NOT SO WIMPY

UNIT 6: OPERATIONS WITH FRACTIONS

4th GRADE MATH CURRICULUM

25 DAYS OF COMPARING FRACTIONS MATH LESSON PLANS, POWERPOINTS, ACTIVITIES, AND ASSESSMENT
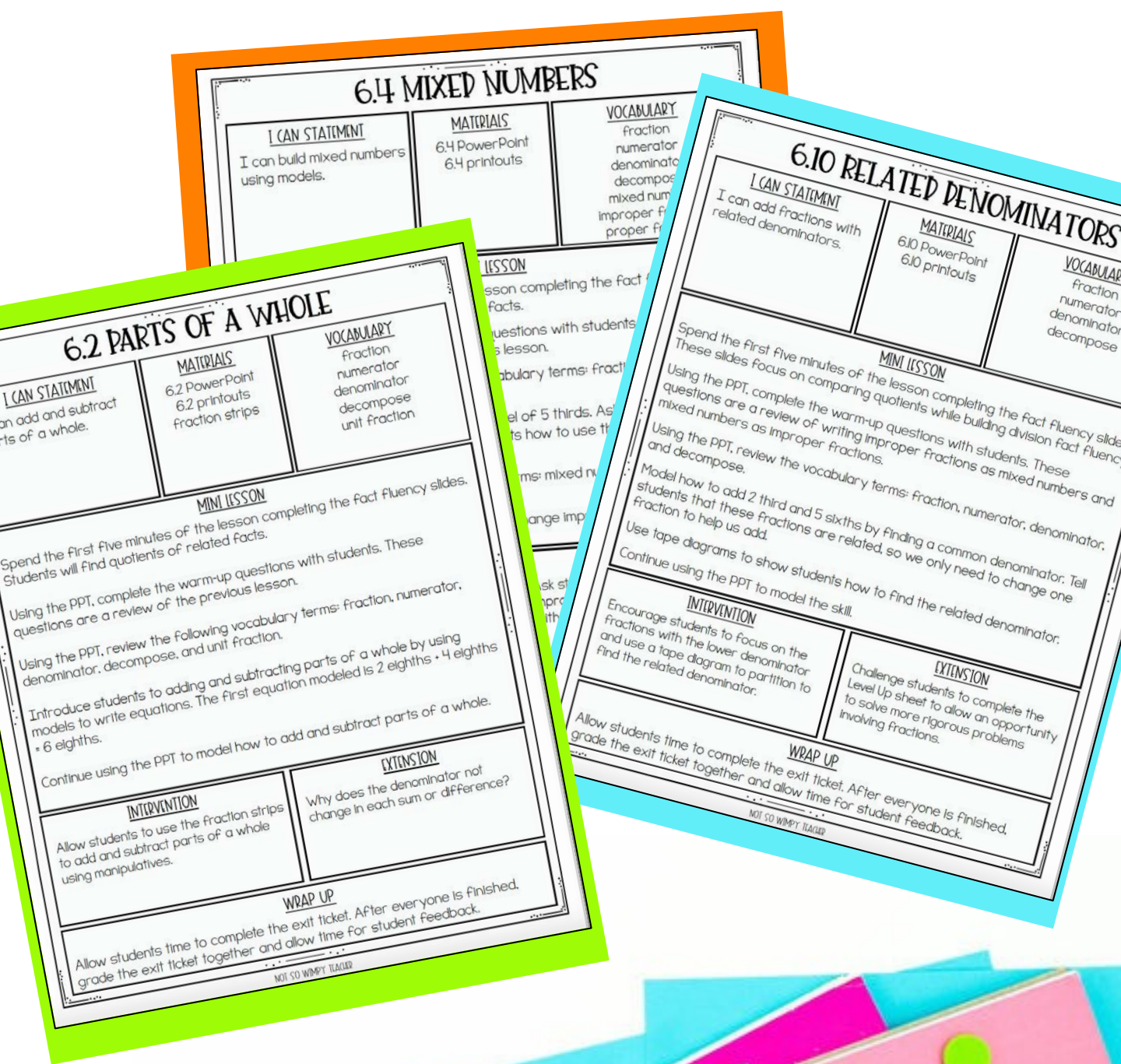
NOT SO wimpy Teacher

