

ALSO INCLUDES GOOGLE SLIDES



This unit was created with this guy in mind. He has autism and an intellectual disability. He is a nonreader and lacks many prerequisite math skills needed for math. With some support, he is able to do this unit and enjoys the challenge. He is my tester!!

# Table of Contents

Worksheet pages	Title
4-35	Subtracting Fractions
36-38	Vocabulary board
39-41	Power cards
42-44	Fraction cards
45-54	Worksheet set 1: Converting whole and mixed numbers
55-61	Worksheet set 2: finding LCD
62-66	Worksheet set 3: adding numerators
67-81	Worksheet set 4: simplifying fractions
82-106	Worksheet set 5: adding fractions
107-110	Quiz
111-112	Terms of use

# In a separate files:

- Lesson plans
- Group activities
- Directions and links to digital version of the activities



This unit contains over 100 pages of material. But, don't worry!! I have included a 15 day lesson plan to help you make the most of everything packed in this unit.

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# Subtracting Fractions Lesson Plan

## Preparation

- · Print out a vocabulary board for each student to use throughout unit
  - o Laminate or place in page protector
- Book
  - o Print out, laminate, and bind
  - OR your students can listen to the pre-recorded version
  - I highly recommend using the movie version of the book (see direction for digital activities for link) since it is animated and narrated
- Fraction cards
  - Print out a set of fraction cards onto cardstock and laminate

## Preassessment (do day 1 before starting lesson)

- · Use the guiz as the preassessment
- I cannot emphasize enough how important this step is, ... If you want to see growth, this preassessment is so important!!

# Teaching Tips

- Color Coding: this is a really easy way to add more structure to a matching
  activity. Outline or color in an empty box or sorting label. Outline or color in the
  corresponding picture symbols the same colors. Becomes a color matching task.
  - For more info, read more here: <a href="https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/">https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/</a>
  - b. I also have a blog post on differentiating one activity 3 ways: <a href="https://specialneedsforspecialkids.org/2018/10/22/differentiating-l-activity-3-ways-easily-and-effectively/">https://specialneedsforspecialkids.org/2018/10/22/differentiating-l-activity-3-ways-easily-and-effectively/</a>
- Make you own copies of the activities: Every day I review the activity we did vesterday. For that reason:
  - a. I often complete the activity myself and often laminated it for easy review that I could use year after year.
  - My copies were also helpful as either a model for students who needed more support or as a way for more advanced students to self-check their work.
- Worksheets: There are more worksheets included in the unit than referenced here in the lesson plan. Use them for extra practice or homework.

The lesson plans contain:

Overall tips for teaching students with significant needs and who may lack some pre-requisite skills.

# Quick Look

Day	Activity	Day	Activity
1	Book     Vocabulary board intro     Power card introduction     Converting whole numbers	9	Book     Fraction activity     Simplifying fractions
2	Book     Fraction activity     Review power card     Converting mixed numbers	10	Book     Fraction activity     Subtracting fractions
3	Book     Fraction activity     Review power card     Converting mixed numbers	11	Book     Fraction activity     Subtracting fractions
4	Book     Fraction activity     Review power card     Finding LCD	12	Book     Fraction activity     Subtracting fractions
5	Book     Fraction activity     Subtracting numerators	13	Book     Subtracting fractions
6	Book     Fraction activity     Simplifying fractions	14	Book     Subtracting fractions
7	Book     Fraction activity     Simplifying fractions	15	Quiz
8	Book     Fraction activity     Simplifying fractions	70 00	

The lesson plans contain:

A quick look at what you will do each day.

