to-go, scaffolded student materials

INTEGER OPERATIONS UNIT
Table of Contents

A MANEUVERING THE MIDDLE® RESOURCE

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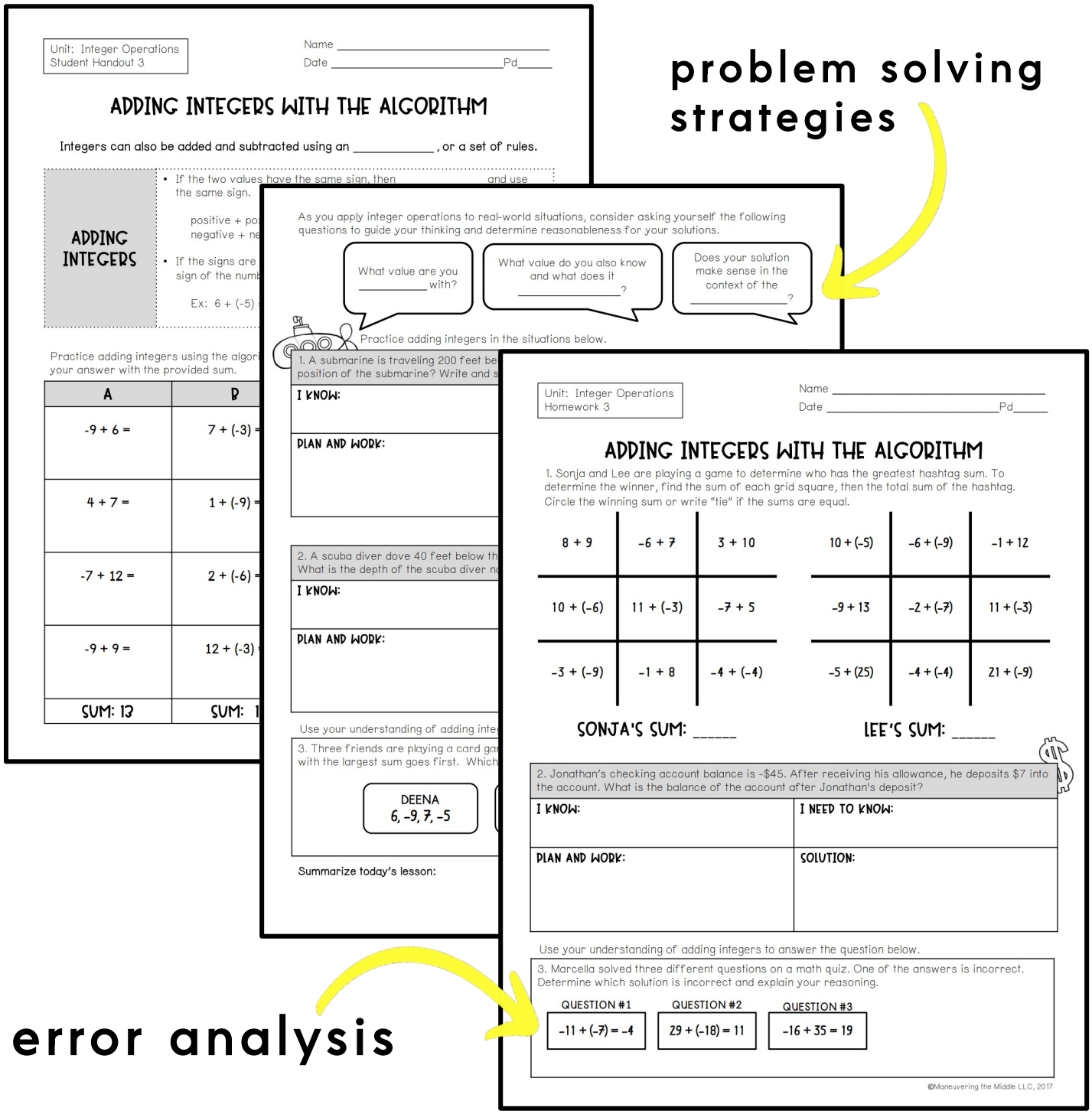
student friendly + real-world application



Unit: Integer Operations
Student Handout 3

Name _____
Date _____ Pd_____

ADDING INTEGERS WITH THE ALGORITHM

Integers can also be added and subtracted using an _____, or a set of rules.

