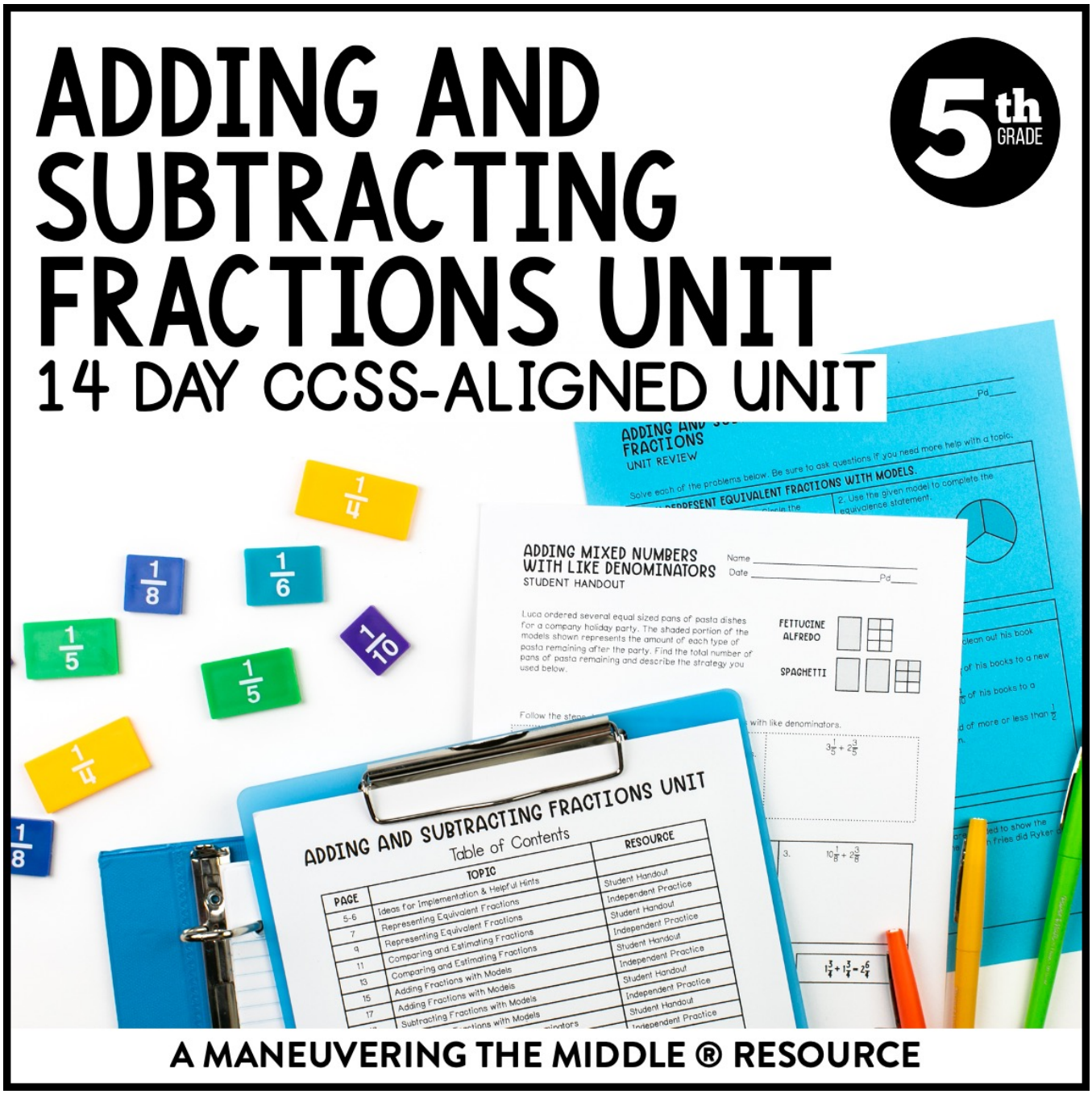
learning focus:

- ✓ add and subtract fractions less than one using models
- ✓ add and subtract fractions less than one with unlike denominators
- ✓ add and subtract mixed numbers with like and unlike denominators in real-world situations



ADDING AND SUBTRACTING FRACTIONS

5th GRADE

a 14 day CCSS-aligned unit
CCSS: 4.NF.A.2, 5.NF.1, 5.NF.2

ready-to-go, scaffolded student materials

ADDING AND SUBTRACTING FRACTIONS UNIT

Table of Contents

A MANEUVERING THE MIDDLE® RESOURCE

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student friendly + real-world application

scaffolded concepts

SUBTRACTING MIXED NUMBERS WITH LIKE DENOMINATORS
STUDENT HANDOUT

Name _____
Date _____ Pd_____

Similar to adding mixed numbers, when subtracting mixed numbers, you can consider the whole number parts and fraction parts to find the difference. Use the steps to complete the example.