# Day 6-9

Activity	Notes	Materials
Read or listen to the movie version of the book  * Read the story, asking lots of questions to the movie book and vocabulary board		Book     Vocabulary     board
Fraction activity (10 minutes)	Choose an activity from the fraction activity file using the fraction cards provided	Fraction     activity pdf     Fraction cards
Review (5 minutes)	Review the worksheet completed yesterday	worksheet
Simplifying fractions (15 minutes)	<ul> <li>Do 1-2 worksheets in set 4         <ul> <li>Students will fill simplify the fraction</li> <li>The first 3 practice simplifying proper fractions</li> <li>The second 4 problems simplify improper fractions</li> <li>There are more worksheets in this set than you will need, so move a pace appropriate for your students</li> </ul> </li> <li>Allow access to and reference power card</li> </ul>	Worksheet     Power card     (simplifying)
Sharing (10 minutes)	Each student shares one of their finished worksheets with the group using the communication method of their choice	<ul> <li>Completed worksheets</li> <li>Communication devices</li> </ul>

# The lesson plans contain:

Detailed instructions on how that day's lesson should run including group and individual activities.

In this unit, we are going to look at how to subtract two fractions and learn a few new things along the way.



The good news, is the steps are the same ones you used to add fractions.

We need to turn  $6\frac{3}{4}$  into an improper fraction.



$$6\frac{3}{4}$$

Step 1: Multiply the whole number and the denominator.

Step 2: Add the numerator to your answer.

$$24 + 3 = 27$$

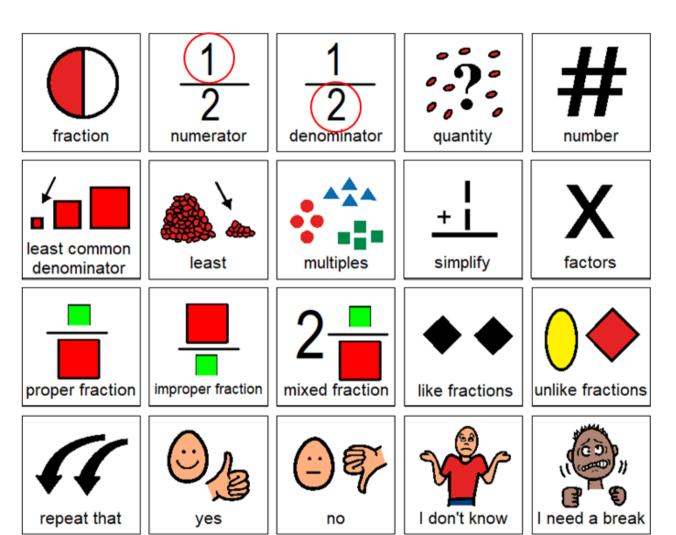
Step 3: The answer is your new numerator. The denominator remains unchanged

$$\frac{27}{4}$$

This unit contains a book that is 32 pages and covers the steps of subtracting fractions with and without common denominators as well as simplifying your answer.

It comes in a pdf version as well as an mp4 version that is animated and narrated.





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This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!



- · Print on cardstock and laminate
- · Glue together back-to-back

## Subtracting fractions

- 1. Find the least common denominator
- Subtract numerators, keep denominators
- Simply if needed

# Example:

1 3x2=6 6x2=12 3x3=9 6x3=18

$$\frac{3}{6} + \frac{2}{2} = \frac{2}{3}$$

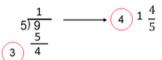
Step by step cards for simplifying a mixed number. Made to fit on 4x6 index

- · Print on cardstock and laminate
- · Glue together back-to-back

## Simplify an Improper Fraction

- 1. Divide the numerator by the denominator.
- 2. Write down the largest whole number you
- Place the remainder in the numerator
- Keep the denominator the same

# Example:



Step by step cards for turning a mixed number into an improper fraction. Made to fit on 4x6 index card.

- · Print on cardstock and laminate
- · Glue together back-to-back

# Mixed number >> improper fraction

- Multiply the whole number and denominator.
- Add the numerator.
- New numerator is answer. Keep denominator the same

#### Example:

There are 3 power cards that outline the steps for subtracting fractions and one for the steps on simplifying fractions. They can use when

working through problems.





