MULTIPLYING FRACTIONS

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

Special Ed

ALSO INCLUDES GOOGLE SLIDES

This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader and lacks many pre-requisite 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

In a separate files:

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

This unit contains almost 100 pages of material. But, don't worry!! I have included a 12 day lesson plan to help you make the most of everything packed in this unit.

Multiplying Fractions Lesson Plan

Preparation

- Print out a vocabulary board for each student to use throughout unit
  - Laminate or place in page protector
- Book
  - 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
- Power cards
  - Print out a set of cards for each student
  - Mount on index cards and laminate or cover with packing tape
- Fraction cards
  - Print out a set of fraction cards onto cardstock, cut out and laminate
- Fraction grids
  - Print out a copy of the fraction grids onto cardstock and laminate or place in sheet protectors
  - You may want more than one copy of each grid.

Preassessment (do day 1 before starting lesson)

- Use the quiz 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

1. *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.
   a. For more info, read more here: https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/
   b. I also have a blog post on differentiating one activity 3 ways: https://specialneedsforspecialkids.org/2018/10/22/differentiating-1-activity-3-ways-easily-and-effectively/

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 • Group activity • Drawing equations	7	• Book • Power card review • Group activity • Multiply improper fractions and simplify
2	• Book • Power card review • Group activity • Drawing equations	8	• Book • Power card review • Group activity • Multiply whole numbers and fractions and simplify
3	• Book • Power card review • Group activity • Multiply proper fractions (no simplification needed)	9	• Book • Power card review • Group activity • Multiply whole numbers and fractions and simplify
4	• Book • Power card review • Group activity • Multiply proper fractions and simplify	10	• Book • Power card review • Group activity • Multiply mixed numbers and fractions and simplify
5	• Book • Power card review • Group activity • Multiply proper fractions and simplify	11	• Book • Power card review • Group activity • Multiply mixed numbers and fractions and simplify
6	• Book • Power card review • Group activity • Multiply improper fractions and simplify	12	• Quiz

The lesson plans contain:

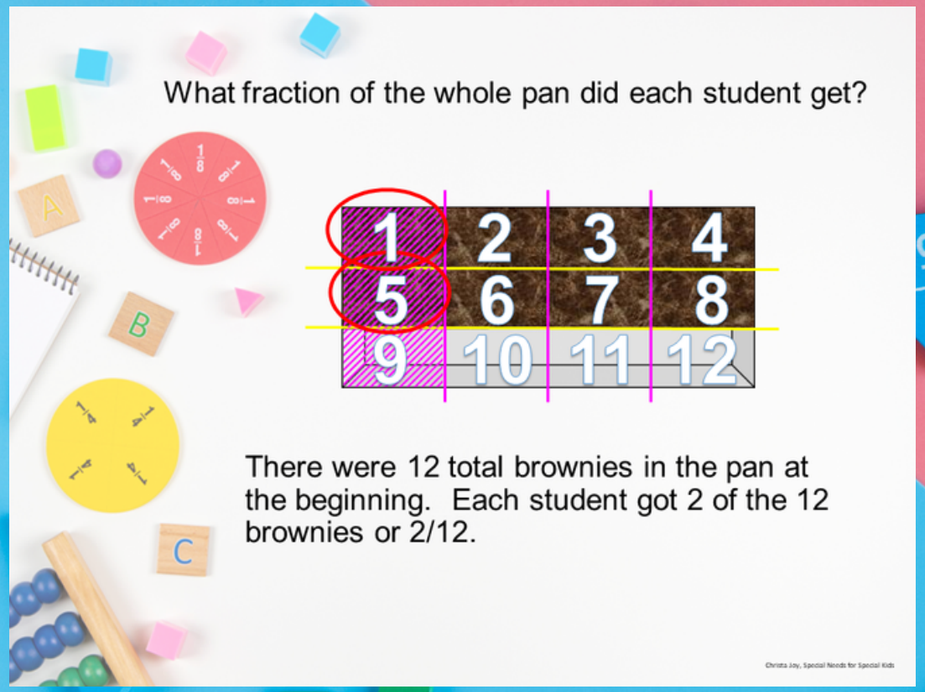
A quick look at what you will do each day.

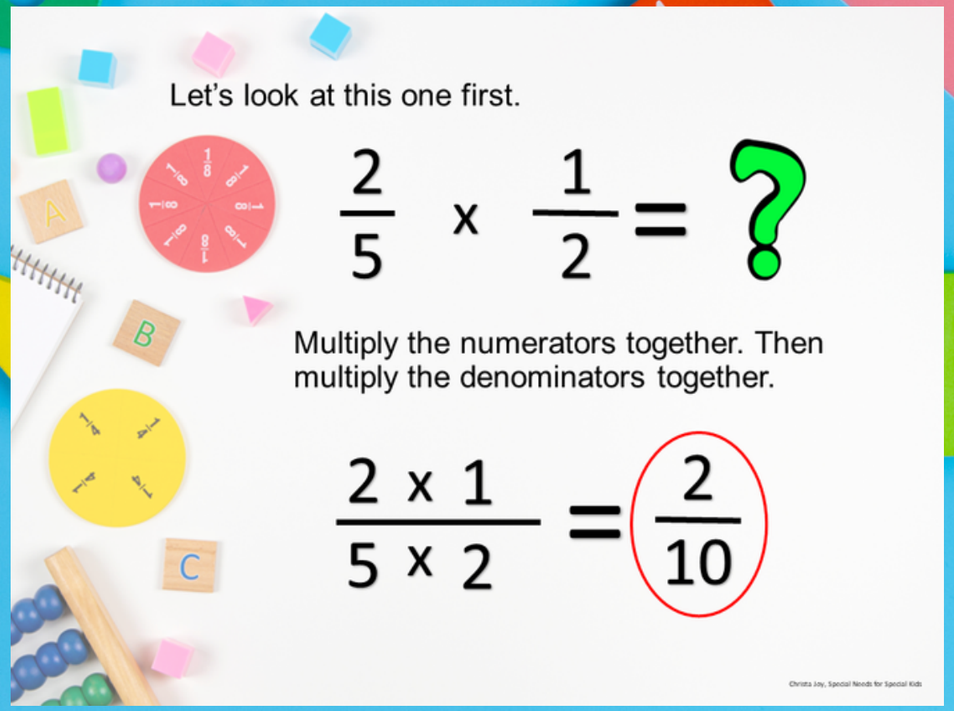
Day 4-5

Activity	Notes	Materials
Read or listen to the movie version of the book	• Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board	• Book • Vocabulary board
Power card (5 minutes)	• Review the power cards. • I find doing this as part of the daily lesson really helps reinforce the steps students will be completing in this unit	• Power cards
Group activity (10 minutes)	• As a group do 2-3 problems coloring in the large grids provided.	• Fraction cards • Fraction grides • Dry erase markers
Worksheet review (5 minutes)	• Review the worksheets completed yesterday	• Multiplying fractions worksheet
Multiplying proper fractions (10 minutes)	• Students will complete 1-2 of the worksheets where they are multiplying proper fractions that need to be simplified. • You may need to go back and review finding the greatest common factor covered in the Adding Fractions Unit • I would do one problem day 4 and the remaining 2 problems day 5.	Multiplying fractions worksheets (pgs. 74-76)
Sharing (10 minutes)	• Each student shares one of their finished worksheets with the group using the communication method of their choice	• Completed worksheets • Communication devices

