

THINK DOTS

ThinkDOTS is a great activity for students to construct meaning for themselves and to engage in processing their learning. It is a strategy used to review, demonstrate, and extend thinking. Choice is given to the students but they still complete the required learning tasks – just in the order they roll the die. ThinkDOTS may also be used as a formative assessment tool.

Steps:

- Create six learning tasks for the number s on the die.
- List the tasks in a 2x3 cell table, which include dots relating to the sides of a die. (Sticky dots can be purchased to attach to the cells before copying)
- If dots are *not* used, write the number of dots in each cell to correlate with the dots on the die. (This can be used as an activity guide or can be cut apart, hole-punched, and attached by rings purchased at a hardware store for \$9.00/100 metal rings.)
- Each task should include specifics of your unit.
- Students roll the die and complete the learning task from the corresponding dot
- If the first roll is something the student doesn't want to do, s/he can roll a second time.

Adaptations:

- Use colored paper to indicate different readiness levels, interests or learning styles.
- Have students work in small groups. It is acceptable if more than one person rolls the same number, as each person's response will be individual.
- Let students choose which activities- for example: choose any three or have students choose just one to work on over a number of days.
- After students have worked on activities individually, have them come together in groups by levels, interest or learning style to synthesize.

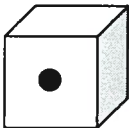
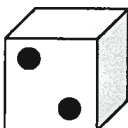
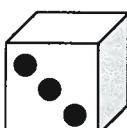
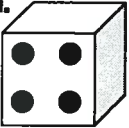
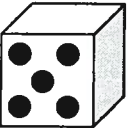
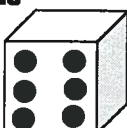
Fraction Think Dots: Explained

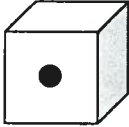
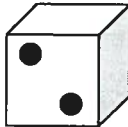
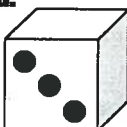
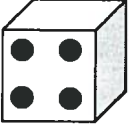
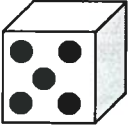
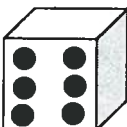


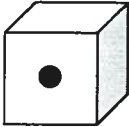
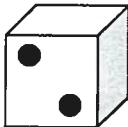
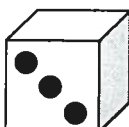
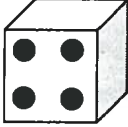
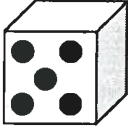
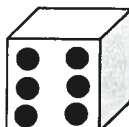
Fraction Think Dots...

- give students the opportunity to explore the concept of fractions from the different levels of Bloom's Taxonomy.
- are tiered according to readiness (noted by the Solve It! Fraction Fun #1, #2, or #3) – 1 being more basic.
- allow students to apply what they have learned related to the concept of fractions in a variety of ways.

How to Use:	Variations:
<ol style="list-style-type: none"> 1. Assign Fraction Think Dots according to student readiness. 2. Students roll a die to determine which activity to complete first and continue rolling until all activities are completed. 3. Students write/illustrate on accompanying Work Space sheet. 	<ol style="list-style-type: none"> 1. Assign a number value that will determine which activities a student chooses to complete. For example, if a number value of 12 is assigned, a student could complete Think Dot 6, 5, and 1. OR he/she might choose to complete 5, 4, and 2. 2. Have students roll to complete a specific number of activities (maybe only three).

<p><u>Sort it Out</u></p> <p>Sort math words into two columns—those that directly relate to understanding and using fractions and those that do not relate.</p> 	<p><u>The Definition is...</u></p> <p>What is a fraction? Define a fraction using your own words and illustrations.</p> 	<p><u>Why ask "Why?"</u></p> <p>When adding fractions with like denominators, why MUST the denominator remain the same when writing the sum?</p> 
<p><u>"Riddle" or Not!</u></p> <p>Create a fraction riddle. Start with a general clue and end with a specific clue. Try your riddle out on a friend.</p>  <p>#1</p>	<p><u>Work it Out!</u></p> <p>Complete Fractions Fun #1. Make sure to check your work using the answer key. Rework problems as needed.</p> 	<p><u>It's a Good Thing</u></p> <p>Convince a fourth grader that it is a good thing to understand and be able to use fractions. Give at least 2 specific supports and create a visual example.</p> 