$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$
$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{7}$
$\frac{1}{8}$	$\frac{1}{9}$	1/10
$\frac{2}{3}$	$\frac{2}{4}$	$\frac{3}{4}$
$\frac{2}{5}$	$\frac{3}{5}$	$\frac{4}{5}$
$\frac{2}{6}$	$\frac{3}{6}$	$\frac{4}{6}$
$     \begin{array}{r}                                     $		
$\frac{4}{7}$	5 7	$\frac{6}{7}$

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$2 \frac{1}{3}$	$3\frac{1}{4}$
$5 \frac{5}{6}$	$6\frac{3}{7}$
7 4/9	$6\frac{3}{7}$ $6\frac{9}{10}$
$5 \frac{3}{4}$	$4\frac{3}{11}$
$7\frac{3}{10}$	$4\frac{3}{11}$ $3\frac{4}{12}$
3	4
6	7
9	10
	$   \begin{array}{r}     5 \\     \hline     5 \\     \hline     7 \\     \hline     7 \\     \hline     7 \\     \hline     3 \\     \hline     7 \\     \hline     3 \\     \hline     3 \\     \hline     6 \\   \end{array} $

cial Needs for Special Kids 1981–2022 by Tobili Dynavax, All Rights Reserved There are a set of fraction cards used for group activities and extra practice.

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# GROUP ACTIVITIES FOR ADDING AND SUBTRACTING FRACTIONS

#### Scavenger hunt

#### Here is what you will need:

Set of fraction cards (included in unit)

#### How to play:

- · Place the cards around the room
- · Choose something for students to find:
  - Proper fractions
  - Improper fractions
  - · Mixed numbers
- Whole numbers
- Students walk around and find the designated cards
- . Bring the matches back to the table and share which they found

#### Go Fish

#### Here is what you will need:

- Mount the fraction cards onto index cards
- · You will need 2 sets

#### How to play

- · Pass out 5 cards per person
- · Students make and collect matches
- · Great practice for reading the different types of numbers correctly

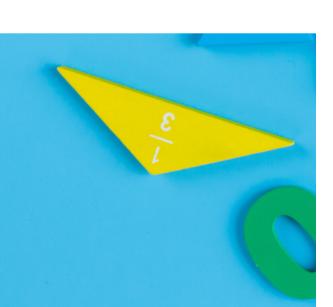
#### I Spy Game

#### Here is what you will need:

· one copy of the fraction cards

#### low to play:

- · Place the fraction cards face up on the table
- · Write a fraction on a dry erase board where only you can see it
- · Describe it with as much detail as you can
- · Ask students to hold up the fraction card they think matches
- Turn it around and ask students to raise their hand if they got it correct





# **Speed Matching**

#### Here is what you will need:

· two copies of the fraction cards

#### How to play:

- Place one set of fraction cards face up on the table
- Hold up a fraction card for students to see
- Students race to find the matching fraction

# Paper plate toss

#### Here is what you will need:

- paper plates with fraction cards taped to them
- · bean bags

#### How to play:

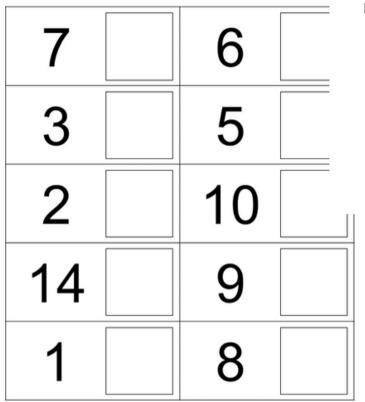
- · Place paper plates with cards showing around the room
- Variation 1: students choose a fraction from a second pile of fraction cards face down on the table. Toss the bean bag to try and land it on the matching fraction
- · Variation 2: students toss bean bags to land on designated cards
  - · Proper fractions
  - · Improper fractions
  - Mixed numbers
  - · Whole numbers
- · Numbers 1-20 on index cards

#### How to play

- Draw an index card
- As a group complete the outside in chart to find all the factors for that number
- Find blocks with corresponding numbers and build them in a tower
- If using Jenga blocks, build them tall wise to make it more challenging

There is a file that gives you ideas of group activities you can do each day working with fractions and subtracting them.

Match the fraction for each whole number.



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Match the fraction with the whole number on the previous page.