UNIT 6: OPERATIONS WITH FRACTIONS at a glance

Day 1 Decompose Fractions	Day 2 Adding and Subtracting Parts of a Whole	Day 3 Adding & Subtracting Fractions: Like Denominators	Day 4 Mixed Numbers / Improper Fractions	Day 5 Mixed Numbers / Improper Fractions
Day 6 Mixed Numbers / Improper Fractions	Day 7 Adding Fractions: Mixed Numbers	Day 8 Subtracting Fractions: Mixed Numbers	Day 9 Adding and Subtracting Mixed Numbers	Day 10 Adding Fractions: Related Denominators
Day 11 Subtracting Fractions: Related Denominators	Day 12 Adding/Subtracting Fractions: Related Denominators	Day 13 Review	Day 14 Adding Fractions: Associative Property	Day 15 Adding Mixed Numbers: Associative Property
Day 16 Multiplying Whole Numbers & Fractions	Day 17 Multiplying Whole Numbers & Fractions	Day 18 Multiplying Whole Numbers & Fractions	Day 19 Multiplying Whole & Mixed Numbers	Day 20 Multiplying Whole & Mixed Numbers
Day 21 Word Problems	Day 22 Word Problems	Day 23 Word Problems	Day 24 Review	Day 25 Assessment

IT COVERS THE FOLLOWING COMMON CORE MATH STANDARDS: 4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d, 4.NF.4, 4.NF.4a, 4.NF.4b, and 4.NF.4c

S:

INCLUDES A PACING GUIDE TO SEE YOUR ENTIRE WEEK AT A GLANCE

6.4 MIXED NUMBERS

I CAN STATEMENT
I can build mixed numbers using models.

MATERIALS
6.4 PowerPoint
6.4 printouts

VOCABULARY
fraction
numerator
denominator
decompose
mixed number
improper fraction
proper fraction

MINI LESSON
...lesson completing the fact ...
...facts.

...questions with students ...
... lesson.

...cabulary terms: fractio...

...el of 5 thirds. As...
...ts how to use th...

...rms: mixed nu...

...ange imp...

...ask st...
...appro...

6.2 PARTS OF A WHOLE

I CAN STATEMENT
...an add and subtract ...rts of a whole.

MATERIALS
6.2 PowerPoint
6.2 printouts
fraction strips

VOCABULARY
fraction
numerator
denominator
decompose
unit fraction

MINI LESSON
Spend the first five minutes of the lesson completing the fact fluency slides. Students will find quotients of related facts.

Using the ppt, complete the warm-up questions with students. These questions are a review of the previous lesson.

Using the PPT, review the following vocabulary terms: fraction, numerator, denominator, decompose, and unit fraction.

Introduce students to adding and subtracting parts of a whole by using models to write equations. The first equation modeled is 2 eighths + 4 eighths + 6 eighths.

Continue using the PPT to model how to add and subtract parts of a whole.

INTERVENTION
Allow students to use the fraction strips to add and subtract parts of a whole using manipulatives.

EXTENSION
Why does the denominator not change in each sum or difference?

WRAP UP
Allow students time to complete the exit ticket. After everyone is finished, grade the exit ticket together and allow time for student feedback.

6.10 RELATED DENOMINATORS

I CAN STATEMENT
I can add fractions with related denominators.

MATERIALS
6.10 PowerPoint
6.10 printouts

VOCABULARY
fraction
numerator
denominator
decompose

MINI LESSON
Spend the first five minutes of the lesson completing the fact fluency slide. These slides focus on comparing quotients while building division fact fluency.

Using the PPT, complete the warm-up questions with students. These questions are a review of writing improper fractions as mixed numbers and mixed numbers as improper fractions.