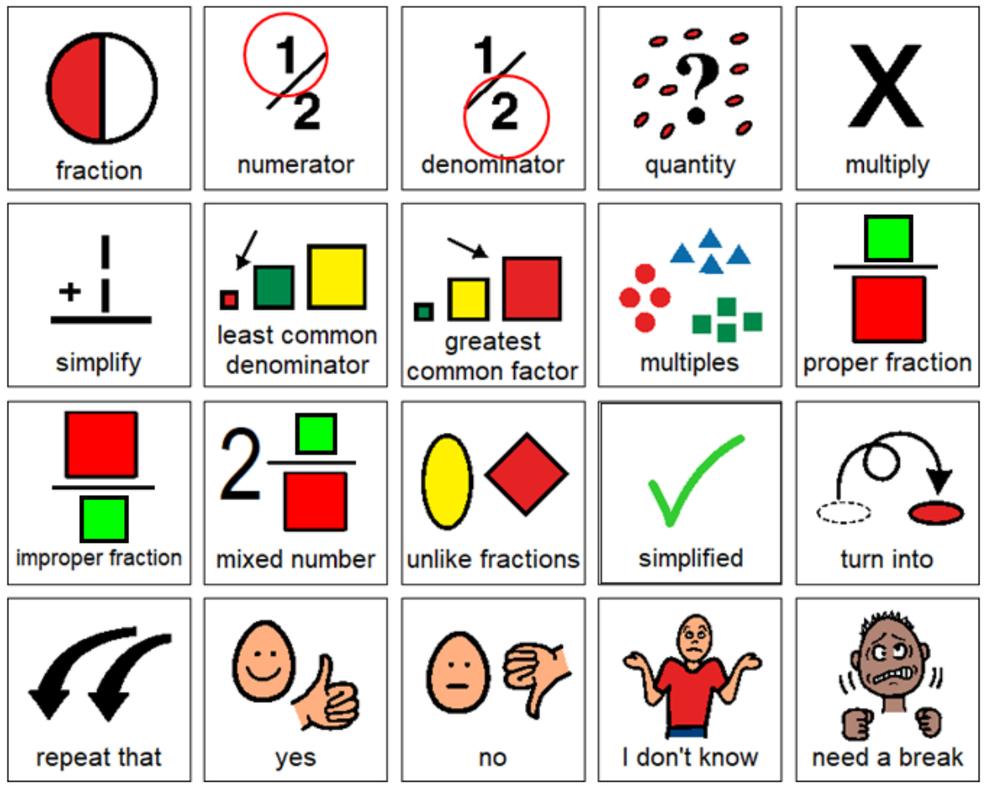
The lesson plans contain:

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





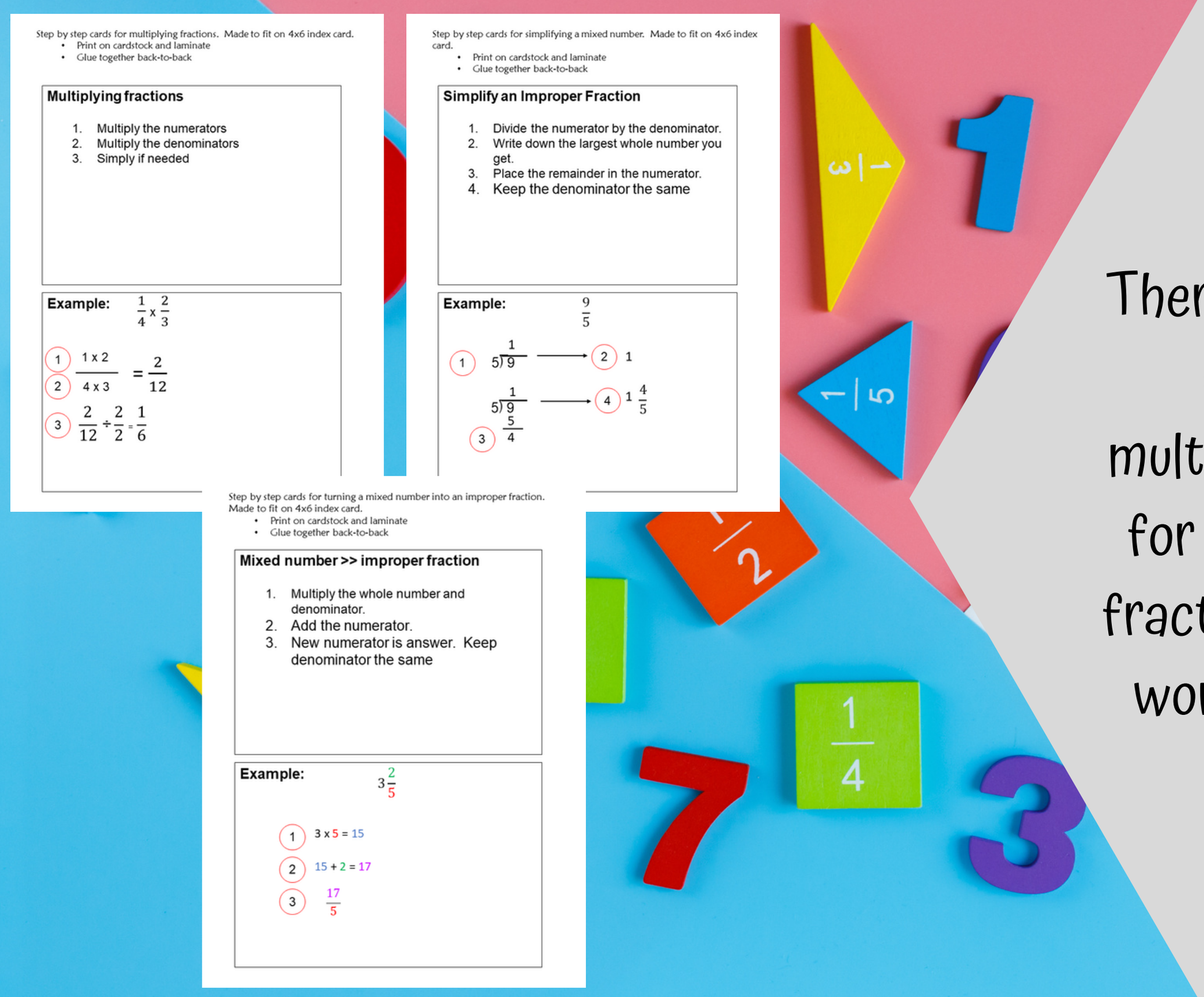
This unit contains a book that is 31 pages and covers the steps of multiplying fractions as well as simplifying your answer. Students are also shown how to draw out the equation using grids.
It comes in a pdf version as well as an mp4 version that is animated and narrated.



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!!