10	1	8	14	7
1	<u>1</u>	$\overline{1}$	1	$\overline{1}$
5	6	9	2	3
<u>-</u>	1	$\overline{1}$	$\overline{1}$	<u>-</u>



Circle the equivalent fraction for each whole number.

1. 16	<b>→</b>	$\frac{1}{16}$	$\frac{16}{16}$	16 1	
2. 6	<b></b>	$\frac{6}{6}$	$\frac{6}{1}$	$\frac{1}{1}$	
3. 4	<b>→</b>	$\frac{1}{4}$	$\frac{14}{14}$	$\frac{4}{1}$	
4. 23	<b></b>	$\frac{23}{1}$	$\frac{1}{23}$	$\frac{32}{23}$	
5. 2	<b>→</b>	$\frac{1}{12}$	$\frac{2}{1}$	$\frac{1}{2}$	
6. 11	<b></b>	$\frac{11}{1}$	$\frac{11}{11}$	$\frac{1}{11}$	
7. 15	<b></b>	1 15	5 <u>1</u>	15 1	
8. 3	<b>→</b>	$\frac{3}{13}$	$\frac{3}{1}$	$\frac{3}{3}$	
9. 7	<b></b>	<del>7</del> 7	17 1	$\frac{7}{1}$	
10. 35	<b></b>	35 5	5 35	35 1	

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There are 2 activities looking at changing whole numbers into fractions. Suggestions for differentiation are included.

Follow these steps to turn the mixed number into an improper fraction. Circle your final answer.

- 1. Multiply the whole number and denominator.
- 2. Add the numerator.
- 3. New numerator is answer. Keep denominator the same

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

- 1.
- 2.
- 3.

# $1\frac{1}{9}$

- 1.
- 2.
- 3.

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There are 5 worksheets converting mixed numbers into improper fractions. Suggestions for differentiation are included.

- 1. List out the multiples for each denominator.
- 2. Circle the least common denominator in each set of multiples.

$\frac{7}{10}$	$\frac{3}{5}$
10 x 1 =	5 x 1 =
x 2 =	x 2 =
x 3 =	x 3 =
x 4 =	x 4 =
v E =	v E =

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- 1. List out the multiples for each denominator.
- Circle the least common denominator in each set of multiples.

$\frac{1}{3}$	$\frac{1}{2}$
3 x 1 =	2 x 1 = _
3 x 2 =	2 x 2 =
3 x 3 =	2 x 3 =
3 x 4 =	2 x 4 =
3 x 5 =	2 x 5 =

$$\frac{5}{6}$$
 $\frac{3}{4}$ 
 $6 \times 1 =$ 
 $6 \times 2 =$ 
 $6 \times 3 =$ 
 $6 \times 4 =$ 
 $6 \times 5 =$ 
 $4 \times 1 =$ 
 $4 \times 1 =$ 
 $4 \times 2 =$ 
 $4 \times 2 =$ 
 $4 \times 3 =$ 
 $4 \times 4 =$ 
 $4 \times 4 =$ 
 $4 \times 5 =$ 

There are 5 worksheet sets that practice a specific step in the process of adding fractions.

This set 2 has 3 worksheets where students find the LCD by listing the multiples.

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- 1. Solve the problem by adding the numerators.
- 2. Circle ves or no for each question..

$$\frac{7}{10} - \frac{4}{10} =$$

Proper fraction?



Needs to be simplified?



$$\frac{7}{9} - \frac{3}{9} =$$



Needs to be simplified?

















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- 1. Solve the problem by adding the numerators.
- 2. Circle yes or no for each question..

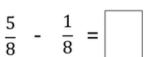
$$\frac{4}{3} - \frac{2}{3} =$$



Needs to be simplified?

Proper fraction? 
$$\bigvee_{yes}$$

Needs to be simplified? \( \sqrt{} \)



Proper fraction?



Needs to be simplified?





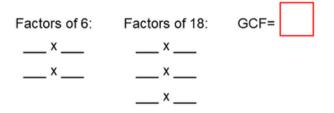


This set has 3 worksheets, and students subtract fractions with like denominators and answer some simple questions about their answer.