SUBTRACTING MIXED NUMBERS WITH LIKE DENOMINATORS		
	1. Consider the values of the _____ and regroup the first mixed number if necessary. 2. Subtract _____ values. 3. Subtract _____ amounts. 4. Simplify if needed.	$4\frac{3}{5} - 3\frac{1}{5}$

1. Armando needs to solve $2\frac{1}{4} - 1\frac{3}{4}$ and draws an area model to represent $2\frac{1}{4}$ as shown below.

a. Armando subtracts the whole numbers and then tries to subtract the fraction amounts. Can he use the model of $\frac{1}{4}$ to subtract $\frac{3}{4}$? Explain.

b. How could you adjust the model to rewrite the first mixed number in the subtraction

When subtracting mixed numbers, you may need to regroup the first value before solv
described below.

WHEN TO REGROUP MIXED NUMBERS	HOW TO REGROUP MIXED NUMB
SMALLER FRACTION, LARGER FRACTION $2\frac{1}{4} - 1\frac{3}{4}$	1. Borrow 1 from the whole number. Rew whole as a fraction with the same deno 2. Add the 1 you borrowed to the fraction Example: $5\frac{1}{3} =$ _____

In #1-3, rewrite the subtraction problem by regrouping the first mixed number. Do not

1. $5\frac{1}{6} - 3\frac{5}{6}$	2. $4\frac{2}{9} - 1\frac{5}{9}$	3. $7\frac{2}{5} - 3\frac{3}{5}$

SUBTRACTING FRACTIONS WITH UNLIKE DENOMINATORS
INDEPENDENT PRACTICE

Name _____
Date _____ Pd_____

Find the difference on each card below. Six of the cards have a solution greater than $\frac{1}{2}$. Unscramble the letters of those six cards to create a secret code.

$\frac{2}{3} - \frac{1}{8}$ I	$1 - \frac{5}{9}$ S	$\frac{4}{5} - \frac{1}{10}$ N
$3 - \frac{3}{7}$ W	$\frac{14}{15} - \frac{1}{5}$ E	$\frac{11}{12} - \frac{2}{3}$ A

Tanner put $\frac{8}{9}$ tablespoon of caramel sauce on his ice cream. Dylan used $\frac{1}{3}$ tablespoon less than Tanner. How much caramel sauce did Dylan put on his ice cream? R

Ziva walked a total of 2 miles during the first three days of the week. She walked $\frac{2}{5}$ mile on Sunday and $\frac{1}{4}$ mile on Monday. How many miles did she walk on Tuesday? T