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

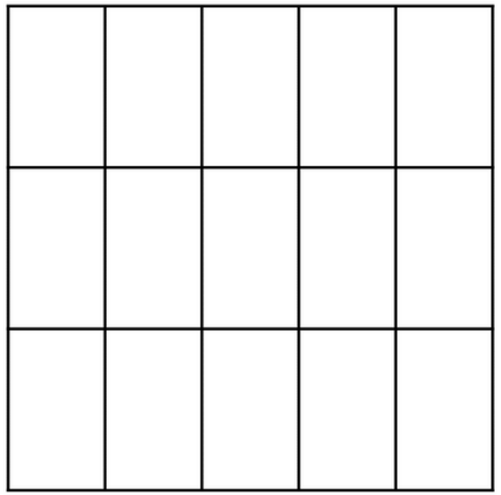
Grids to use for multiplying fractions (proper fractions only)

- To use with small groups.
- Print these grids on cardstock and laminate.
- Use with the fraction cards to set up a multiplication problem.
- All grids are the same size
- You will need to choose three grids for each problem:
  - Use one grid with columns only for first fraction.
  - Use one grid with rows only for second fraction.
  - Use the grid that combines the rows and columns for final answer.
  - NOTE: You can use the same grid for columns and rows, just rotate 90 degrees.
- Use different colors when coloring in each grid.
- Answer will be the overlapping portion.
- Example:

$\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$

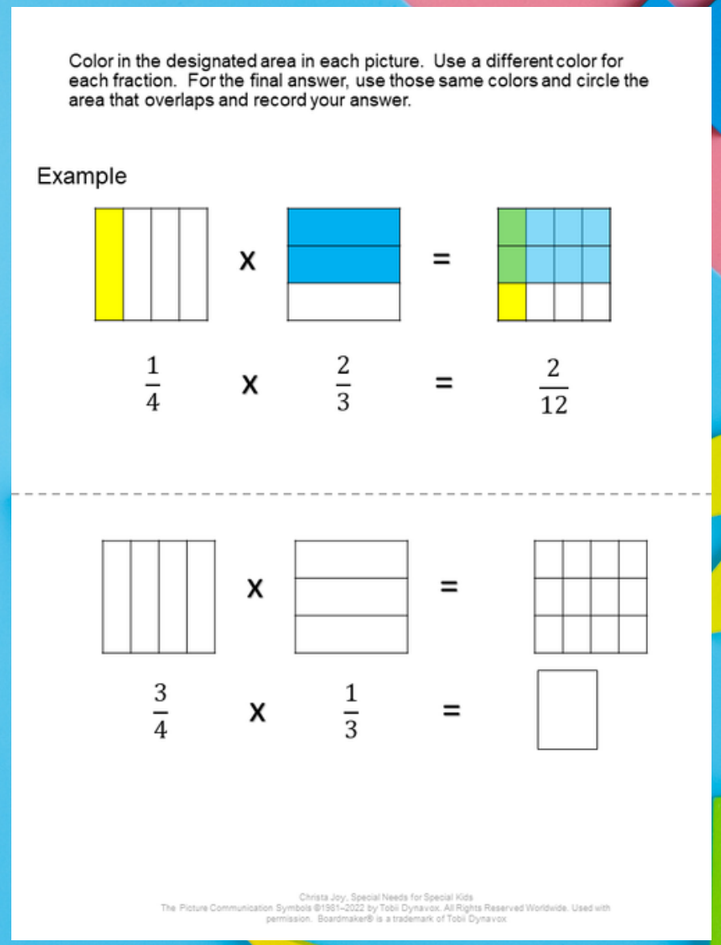
Use with fractions that have 3 and 5 in denominators.

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



There are a set of fraction cards used for group activities and extra practice.

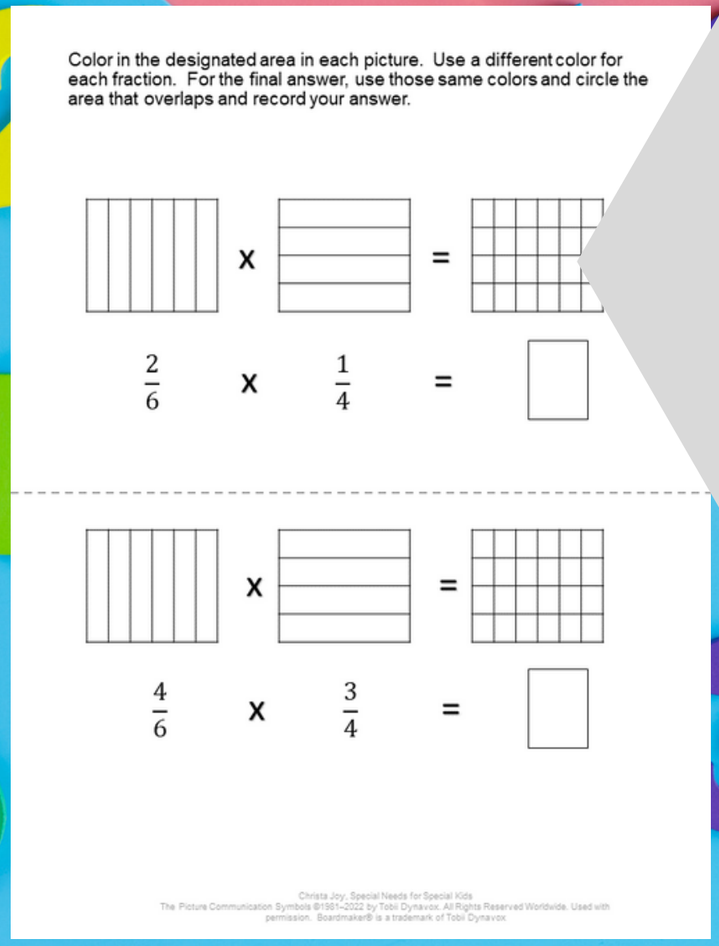
Each day, students will work as a group drawing out different equations.


Color in the designated area in each picture. Use a different color for each fraction. For the final answer, use those same colors and circle the area that overlaps and record your answer.

Example

$\frac{1}{4}$ x $\frac{2}{3}$ = $\frac{2}{12}$

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


Color in the designated area in each picture. Use a different color for each fraction. For the final answer, use those same colors and circle the area that overlaps and record your answer.

$\frac{2}{6}$ x $\frac{1}{4}$ =

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

There are 5 worksheets included for students to practice this skill on their own.