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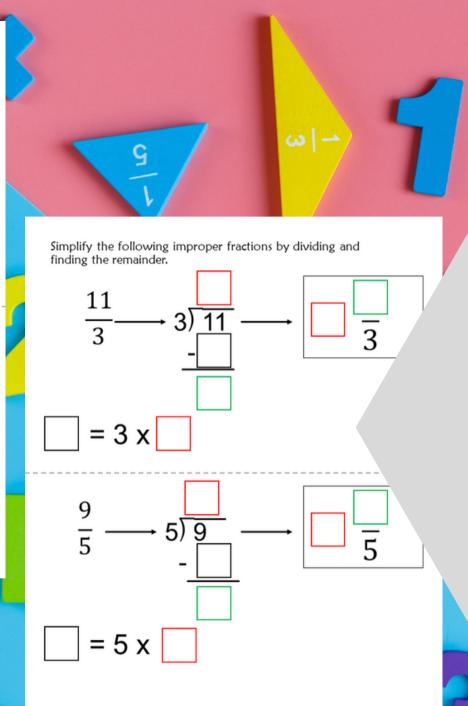
Simplify the following proper fractions by determining the greatest common factor.





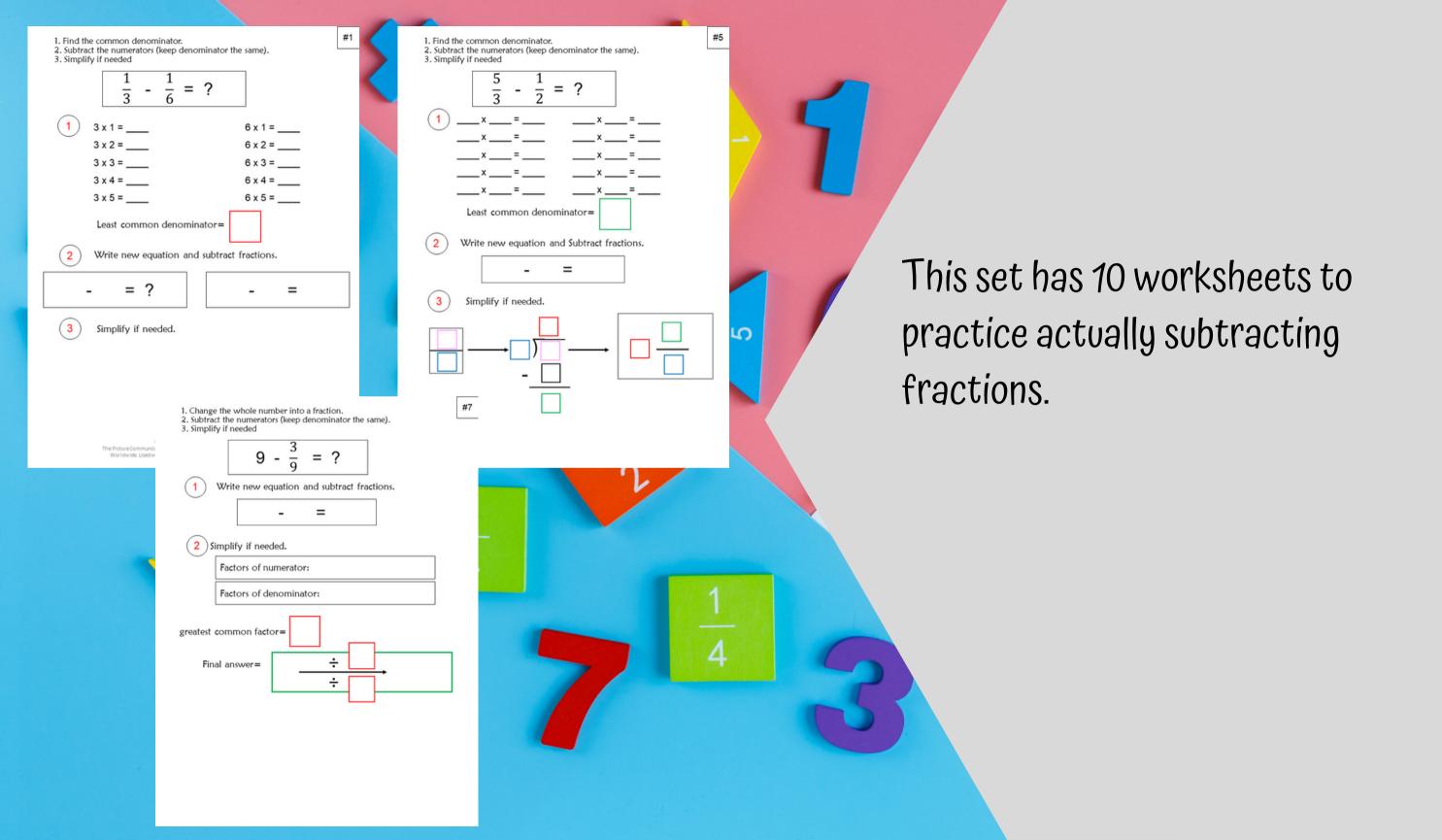
$$\frac{10}{25} \stackrel{\div}{\longrightarrow} \boxed{\phantom{0}}$$