SECRET CODE: _____ _____ _____ _____ _____ _____

self-checking practice

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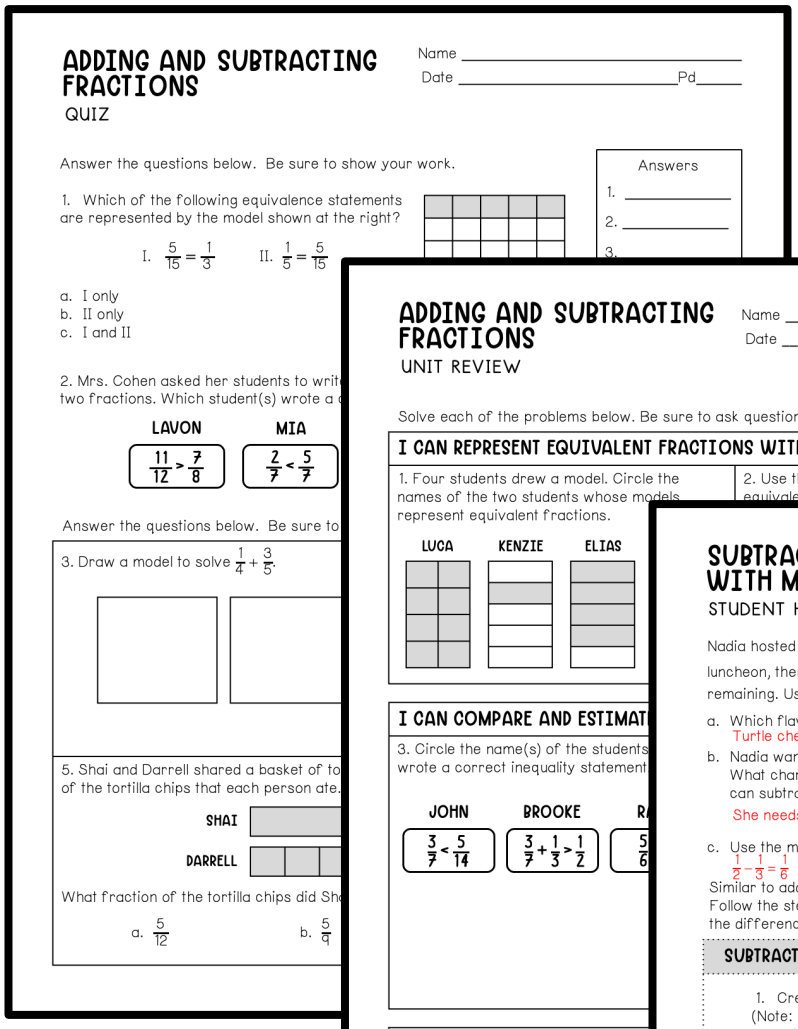
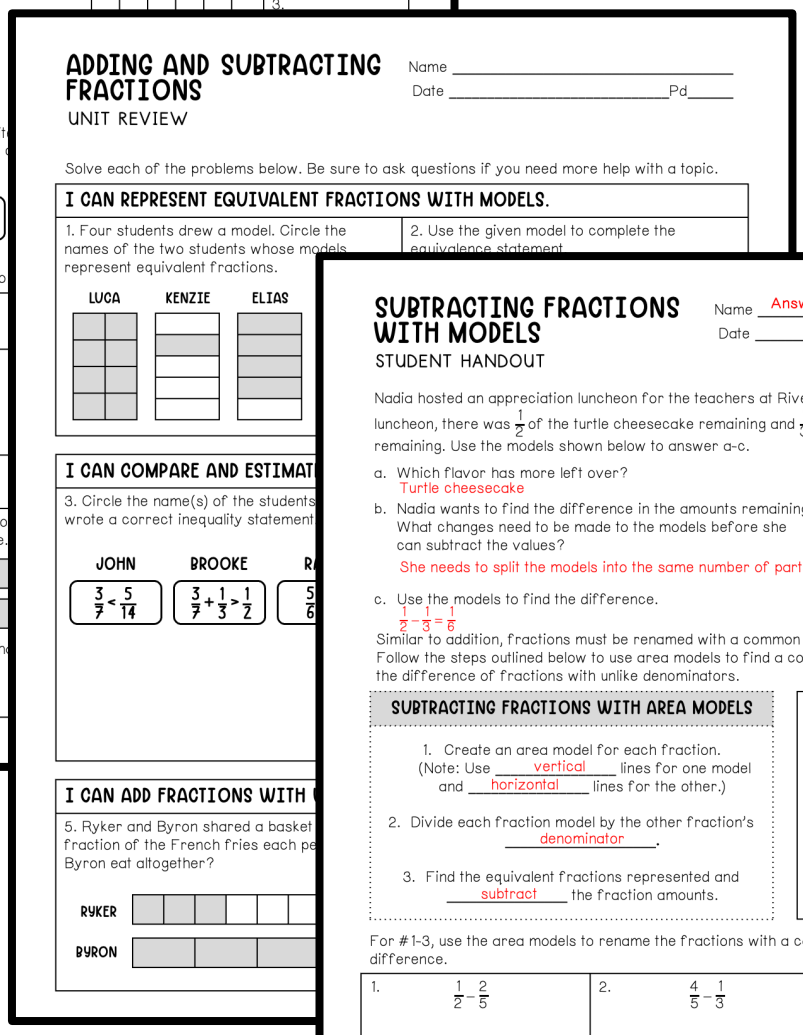
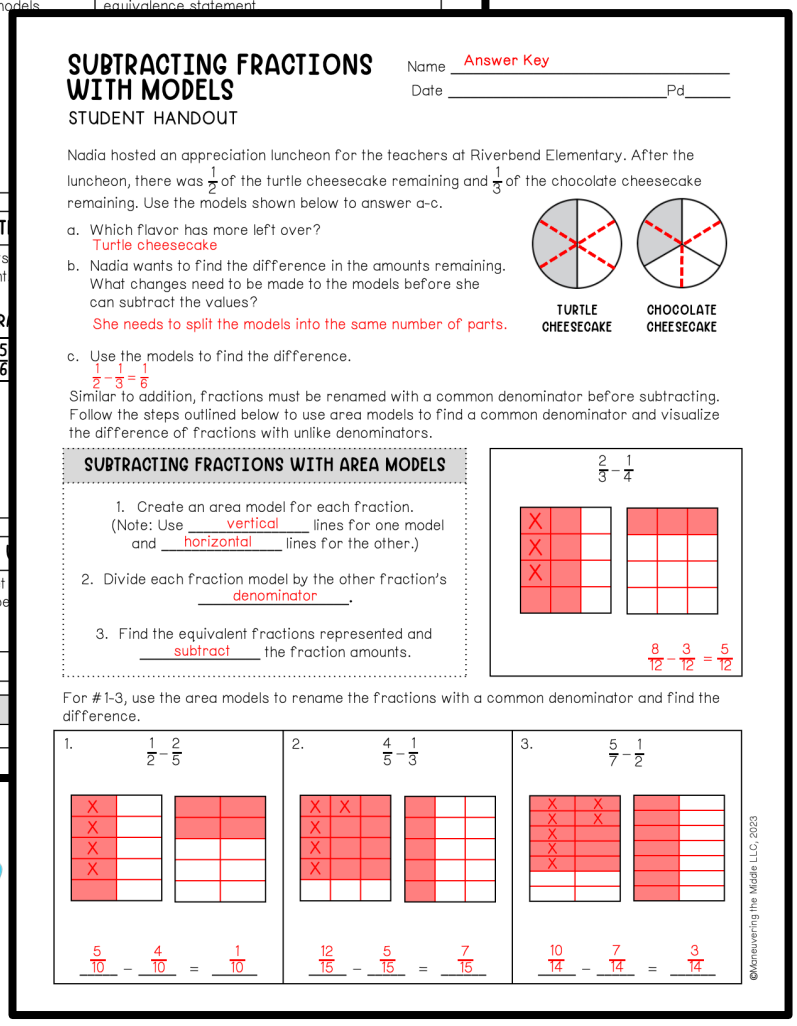
unit study guide + assessments