1. Multiply numerators.
2. Multiply denominators.
3. Simplify if needed

$$\frac{1}{3} \times \frac{1}{6} = ?$$

1& 2 $\frac{\square}{\square} = \square$

3 Simplify if needed.

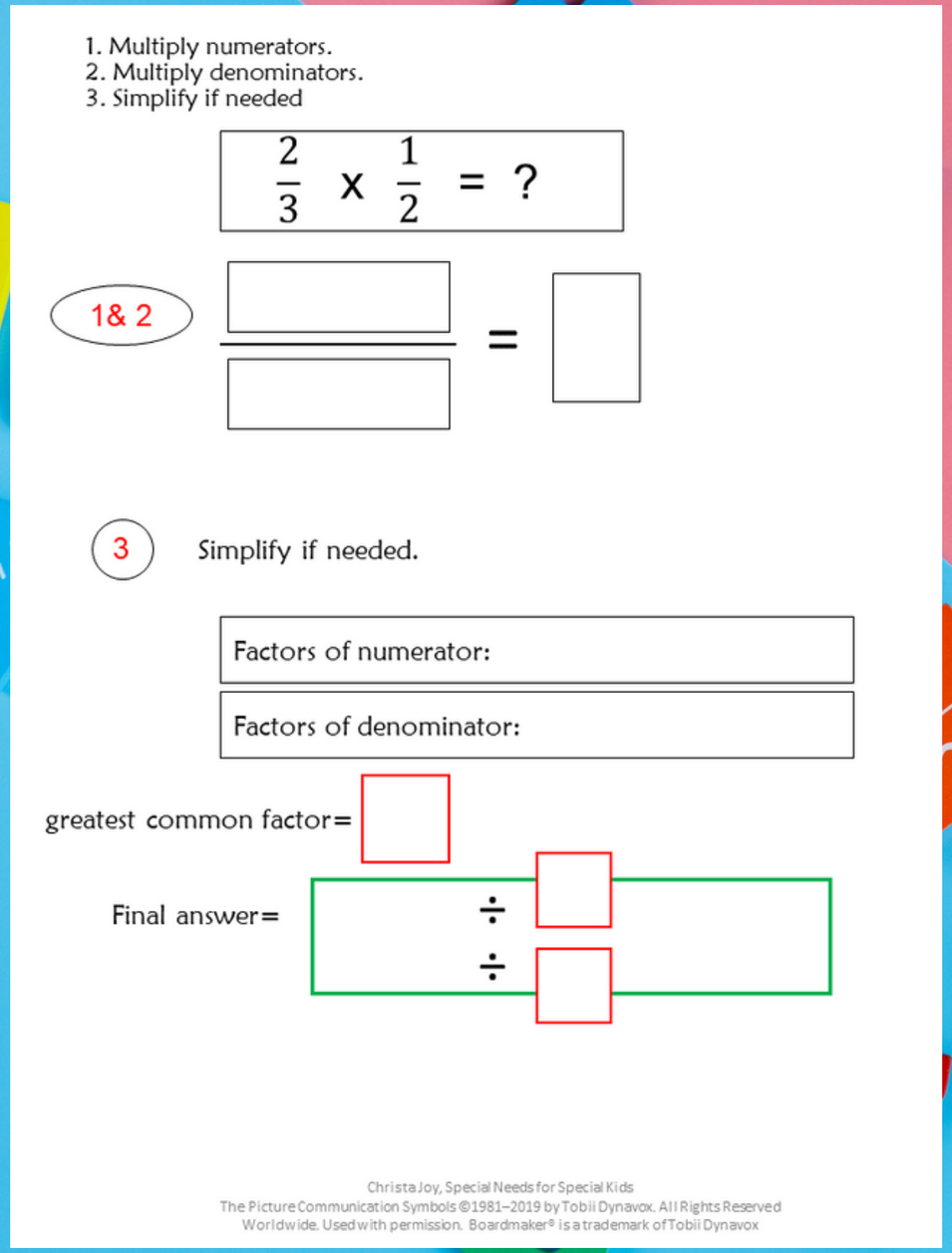
$$\frac{2}{3} \times \frac{3}{5} = ?$$

1& 2 $\frac{\square}{\square} = \square$

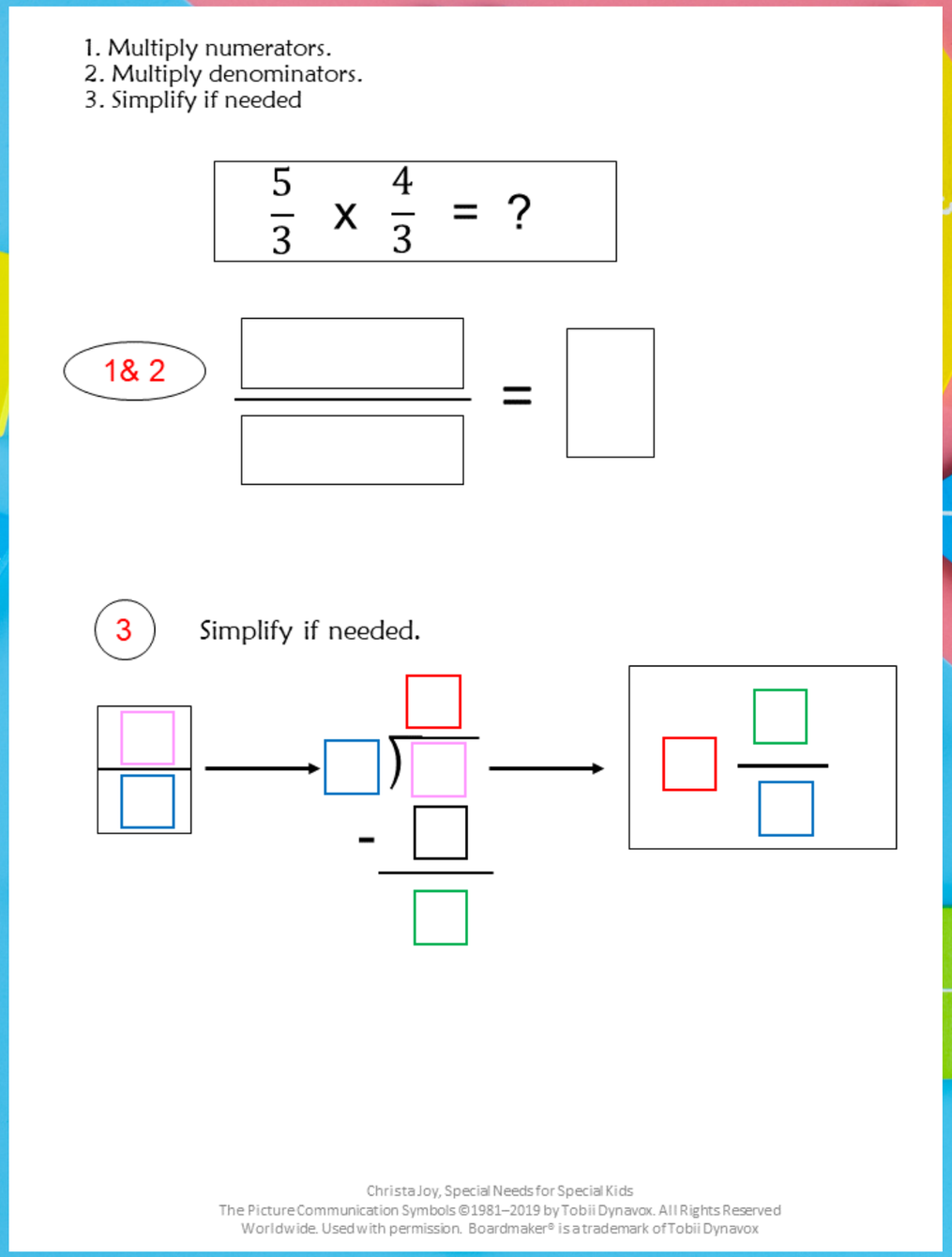
3 Simplify if needed.

The steps correspond to those on the power cards students will use throughout the unit.