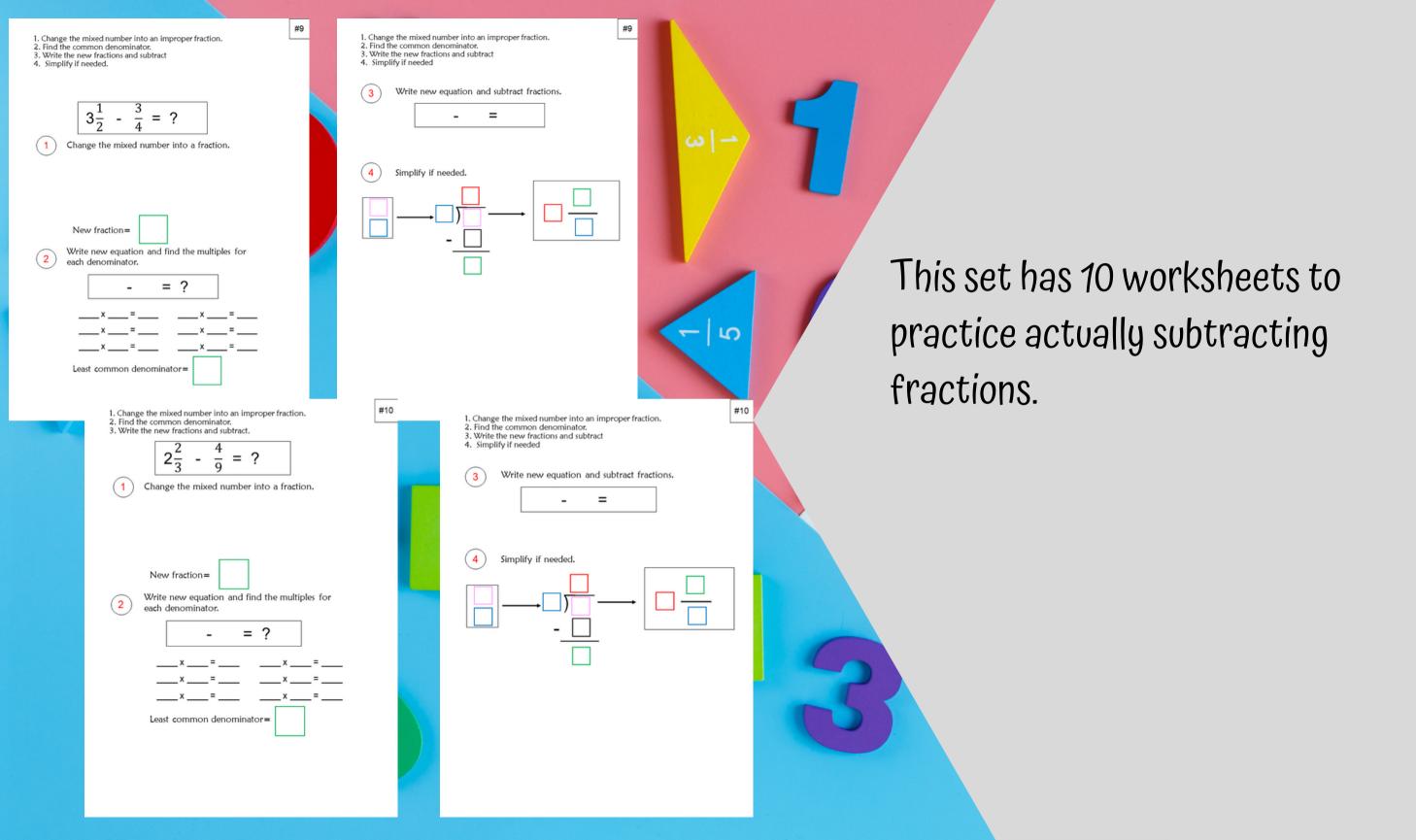
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This set has 7 worksheets to practice simplifying fractions by finding the greatest common factor. There are 3 that have students simplify proper fractions, and 4 worksheets use improper fractions. There is color-coding present to help support students through the process.