Using the PPT, review the vocabulary terms: fraction, numerator, denominator, and decompose.

Model how to add 2 third and 5 sixths by finding a common denominator. Tell students that these fractions are related, so we only need to change one fraction to help us add.

Use tape diagrams to show students how to find the related denominator.

Continue using the PPT to model the skill.

INTERVENTION
Encourage students to focus on the fractions with the lower denominator and use a tape diagram to partition to find the related denominator.

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

WRAP UP
Allow students time to complete the exit ticket. After everyone is finished, grade the exit ticket together and allow time for student feedback.

INCLUDES WHOLE GROUP LESSON PLANS!

6.4 MEET THE TEACHER

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

MATERIALS FOR STUDENTS: journals, scissors, glue, pencils

APPROACHING	Model how to quickly cut and glue the journal pag... students show you that they can do the same i... manner using their journal pages.
	Complete the first problem with the students... students to walk you through how to solve t... Have students solve the remaining top two... own and check together.
	Model how to solve the improper fracti... by having each student draw a model... together to find the mixed numbers.
ON TRACK	Model how to quickly cut and glue th... students show you that they can d... journal pages.
	Model how to solve the first pro... students to work in pairs to so... pairs sit quietly until everyone... answer as a group.
MASTERED	Model how to quickly cut a... students show you that th... journal pages.
	Have students complete... students up to check t... mistakes with their p...

NOTES:

6.9 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...t they can do the same in a timely manner using th...
	Complete the f... students to wo... Have students... then check t...
ON TRACK	Model how t... students sh... journal pag...
	Model how... students... pairs sit... answer...
MASTERED	Model h... studen... journa...
	Have... stud... mist...

NOTES:

6.10 MEET THE TEA...

MATERIALS FOR TEACHER: whiteboard, marker, eraser

MATERIALS FOR STUDENTS: whiteboards, markers, erasers

APPROACHING	Model how to add 4 tenths plus 3 fifths. Use a tap... each fraction. Ask the students which tape diagram... decompose to make a like denominator. Partition eac... the tape diagram that represents 3 fifths. Model counting... each shaded section to find the new numerator. Then, n... now the fractions have like denominators so we can add... the fractions.
	Work together with students to add 2 thirds and 5 sixths. U... same steps as before, but ask students what we should do... have them work on their whiteboards.
	Repeat with 7 eighths plus 2 fourths and 2 ninths plus 1 third.
ON TRACK	Work together with students to solve 4 tenths plus 3 fifths. Use... diagram to determine the related denominator. ask students to add 2... a like denominator.
	After you have solved the problem together to find the sum of the fract... thirds and 5 sixths with a partner. Once each fraction... with another partner pair.
	Repeat with 7 eighths plus 2 fourths and 2 ninths plus 1 third.
MASTERED	Have students add 2 twelfths plus 3 fourths plus 1 third... drawing tape diagrams. When all students are finished, have them check their work with a partner.
	Ask students if they can solve the problem without a tape diagram. Choose a student to explain to the group how to solve without tape diagrams.
	Challenge students to solve 7 eighths plus 2 fourths and 2 ninths plus 1 third without using a tape...

NOTES:

INCLUDES SMALL GROUP/ MEET WITH TEACHER LESSON PLANS

Name: _____

Unit 6 Lesson 1   Problem Set

Directions: Use a number bond to decompose the fraction into the product of a whole number by a unit fraction.

Unit 6 Lesson 8   Problem Set

Directions: Solve each problem. Write the difference on the line. Draw models if needed.

1. $6\frac{2}{3} - 2\frac{1}{3} =$ _____

2. $9\frac{7}{10} - 4\frac{3}{10} =$ _____

3. $12\frac{8}{9} - 7\frac{4}{9} =$ _____

4. $15\frac{6}{7} - 12\frac{2}{7} =$ _____

5. $4\frac{2}{4} - 2\frac{3}{4} =$ _____

6. Nessie poured 8 and 2 thirds cups of ... the end of the day, there were 3 and ...

Unit 6 Lesson 8   Exit Ticket

Directions: Solve each problem. Write the difference on the line. Draw models if needed.