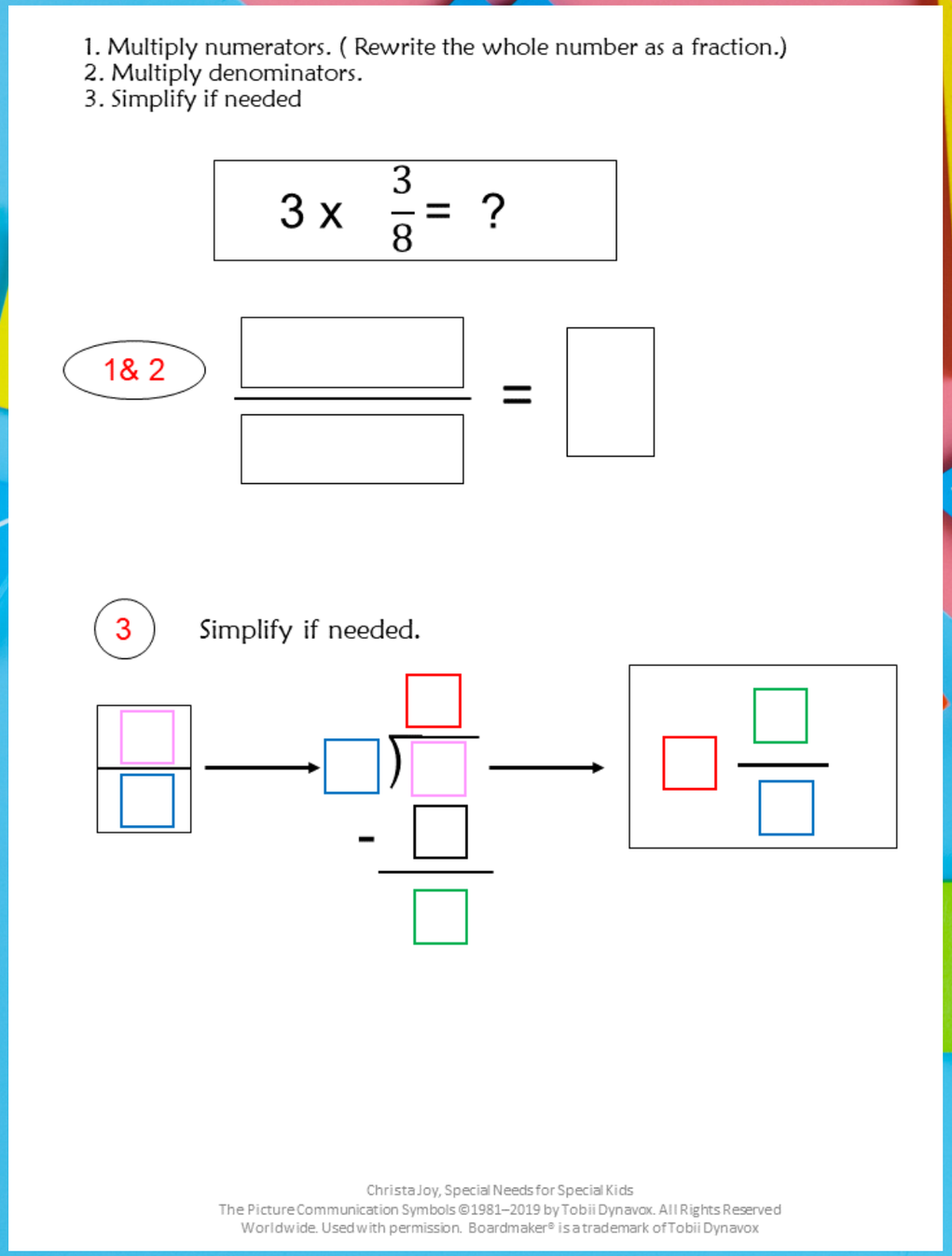
There are 2 worksheets where students multiply proper fractions that do not need to be simplified.



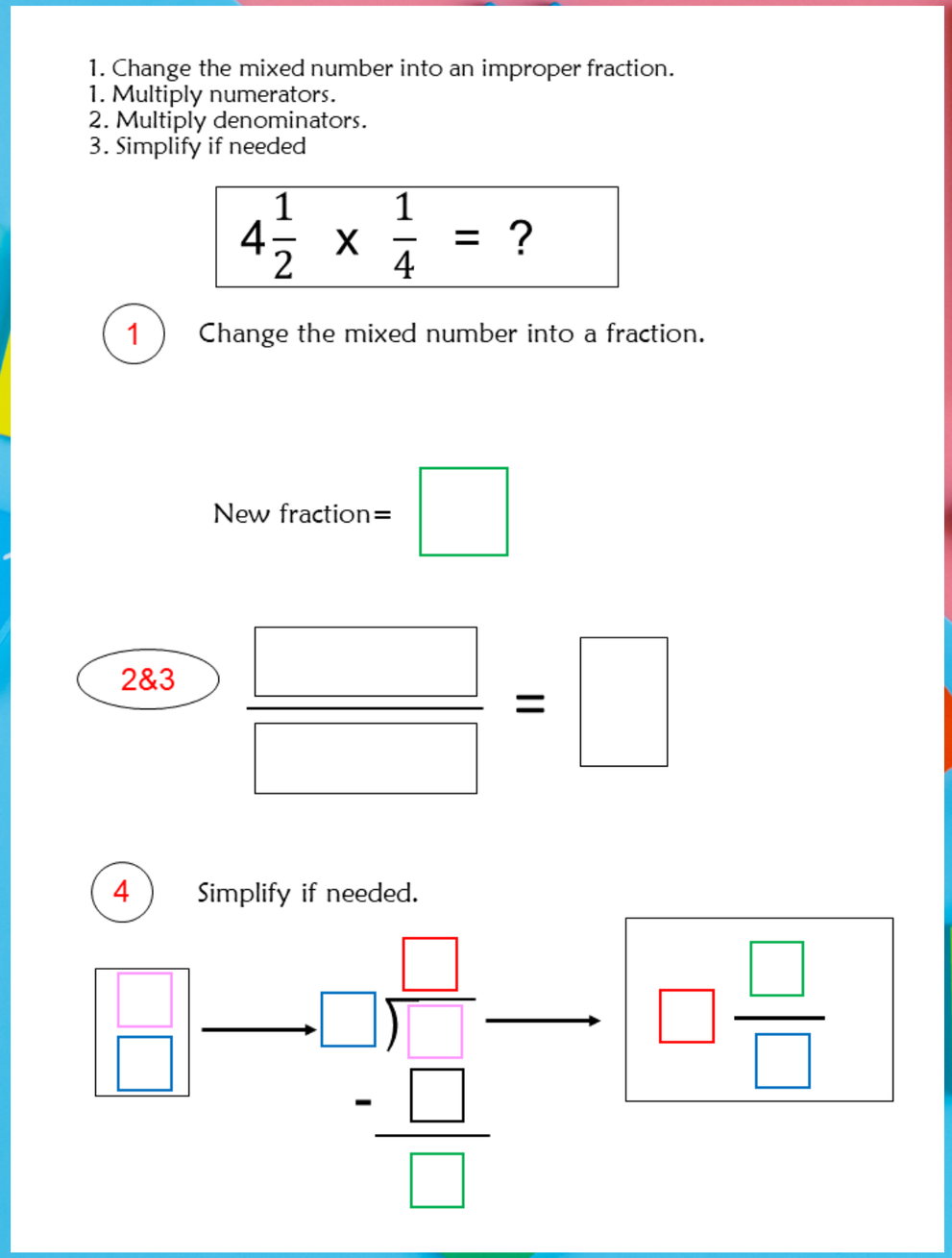
There are 3 worksheets that practice multiplying proper fractions that need to be simplified. There is color-coding added for support. Finding the greatest common factor is reviewed in this unit, but is actually taught in my unit on adding fractions.