ADDING INTEGERS

- If the two values have the same sign, then and use the same sign.
  positive + po
  negative + ne
- If the signs are sign of the numb
  Ex: 6 + (-5)

Practice adding integers using the algori your answer with the provided sum.

A	B
-9 + 6 =	7 + (-3) =
4 + 7 =	1 + (-9) =
-7 + 12 =	2 + (-6) =
-9 + 9 =	12 + (-3) =
SUM: 13	SUM: 1

As you apply integer operations to real-world situations, consider asking yourself the following questions to guide your thinking and determine reasonableness for your solutions.

What value are you _____ with?

What value do you also know and what does it _____?

Does your solution make sense in the context of the _____?

Practice adding integers in the situations below.

1. A submarine is traveling 200 feet be position of the submarine? Write and s

I KNOW:

PLAN AND WORK:

2. A scuba diver dove 40 feet below th What is the depth of the scuba diver n

I KNOW:

PLAN AND WORK:

Use your understanding of adding inte

3. Three friends are playing a card ga with the largest sum goes first. Which

DEENA
6, -9, 7, -5

Summarize today's lesson:

Unit: Integer Operations
Homework 3

Name _____
Date _____ Pd_____

ADDING INTEGERS WITH THE ALGORITHM

1. Sonja and Lee are playing a game to determine who has the greatest hashtag sum. To determine the winner, find the sum of each grid square, then the total sum of the hashtag. Circle the winning sum or write "tie" if the sums are equal.

8 + 9	-6 + 7	3 + 10
10 + (-6)	11 + (-3)	-7 + 5
-3 + (-9)	-1 + 8	-4 + (-4)

10 + (-5)	-6 + (-9)	-1 + 12
-9 + 13	-2 + (-7)	11 + (-3)
-5 + (25)	-4 + (-4)	21 + (-9)

SONJA'S SUM: _____ LEE'S SUM: _____

2. Jonathan's checking account balance is -$45. After receiving his allowance, he deposits $7 into the account. What is the balance of the account after Jonathan's deposit?

I KNOW:	I NEED TO KNOW:
PLAN AND WORK:	SOLUTION:

Use your understanding of adding integers to answer the question below.

3. Marcella solved three different questions on a math quiz. One of the answers is incorrect. Determine which solution is incorrect and explain your reasoning.