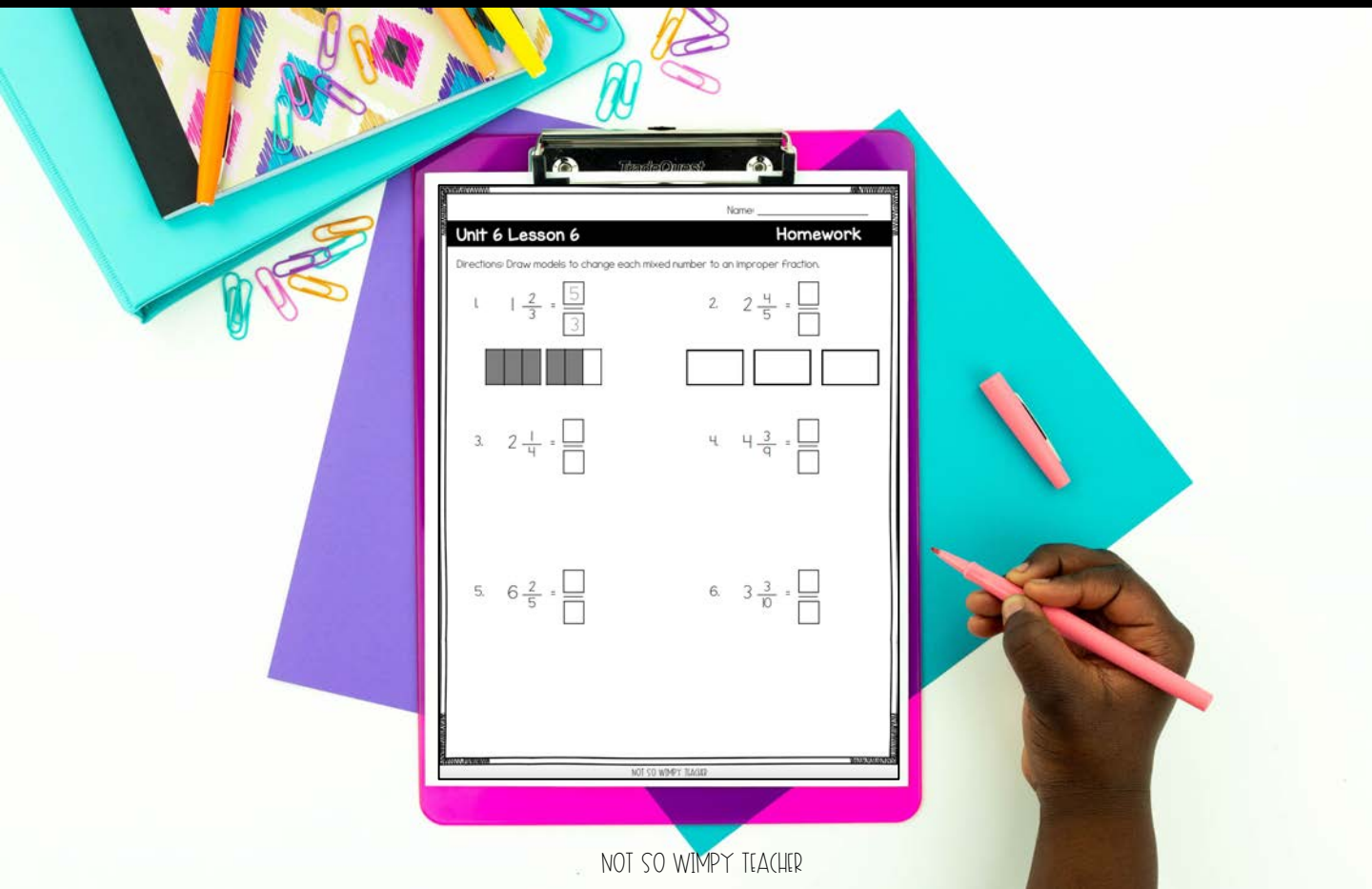1. $5\frac{6}{8} - 3\frac{4}{8} =$ _____

Unit 6 Lesson 10   Exit Ticket

Directions: Use a tape diagram to add the fractions with related denominators.