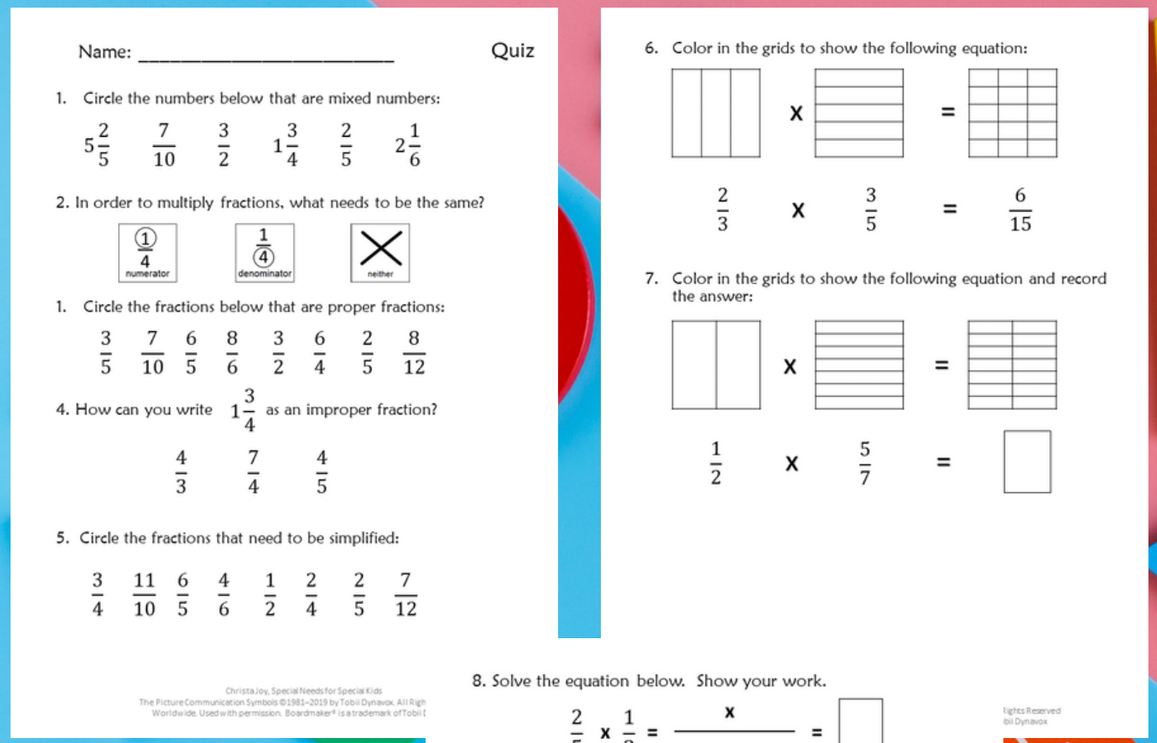
There are 3 worksheets that practice multiplying improper fractions that need to be simplified. There is color-coding added for support. How to simplify an improper fraction is reviewed in this unit, but is actually taught in my unit on adding fractions.



There are 3 worksheets that practice multiplying whole numbers and fractions that need to be simplified. There is color-coding added for support. How to convert a whole number into a fraction is reviewed in this unit, but is actually taught in my unit on subtracting fractions.



There are 3 worksheets that practice multiplying mixed numbers and fractions that need to be simplified. There is color-coding added for support. How to convert a mixed number into a fraction is reviewed in this unit, but is actually taught in my unit on subtracting fractions.



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 multiply fractions, what needs to be the same?

$\frac{①}{4}$ numerator | $\frac{1}{④}$ denominator | ✕ neither

1. Circle the fractions below that are proper fractions:

$\frac{3}{5}$ $\frac{7}{10}$ $\frac{6}{5}$ $\frac{8}{6}$ $\frac{3}{2}$ $\frac{6}{4}$ $\frac{2}{5}$ $\frac{8}{12}$

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

$\frac{4}{3}$ $\frac{7}{4}$ $\frac{4}{5}$

5. Circle the fractions that need to be simplified:

$\frac{3}{4}$ $\frac{11}{10}$ $\frac{6}{5}$ $\frac{4}{6}$ $\frac{1}{2}$ $\frac{2}{4}$ $\frac{2}{5}$ $\frac{7}{12}$

6. Color in the grids to show the following equation:

$\frac{2}{3}$ x $\frac{3}{5}$ = $\frac{6}{15}$

7. Color in the grids to show the following equation and record the answer:

$\frac{1}{2}$ x $\frac{5}{7}$ = ☐

8. Solve the equation below. Show your work.

$\frac{2}{5}$ x $\frac{1}{3}$ = $\frac{x}{x}$ = ☐

9. Solve the equation below. Show your work.

$\frac{3}{7}$ x $\frac{1}{2}$ = $\frac{x}{x}$ = ☐

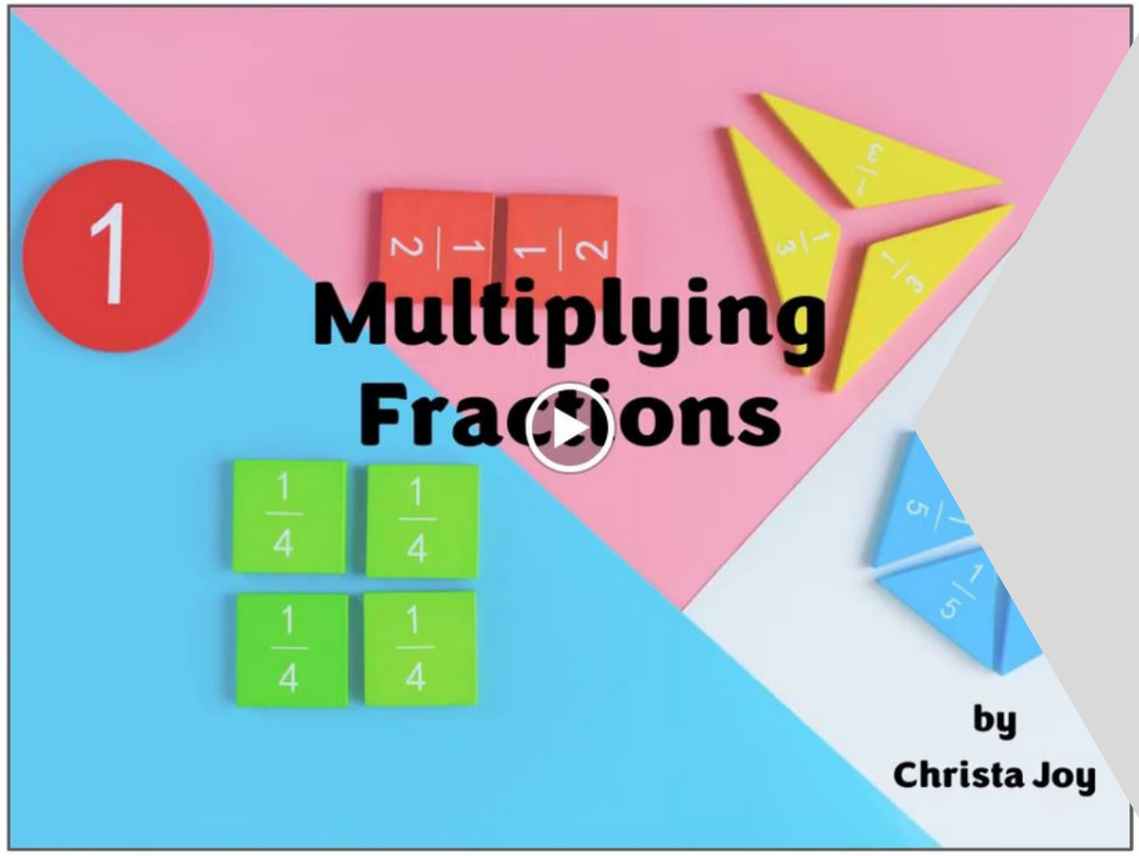
10. Solve the equation. Simplify your answer.