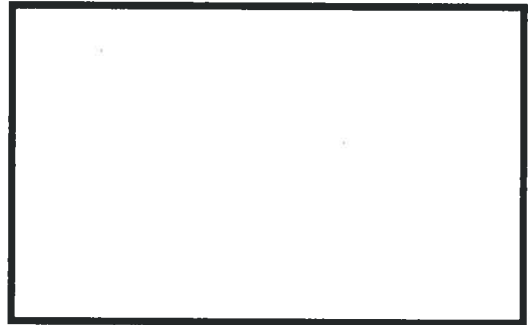
<p><u>The Definition is...</u></p> <p>What is a fraction? Define a fraction using your own words. Add an illustration if you like.</p> 	<p><u>Same BUT Different</u></p> <p>How are fractions and decimals similar and different? Use a "Same BUT Different" graphic organizer.</p> 	<p><u>So the Story Goes</u></p> <p>Create a fractions story using words and pictures. Share your fraction story and answer with a friend.</p> 
<p><u>Created Equal?</u></p> <p>How do you know if a fraction is equal to $\frac{1}{2}$? Equal to $\frac{1}{4}$? Write an explanation that could be understood by a third grader.</p> <p>#2</p> 	<p><u>Work it Out!</u></p> <p>Complete Fractions Fun #2. Make sure to check your work using the answer key. Rework problems as needed.</p> 	<p><u>On Strike!</u></p> <p>Oh no! Fractions have gone on strike! How can you convince them to return to "work"? You must give at least three "real" world supports.</p> 

<p><u>The Definition is...</u></p> <p>What is a fraction? Define a fraction using your own words. Add illustrations if you like.</p> 	<p><u>Got Skills?</u></p> <p>Justify which is the most important life skill—being able to add and subtract fractions OR being able to multiply and divide fractions.</p> 	<p><u>"Riddle" or Not!</u></p> <p>Create two fraction riddles. Start with a general clue and end with a specific clue. Try your riddles out on a friend.</p> 
<p><u>Draw!</u></p> <p>Draw a picture that shows how you can figure out $\frac{4}{9}$ of 63. Write a short description of your picture.</p> <p>#3</p> 	<p><u>Compare/Contrast</u></p> <p>Compare and contrast fractions, decimals, and percentages. Use a tri-venn diagram.</p> 	<p><u>Work it Out!</u></p> <p>Complete Fractions Fun #3. Make sure to check your work using the answer key. Rework problems as needed.</p> 

Fraction Think Dots #1: Work Space

Sort It Out

The Definition is...



Why Ask "Why?"

"Riddle" or Not?

Work it Out! Complete Fractions Fun #1.

It's a Good Thing

Fraction Think Dots #2: Work Space

The Definition is...

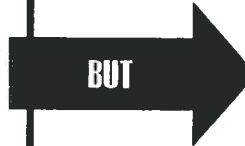
Same BUT Different

Same



Different

Same



Different

So the Story Goes

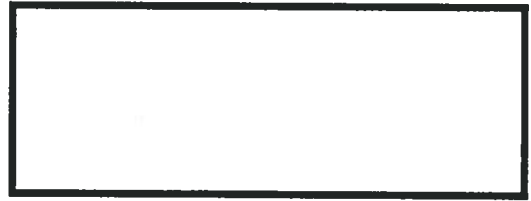
Created Equal?

Work it Out! Complete Fractions Fun #2.

On Strike!

Fraction Think Dots #3: Work Space

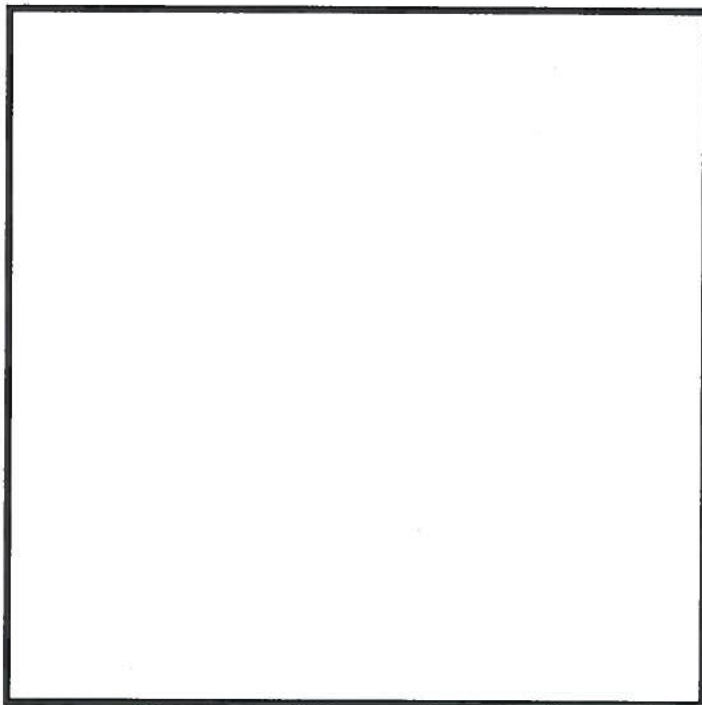
The Definition is...