1. $\frac{5}{12} + \frac{3}{6} =$ _____   2. $\frac{1}{2} + \frac{7}{8} =$ _____

Unit 6 Lesson 6   Homework

Directions: Draw models to change each mixed number to an improper fraction.

1. $1\frac{2}{3} = \frac{5}{3}$ 2. $2\frac{4}{5} = \frac{\Box}{\Box}$

3. $2\frac{1}{4} = \frac{\Box}{\Box}$ 4. $4\frac{3}{9} = \frac{\Box}{\Box}$

5. $6\frac{2}{5} = \frac{\Box}{\Box}$ 6. $3\frac{3}{10} = \frac{\Box}{\Box}$

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INCLUDES PROBLEM SETS, HOMEWORK, AND EXIT TICKETS FOR EACH DAY

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6.11 Related Denominators

I can su...
fractions wi...
...

Fact Fluency

QUICK THINK!

Which equation has the greatest quotient?

Warm Up

Add the mixed numb...
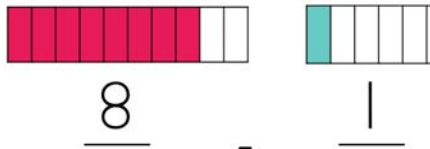
$$4 \frac{7}{12} + 5 \frac{4}{}$$

Related Denominators

Decompose one tape diagram to make the same units.

$$\frac{4}{} - \frac{1}{10} =$$

...N AND TALK!

Related Denominators

What is the difference?

$$\frac{4}{5} - \frac{1}{10}$$

$$\frac{8}{} - \frac{1}{}$$

Centers

	MON.	TUES.	WED.	THURS.
GROUP 1	Meet the Teacher	Independent	Meet the Teacher	Independent
	Technology	Math Facts	Technology	Math Facts
GROUP 2	Independent	Meet the Teacher	Independent	Meet the Teacher
	Technology	Math Facts	Technology	Technology
	Math Facts	Technology	Math Facts	Math Facts
	Independent	Meet the Teacher	Independent	Independent
	Technology	Math Facts	Technology	Technology
	Meet the Teacher	Independent	Meet the Teacher	Meet the Teacher

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Exit Ticket

Directions: Use a tape diagram to subtract the fractions with related denominators.

INCLUDES DAILY POWERPOINTS FOR TEACHING MATH SKILLS.

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REVIEW board game

CARD 10:
Find the sum.

$$10\frac{6}{12} + 1\frac{2}{12}$$

CARD 19:
Find the difference.

$$13\frac{9}{10} - 8\frac{3}{10}$$

CARD 22:
Find the sum.

$$\frac{6}{\quad} + \frac{2}{10}$$

START/FINISH

LOSE A TURN

UP 5 SPACES

GO AGAIN

BACK 2 SPACES

UP 4 SPACES

LOSE A TURN

LOSE A TURN

GO AGAIN

UP 2 SPACES

BACK 4 SPACES

BACK 2 SPACES

How to Play:
- The first player picks up the first question card and answers it. Other players check the answer using the answer cards.
- If the player is correct, they roll the die, move forward that many spaces, and follow any directions on the space where they land.
- The next player draws a question card and repeats the same steps.
- The first player to go all the way around the board and reach the "start/finish" space is the winner!

games and task cards are included for end of unit review

OPERATIONS with FRACTIONS TASK CARDS MID UNIT REVIEW

OPERATIONS WITH FRACTIONS
Name: _____
Directions: Read each card and record your answer in the box.

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.