QUESTION #1	QUESTION #2	QUESTION #3
-11 + (-7) = -4	29 + (-18) = 11	-16 + 35 = 19

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problem solving strategies

error analysis

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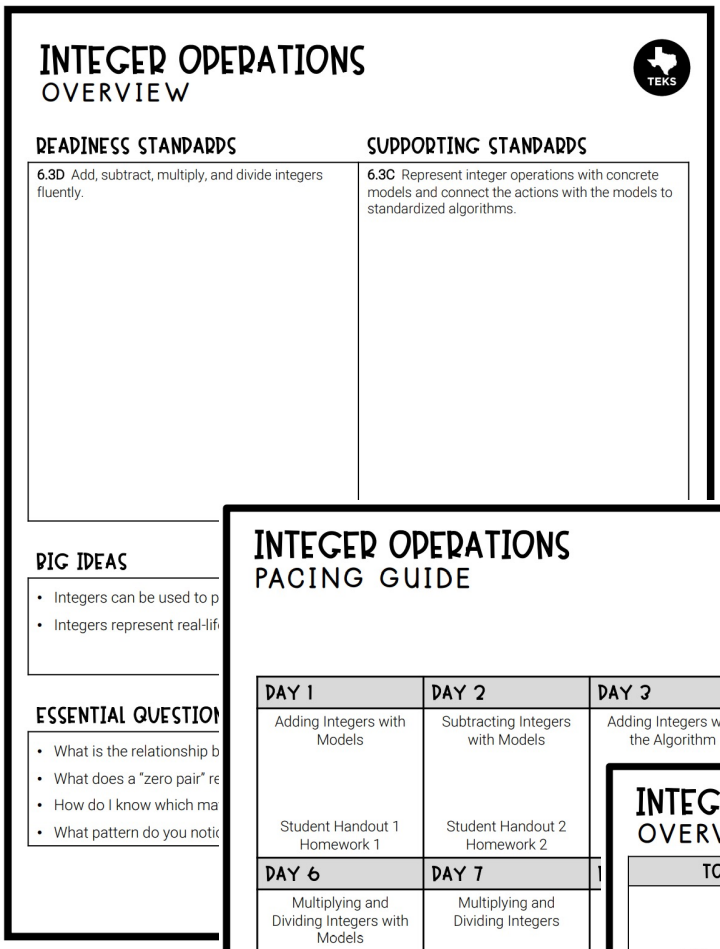
streamline your planning process with unit overviews



INTEGER OPERATIONS
OVERVIEW

READINESS STANDARDS	SUPPORTING STANDARDS
6.3D Add, subtract, multiply, and divide integers fluently.	6.3C Represent integer operations with concrete models and connect the actions with the models to standardized algorithms.

BIG IDEAS

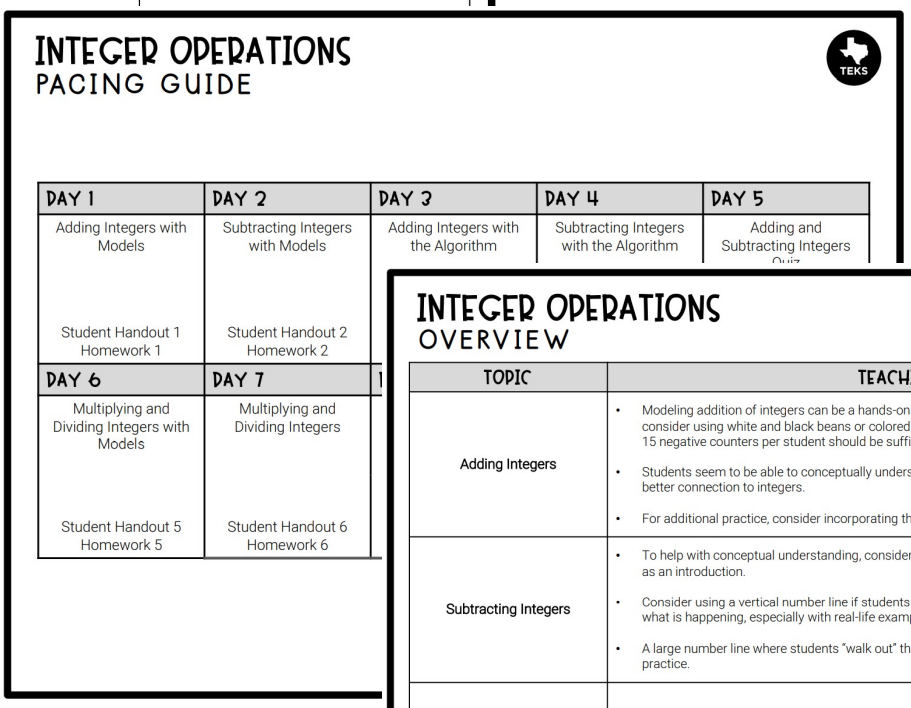
- Integers can be used to p
- Integers represent real-lif