Got Skills?

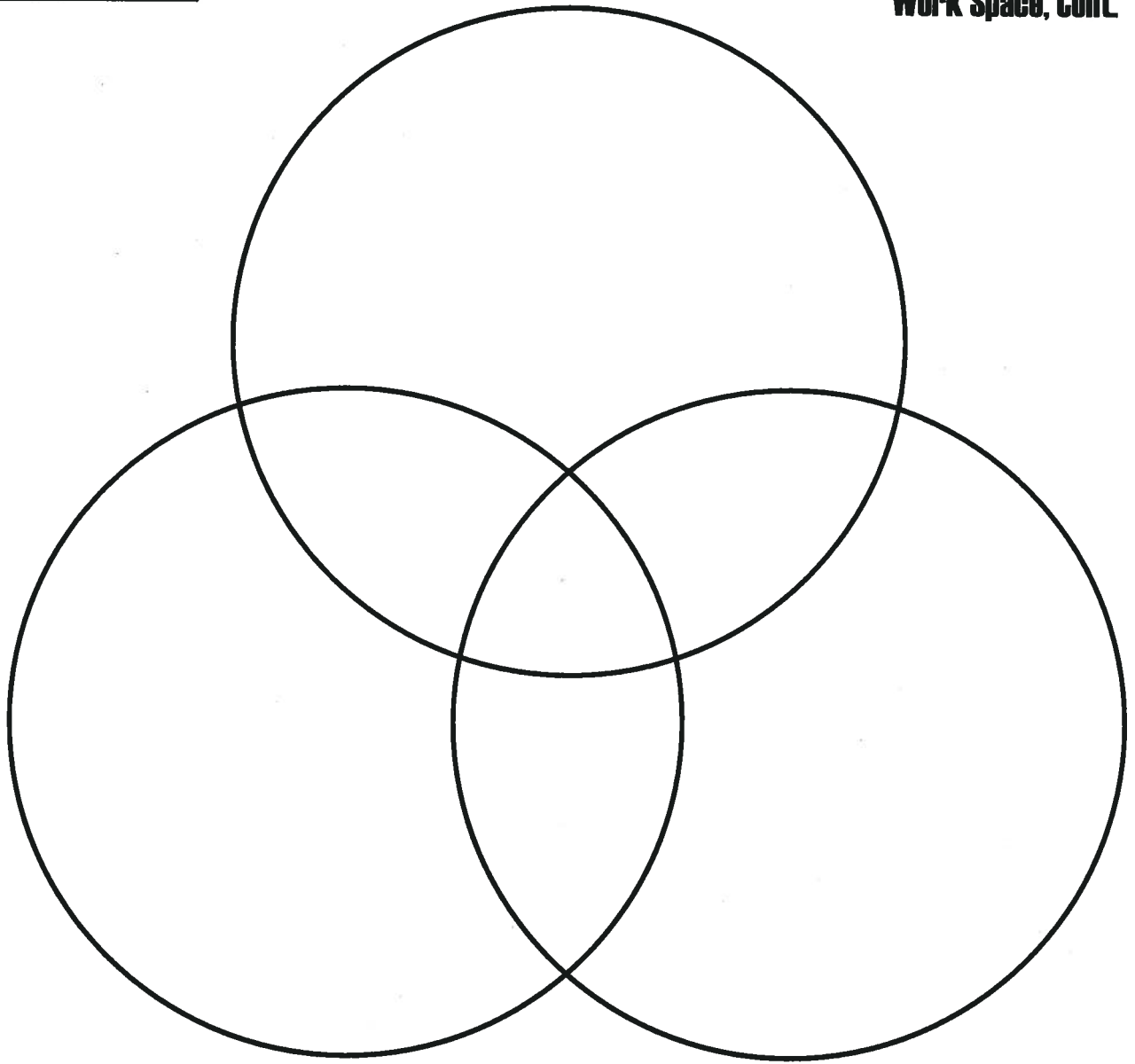
"Riddle" or Not!

Draw!



Compare/Contrast

**Fraction Think Dots #3:
Work Space, Cont.**



Work it Out! Complete Fractions Fun #3.