Use a tape diagram to decompose the fraction into the product of a whole number by a unit fraction.

$$\frac{3}{8}$$

1

Find the sum.

$$12\frac{3}{8} + 5\frac{2}{8}$$

5

Tarik needs 3 and 5 eighths cup of semi-sweet chocolate chips and 1 and 2 eighths cups of dark chocolate chips for his cookie recipe. How many cups of chocolate chips does he need?

9

Use the models to find the difference of the equation.

17

Unit 6

Directions: Draw a model for each given fraction.

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

Directions: Use the models to decompose each f

4. $\frac{3}{7}$

Unit 6

Name: _____

Directions: Use a model to decompose the fraction into the product a unit fraction.

1. $\frac{4}{6}$ 2. $\frac{3}{8}$

Unit 6   **Assessment**

Name: _____

Directions: Solve each problem. Write the answer on the line.

16. $\frac{7}{8} + \frac{2}{4} =$ _____   17. $\frac{3}{5} + \frac{2}{5} =$ _____

18. $\frac{3}{4} - \frac{1}{8} =$ 19. $\frac{8}{9} - \frac{2}{3} =$ _____

the sum on the line.

Skill	Decomposing Fractions	Adding and Subtracting Fractions	Converting Mixed Numbers and Improper Fractions	Adding and Subtracting Mixed Numbers	Related Denominators	Associative Property	Multiplying Whole Numbers by Fractions	Multiplying Whole Numbers by Mixed Numbers	Word Problems	
Student	1-2	3-6	7-10	11-15	16-19	20-23	24-27	28-29	30-32	TOTAL
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32
	__/2	__/4	__/4	__/5	__/4	__/4	__/4	__/2	__/3	__/32

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Unit 6   **Pre**

Directions: Draw a model for each fraction

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

Directions: Use the models to decompose each

4. $\frac{3}{7}$

$\frac{1}{7} + \frac{1}{7} + \frac{1}{7} = \frac{3}{7}$

Directions: Compare each fraction using >,<, or =.

6. $\frac{5}{9} \bigcirc > \frac{3}{9}$ 7. $\frac{2}{12}$

8. $\frac{7}{5} \bigcirc < \frac{7}{3}$ 9. $\frac{5}{6}$

Directions: Use area models to generate equivalent fractions.

5. $\frac{4}{2} = \frac{8}{4}$ 6. $\frac{9}{5} = \frac{18}{30}$

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Name: _____

Assessment Answer Key

o an improper fraction.

10. $4\frac{5}{7} = \frac{33}{7}$

answer on the line.

$8\frac{4}{5}$

$1\frac{4}{3} = 12\frac{1}{3}$

13. $8\frac{3}{4} - 3\frac{2}{4} = 5\frac{1}{4}$

14. $10\frac{6}{8} - 9\frac{4}{8} = 1\frac{2}{8}$

15. $14\frac{5}{9} - 6\frac{7}{9} = 7\frac{7}{9}$

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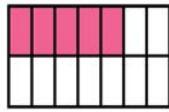# INCLUDES PRE- AND POST-ASSESSMENTS, ANSWER KEYS AND A RUBRIC FOR TRACKING STUDENT PROGRESS

NOT SO WIMPY TEACHER

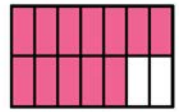# MULTIPLYING FRACTIONS

$$6 \times \frac{2}{4}$$
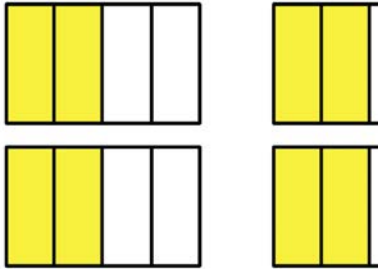
ADDING & SUBTRACTING FRACTIONS
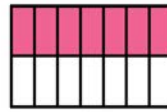
$$\frac{5}{14} + \frac{7}{14} = \frac{12}{14}$$

$$\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$$

NOT SO WIMPY TEACHER   FOR USE WITH LESSONS 6.2-6.3

Vocabulary cards and anchor charts for teacher and students to reference throughout the unit

IMPROPER FRACTION
numerator is greater than

$$\frac{6}{}$$

UNIT FRACTION
represents 1 part of a whole

PROPER FRACTION
numerator is less than the denominator

$$\frac{3}{4}$$

6.10 RELATED DENOMINATORS

I CAN STATEMENT
I can add fractions with related denominators.