✓ quizzes

✓ editable unit test


ADDING AND SUBTRACTING FRACTIONS
QUIZ
Name _____
Date _____ Pd____
Answer the questions below. Be sure to show your work.
1. Which of the following equivalence statements are represented by the model shown at the right?
I. $\frac{5}{15}=\frac{1}{3}$ II. $\frac{1}{5}=\frac{5}{15}$
a. I only
b. II only
c. I and II
Answers
1. _____
2. _____
3.
2. Mrs. Cohen asked her students to writ
two fractions. Which student(s) wrote a
LAVON $\frac{11}{12}>\frac{7}{8}$
MIA $\frac{2}{7}<\frac{5}{7}$
Answer the questions below. Be sure to
3. Draw a model to solve $\frac{1}{4}+\frac{3}{5}$.
5. Shai and Darrell shared a basket of to
of the tortilla chips that each person ate.
SHAI
DARRELL
What fraction of the tortilla chips did Sh
a. $\frac{5}{12}$ b. $\frac{5}{4}$


ADDING AND SUBTRACTING FRACTIONS
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 REPRESENT EQUIVALENT FRACTIONS WITH MODELS.
1. Four students drew a model. Circle the names of the two students whose models represent equivalent fractions.
LUCA KENZIE ELIAS
2. Use the given model to complete the equivalence statement
I CAN COMPARE AND ESTIMAT
3. Circle the name(s) of the students
wrote a correct inequality statement
JOHN $\frac{3}{7}<\frac{5}{14}$
BROOKE $\frac{3}{7}+\frac{1}{3}>\frac{1}{2}$
I CAN ADD FRACTIONS WITH
5. Ryker and Byron shared a basket
fraction of the French fries each pe
Byron eat altogether?
RYKER
BYRON


SUBTRACTING FRACTIONS WITH MODELS
STUDENT HANDOUT
Name Answer Key
Date _____ Pd____
Nadia hosted an appreciation luncheon for the teachers at Riverbend Elementary. After the luncheon, there was $\frac{1}{2}$ of the turtle cheesecake remaining and $\frac{1}{3}$ of the chocolate cheesecake remaining. Use the models shown below to answer a-c.
TURTLE CHEESECAKE
CHOCOLATE CHEESECAKE
a. Which flavor has more left over?
Turtle cheesecake
b. Nadia wants to find the difference in the amounts remaining. What changes need to be made to the models before she can subtract the values?
She needs to split the models into the same number of parts.
c. Use the models to find the difference.
$\frac{1}{2}-\frac{1}{3}=\frac{1}{6}$
Similar to addition, fractions must be renamed with a common denominator before subtracting. Follow the steps outlined below to use area models to find a common denominator and visualize the difference of fractions with unlike denominators.
SUBTRACTING FRACTIONS WITH AREA MODELS
1. Create an area model for each fraction. (Note: Use vertical lines for one model and horizontal lines for the other.)
2. Divide each fraction model by the other fraction's denominator.
3. Find the equivalent fractions represented and subtract the fraction amounts.
$\frac{2}{3}-\frac{1}{4}$
$\frac{8}{12}-\frac{3}{12}=\frac{5}{12}$
For #1-3, use the area models to rename the fractions with a common denominator and find the difference.
1. $\frac{1}{2}-\frac{2}{5}$ $\frac{5}{10}-\frac{4}{10}=\frac{1}{10}$
2. $\frac{4}{5}-\frac{1}{3}$ $\frac{12}{15}-\frac{5}{15}=\frac{7}{15}$
3. $\frac{5}{7}-\frac{1}{2}$ $\frac{10}{14}-\frac{7}{14}=\frac{3}{14}$
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answer keys included

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