Simplify the following improper fractions by dividing and finding the remainder.

$$\frac{17}{5} \longrightarrow 5) \frac{17}{15} \longrightarrow \boxed{\frac{3}{5}} \frac{2}{5}$$

2

$$| = 5 \times |$$
 3

$$\frac{15}{4} \longrightarrow 4) \frac{3}{15} \longrightarrow \boxed{3} \frac{3}{4}$$

$$= 4 \times 3$$

All worksheets have detailed answer keys.

	Name:				
Name:					
	Name:				

Quiz

1. Circle the numbers below that are mixed numbers:

- $5\frac{2}{5}$   $\frac{7}{10}$   $\frac{3}{2}$   $1\frac{3}{4}$   $\frac{2}{5}$   $2\frac{1}{6}$
- 2. In order to subtract fractions, what needs to be the same?





3. What is the fraction that is equal to 8?

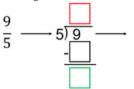
4. How can you write  $1\frac{3}{4}$  as an improper fraction?

5. How can you write  $5\frac{2}{5}$  as an improper fraction?

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6. Subtract the following fractions:

7. Simplify  $\frac{9}{5}$ :





8. Solve the equation below. Show your work.

$$\frac{7}{2} - \frac{1}{3} = ?$$



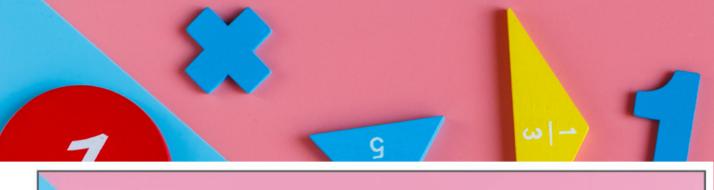
9. Solve the equation below. Show your work.