$\frac{2}{3}$ x $\frac{3}{4}$ = $\frac{x}{x}$ = ☐

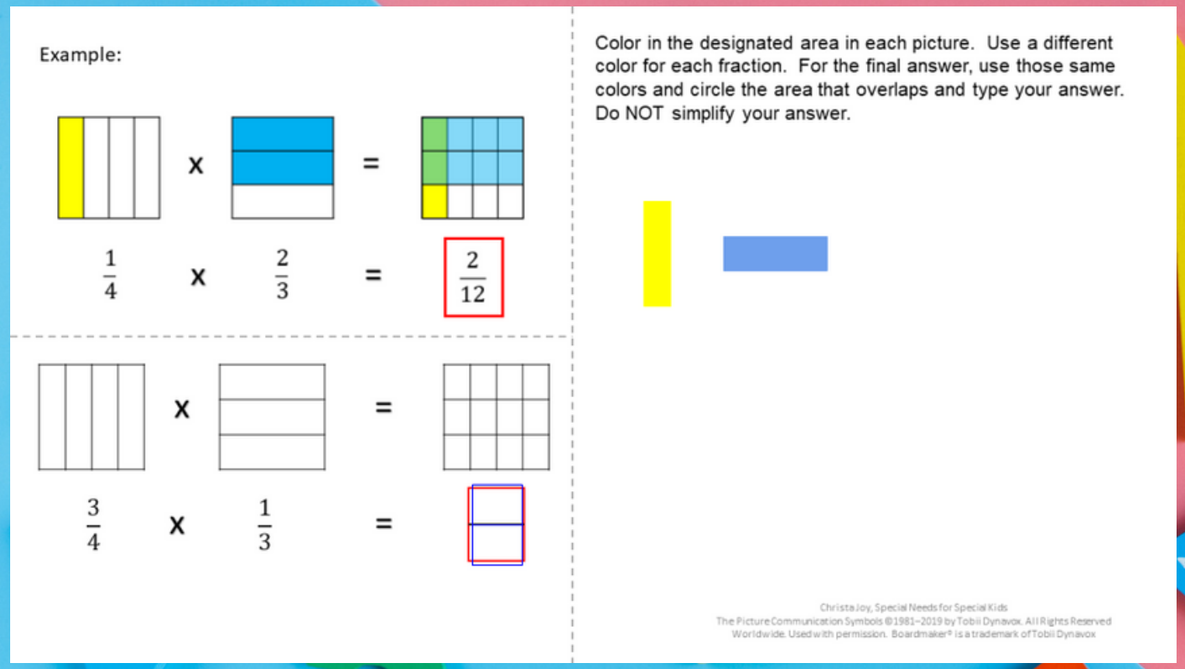
☐ ÷ ÷ ___ = ☐

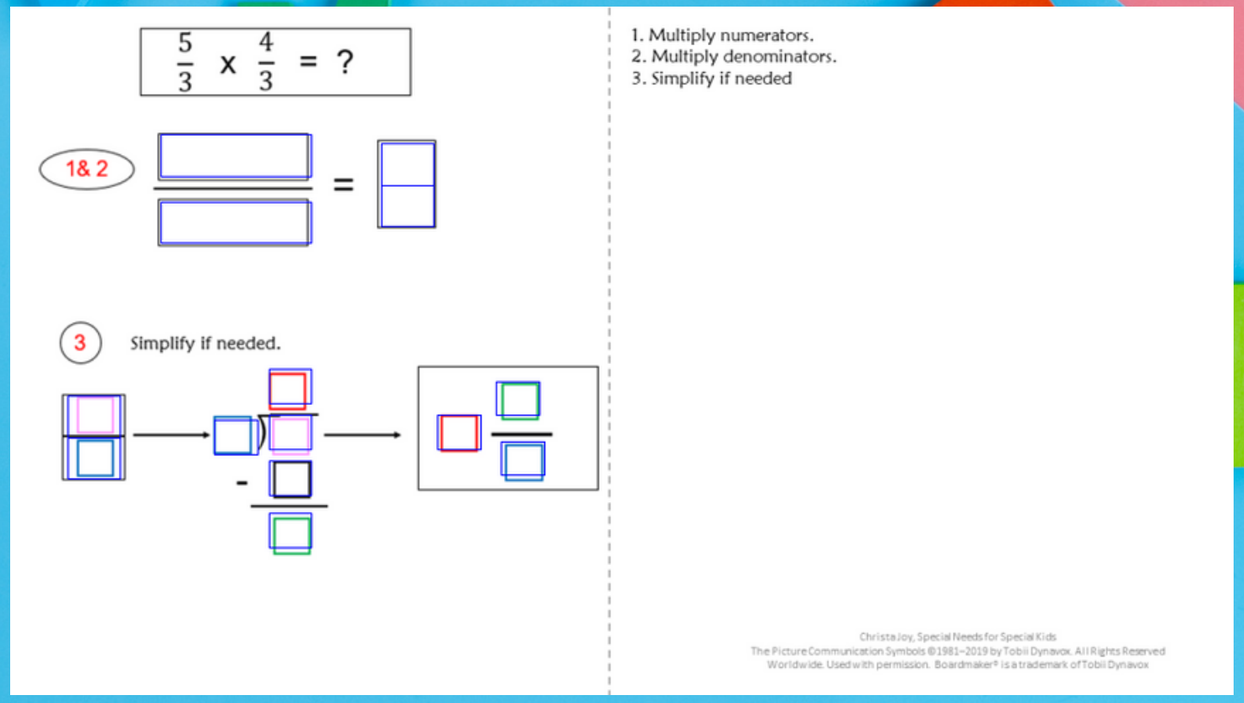
There is a short quiz to use as the assessment.