ESSENTIAL QUESTION

- What is the relationship b
- What does a "zero pair" re
- How do I know which ma
- What pattern do you notic

- ✓ key vocabulary
- ✓ vertical alignment

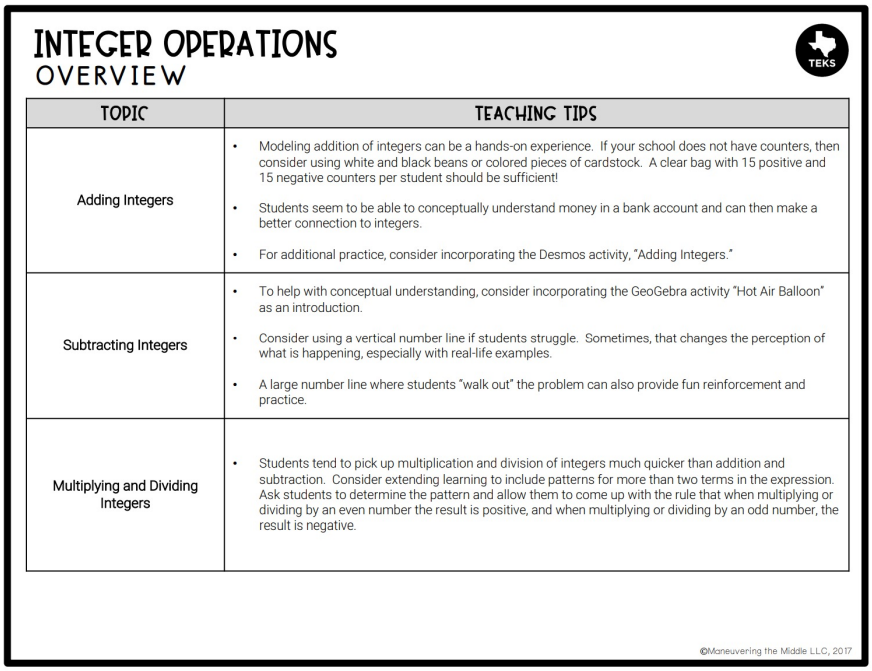
sample pacing calendar



INTEGER OPERATIONS
PACING GUIDE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Adding Integers with Models Student Handout 1 Homework 1	Subtracting Integers with Models Student Handout 2 Homework 2	Adding Integers with the Algorithm	Subtracting Integers with the Algorithm	Adding and Subtracting Integers

DAY 6	DAY 7
Multiplying and Dividing Integers with Models Student Handout 5 Homework 5	Multiplying and Dividing Integers Student Handout 6 Homework 6



INTEGER OPERATIONS
OVERVIEW

TOPIC	TEACHING TIPS
Adding Integers	• Modeling addition of integers can be a hands-on experience. If your school does not have counters, then consider using white and black beans or colored pieces of cardstock. A clear bag with 15 positive and 15 negative counters per student should be sufficient! • Students seem to be able to conceptually understand money in a bank account and can then make a better connection to integers. • For additional practice, consider incorporating the Desmos activity, "Adding Integers."
Subtracting Integers	• To help with conceptual understanding, consider incorporating the GeoGebra activity "Hot Air Balloon" as an introduction. • Consider using a vertical number line if students struggle. Sometimes, that changes the perception of what is happening, especially with real-life examples. • A large number line where students "walk out" the problem can also provide fun reinforcement and practice.
Multiplying and Dividing Integers	• Students tend to pick up multiplication and division of integers much quicker than addition and subtraction. Consider extending learning to include patterns for more than two terms in the expression. Ask students to determine the pattern and allow them to come up with the rule that when multiplying or dividing by an even number the result is positive, and when multiplying or dividing by an odd number, the result is negative.