$$4 - \frac{1}{2} = ?$$

10. Solve the equation below. Show your work.

$$1\frac{1}{3} - \frac{7}{9} = ?$$

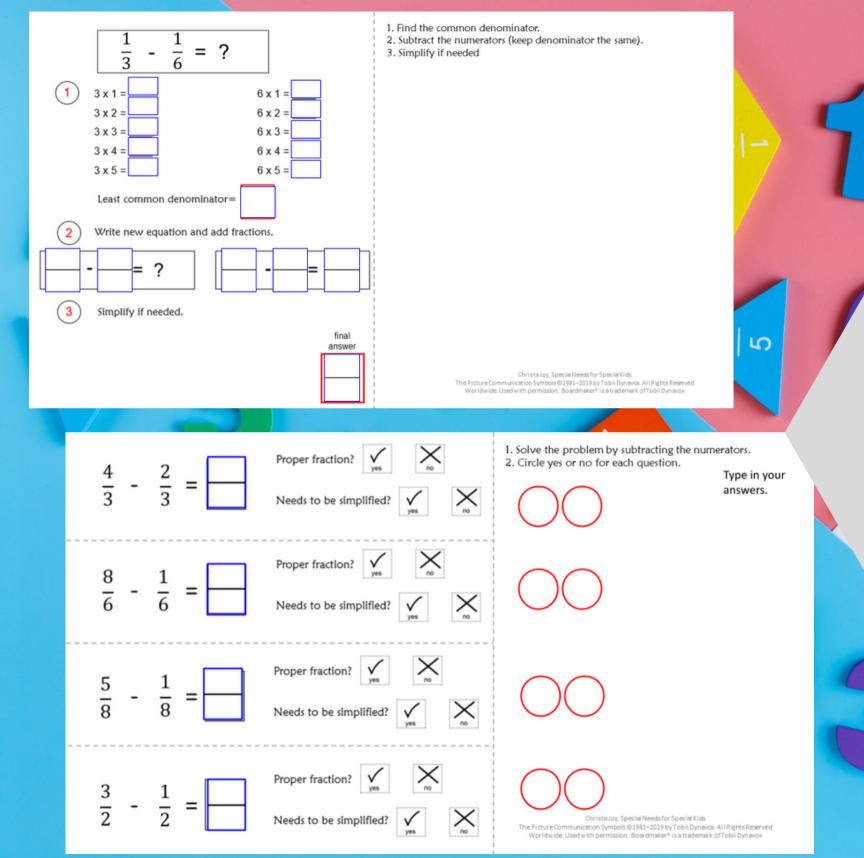
There is a short quiz to use as the assessment.



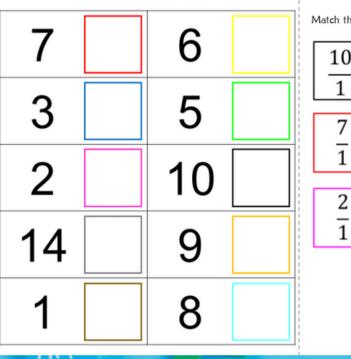
Watch the movie on subtracting fractions



This unit includes digital activities. Part of that is a movie version of the book you can play in a google slide. This movie is animated and narrated.



There are 2 sets of google slides that include a set where students can type in the answers.



Match the fraction for each whole number.

 $\begin{array}{c|c}
10 \\
\hline
1 \\
\hline
\end{array} \qquad \begin{array}{c|c}
\frac{1}{1} \\
\hline
\end{array} \qquad \begin{array}{c|c}
\frac{8}{1} \\
\hline
\end{array} \qquad \begin{array}{c|c}
14 \\
\hline
\end{array}$ 

 $\begin{bmatrix} \frac{7}{1} \\ 1 \end{bmatrix} \begin{bmatrix} \frac{5}{1} \\ \frac{1}{1} \end{bmatrix} \begin{bmatrix} \frac{6}{1} \\ \frac{1}{1} \end{bmatrix}$ 

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

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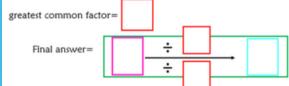
- - Least common denominator=



Simplify if needed.

Factors of numerators: 1, 2, 3, 6

Factors of Denominators: 1, 3, 9



- 1. Find the common denominator.
- 2. Subtract the numerators (keep denominator the same).
- 3. Simplify if needed

1 2 3 4 5 6 9 12

15 18 27 36 45

 $9 \quad \boxed{\frac{3}{9}} \quad \boxed{\frac{3}{9}} \quad \boxed{\frac{6}{9}}$ 

1, 2, 3, 6 1, 3, 9 3 1 3

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# These make a great independent learning center.

One set is differentiated with color and click and drag numbers for students who need more support. In this set, students are NOT typing but clicking and dragging over their answers.



I realize there will be some students out there unable to do cutting activities. I have a blog post with ways to complete activities without a pair of scissors!!