Listen to the book on multiplying fractions

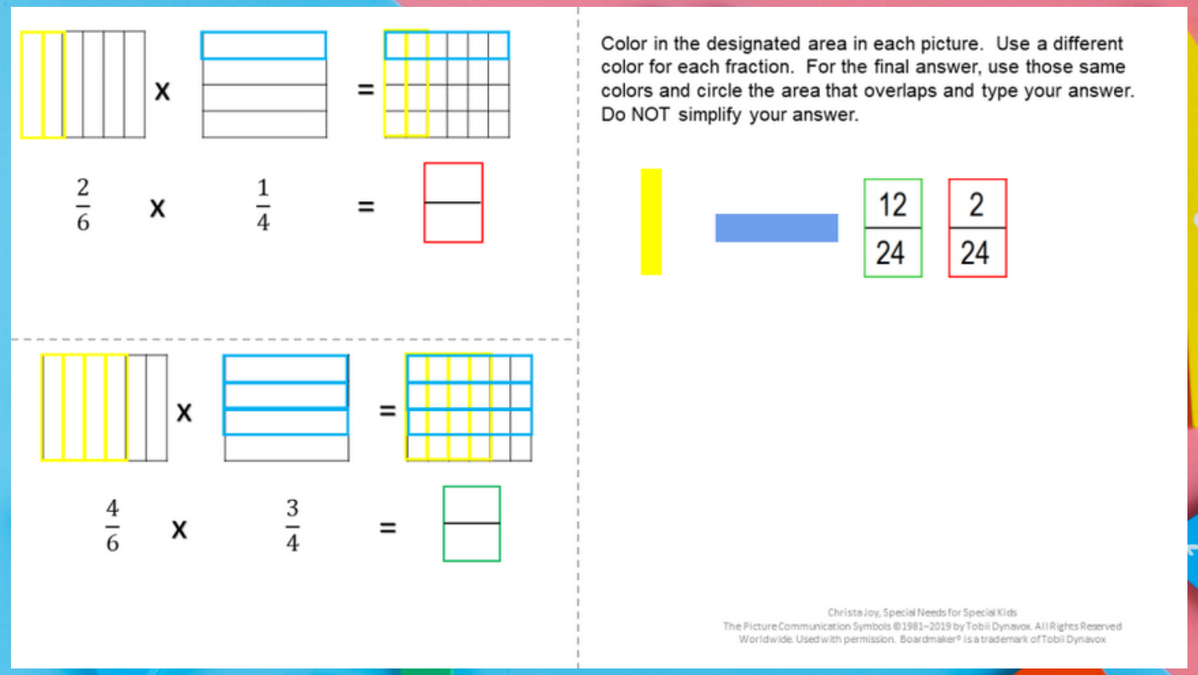


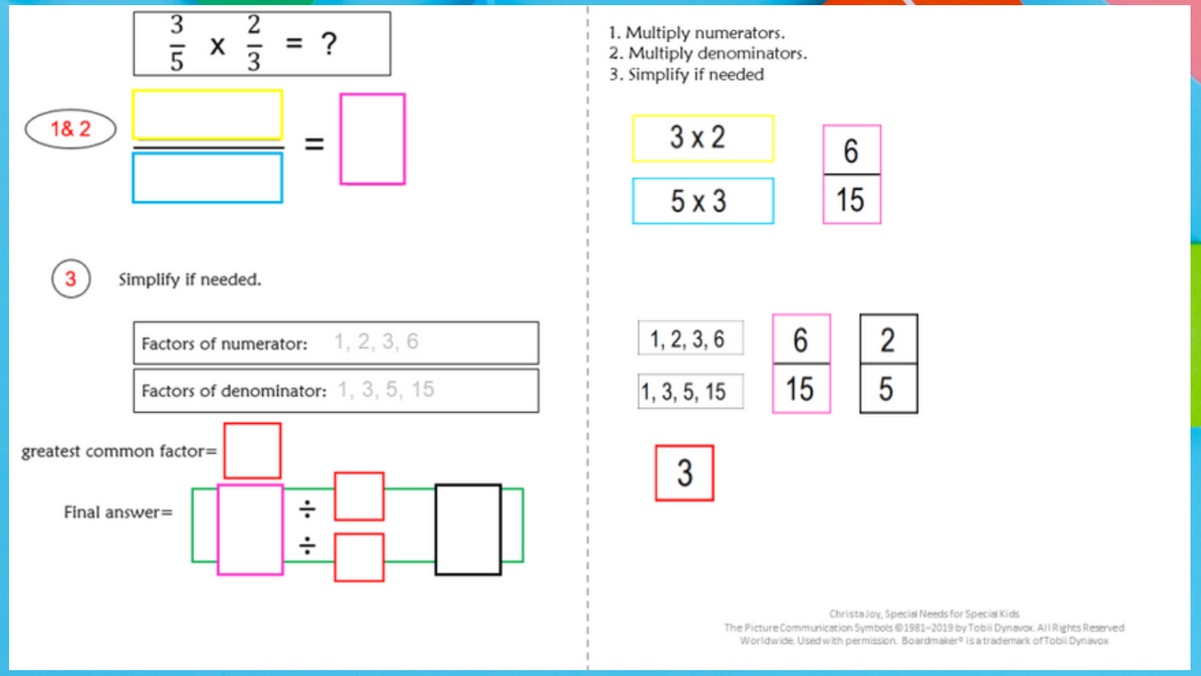
This unit includes digital activities. Part of that is a movie version of the book you can play in a google slide. This movie is animated and narrated.





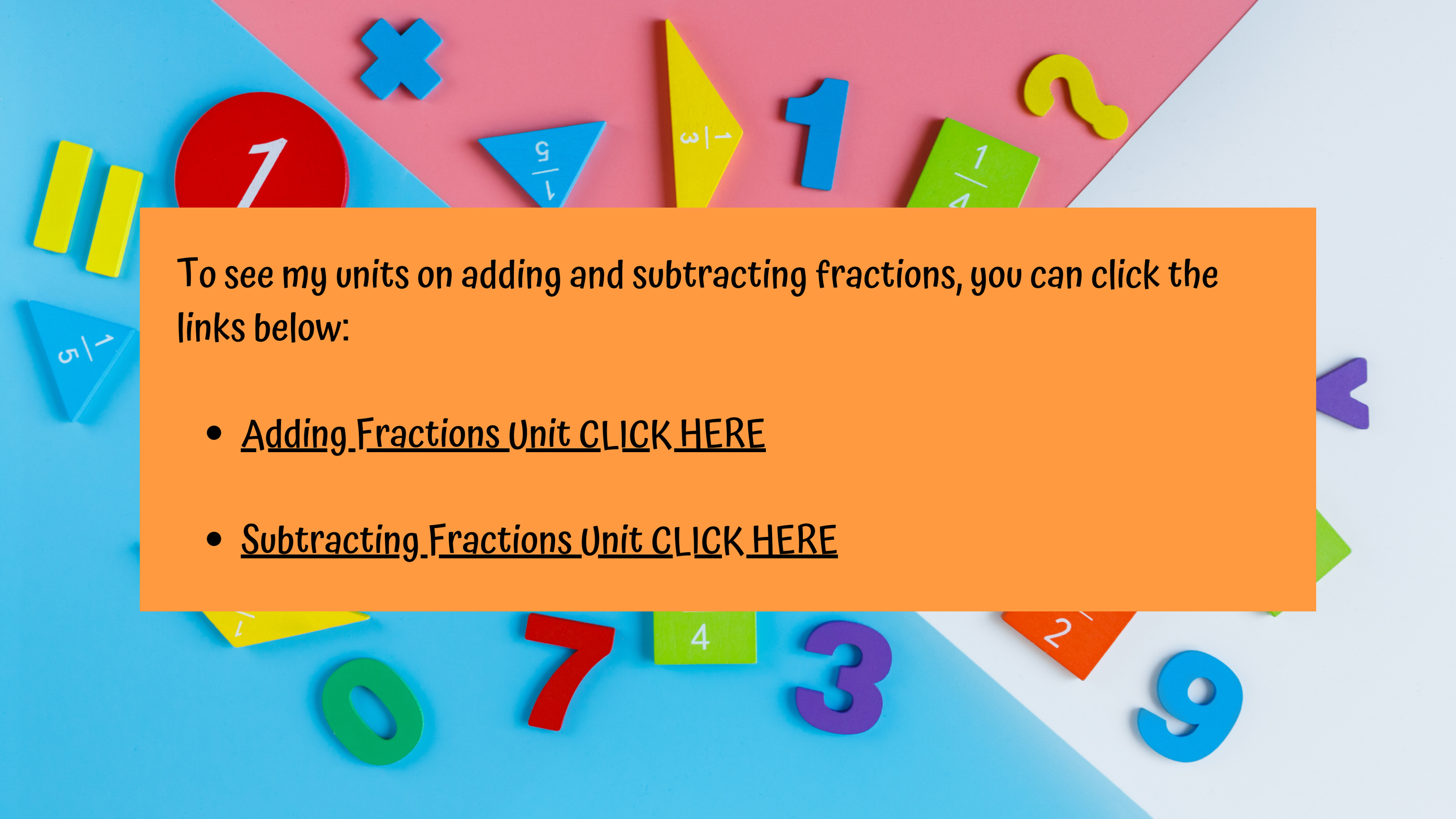
There are 2 sets of google slides that include a set where students can type in the answers.





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.



To see my units on adding and subtracting fractions, you can click the links below:

- Adding Fractions Unit CLICK HERE
- Subtracting Fractions Unit CLICK HERE