teaching ideas

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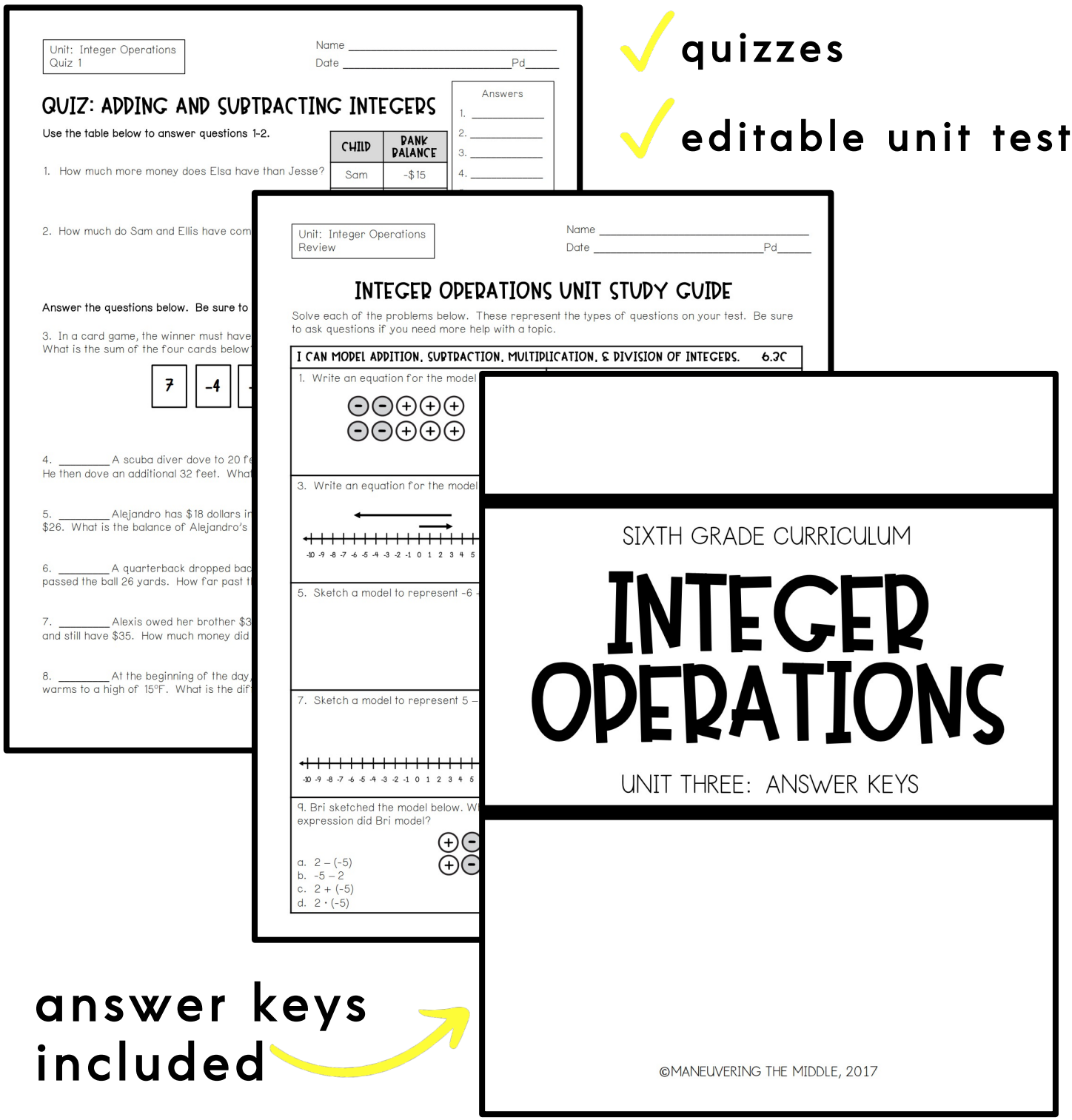
unit study guide + assessments



- ✓ quizzes
- ✓ editable unit test

answer keys included

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