MATERIALS
6.10 PowerPoint
6.10 printouts

VOCABULARY
fraction
numerator
denominator
decompose

MINI LESSON
Spend the first five minutes of the lesson completing the fact fluency slides. These slides focus on comparing quotients while building division fact fluency.

Using the PPT, complete the warm-up questions with students. These questions are a review of writing improper fractions as mixed numbers and mixed numbers as improper fractions.

Using the PPT, review the vocabulary terms: fraction, numerator, denominator, and decompose.

Model how to add 2 third and 5 sixths by finding a common denominator. Tell students that these fractions are related, so we only need to change one fraction to help us add.

Use tape diagrams to show students how to find the related denominator.

Continue using the PPT to model the skill.

INTERVENTION
Encourage students to focus on the fractions with the lower denominator and use a tape diagram to partition to find the related denominator.

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

WRAP UP
mplete the exit ticket. After everyone is finished,

Unit 6 Lesson 8
Directions: Solve each problem. Write the difference on the

1. $6\frac{2}{3} - 2\frac{1}{3} =$ _____

2. $9\frac{7}{10} - 4\frac{3}{10} =$ _____

3. $12\frac{8}{9} - 7\frac{4}{9} =$ _____

4. $15\frac{6}{7} - 12\frac{2}{7} =$ _____

5. $4\frac{2}{4} - 2\frac{3}{4} =$ _____

Name: _____

Homework

decompose the fraction into the product of a whole

2. $\frac{4}{5}$

_____ $\times \frac{\square}{\square} =$ _____

ose the fraction into the product of a whole

4. $\frac{8}{10}$

tion into the product of a whole number by

6. $\frac{3}{6}$

Related Denominators
What is the difference?

Related Denominators
Decompose one tape diagram to make t
same units.

$$\frac{4}{5} - \frac{1}{10} =$$

DENOMINATOR $\frac{1}{}$

ASSOCIATIVE PROPERTY
grouping the addends
without changing the sum

$$\left(\frac{2}{7} + \frac{1}{7}\right) + \frac{5}{7}$$

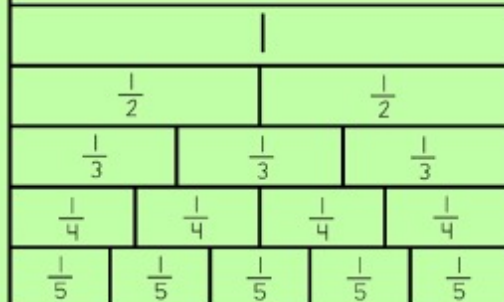$$\frac{2}{7} + \left(\frac{1}{7} + \frac{5}{7}\right)$$

MIXED NUMBER
er and proper

$2\frac{3}{4}$

FRACTION STRIPS

1				
$\frac{1}{2}$		$\frac{1}{2}$		
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$		$\frac{1}{4}$
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

Directions: Cut along the scissor lines. Glue the flaps into a journal. Under each flap, write the sum or difference of each expression.

FRACTIONS
Adding and Subtracting Mixed Numbers

$3\frac{2}{5} + 4\frac{1}{5}$	$7\frac{4}{7} + 2\frac{2}{7}$
$8\frac{3}{4} - 2\frac{1}{4}$	$6\frac{5}{6} - 5\frac{1}{6}$
$12\frac{3}{10} + 18\frac{4}{10}$	$23\frac{7}{5} + 27\frac{5}{5}$

Multiplication Table

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

EACH DAY OF MATH IS FULLY PLANNED FOR YOU WITH ALL THE TOOLS YOU'LL NEED!

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