Math Words: Cut and place in envelope at Fractions Think Dot center.

measurement	percentages	money
decimals	square	weight
probability	line graph	bar graph
pie graph	pictograph	right angle
line	parallelogram	ratios
gallon	area	perimeter
data	mode	range

Fraction Fun #1



Solve problems forming the path of a C, T, L, N, X, or O. Show all work and circle your final answers.

$\begin{array}{r} \frac{6}{9} \\ + \frac{4}{9} \\ \hline \end{array}$	$\begin{array}{r} \frac{7}{8} \\ + \frac{2}{8} \\ \hline \end{array}$	$\begin{array}{r} \frac{12}{14} \\ + \frac{9}{14} \\ \hline \end{array}$
$\begin{array}{r} \frac{7}{8} \\ - \frac{3}{8} \\ \hline \end{array}$	$\begin{array}{r} \frac{10}{16} \\ - \frac{4}{16} \\ \hline \end{array}$	$\begin{array}{r} \frac{11}{12} \\ - \frac{2}{12} \\ \hline \end{array}$
$\begin{array}{r} 7\frac{5}{8} \\ + 3\frac{2}{8} \\ \hline \end{array}$	$\begin{array}{r} 12\frac{8}{10} \\ + 5\frac{6}{10} \\ \hline \end{array}$	$\begin{array}{r} 13\frac{9}{15} \\ + 6\frac{3}{15} \\ \hline \end{array}$

Write the steps you need to follow in order to add or subtract fractions with like denominators.

Fraction Fun #2



Solve problems forming the path of a C, T, L, N, X, or O. Show all work and circle your final answers.

$\begin{array}{r} \frac{5}{12} \\ + \frac{1}{4} \\ \hline \end{array}$	$\begin{array}{r} \frac{4}{21} \\ + \frac{3}{7} \\ \hline \end{array}$	$\begin{array}{r} \frac{9}{6} \\ + \frac{8}{12} \\ \hline \end{array}$
$\begin{array}{r} \frac{8}{9} \\ - \frac{3}{6} \\ \hline \end{array}$	$\begin{array}{r} \frac{5}{7} \\ - \frac{2}{3} \\ \hline \end{array}$	$\begin{array}{r} \frac{3}{6} \\ - \frac{2}{4} \\ \hline \end{array}$
$\begin{array}{r} 9\frac{5}{8} \\ + 3\frac{3}{24} \\ \hline \end{array}$	$\begin{array}{r} 12\frac{8}{12} \\ - 6\frac{6}{9} \\ \hline \end{array}$	$\begin{array}{r} 13\frac{8}{15} \\ - 6\frac{1}{3} \\ \hline \end{array}$

Write the steps you need to follow in order to add or subtract fractions with unlike denominators.

Fraction Fun #3



Solve problems forming the path of a C, T, L, N, X, or O. Show all work and circle your final answers.

$$\frac{4}{8} \times \frac{3}{6} =$$

$$\frac{3}{4} \times \frac{8}{11} =$$

$$\frac{16}{25} \times \frac{10}{24} =$$

$$\frac{4}{9} \div \frac{8}{12} =$$

$$\frac{3}{7} \div \frac{2}{9} =$$

$$\frac{3}{16} \div \frac{4}{12} =$$

$$3\frac{7}{36} \times 8\frac{9}{21} =$$

$$6\frac{12}{48} \times 4\frac{2}{3} =$$

$$3\frac{4}{9} \div 2\frac{7}{8} =$$

Write the steps you need to follow in order to multiply or divide fractions.

Fraction



Think-Dots

Fraction Think-Dots



Directions: Do your assigned option or choose one of the options below.

Option One:

Roll a die and complete the corresponding Think-Dot task. Roll 6 times.

Option Two:

Complete "Work it Out" and two other Think-Dots that you roll. If you roll "Work it Out", simply roll again.

Option Three:

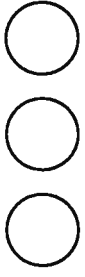
Roll the die three times and complete each corresponding Think-Dot task.



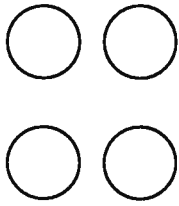
As a whole group, list as many questions as possible about this topic. Time Limit: 3 minutes



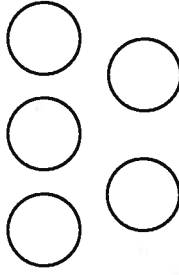
Invent two challenging questions about this topic. Ask the player on your right for help.



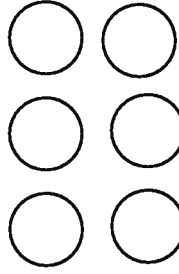
What might be the most interesting thing to learn about this topic? What might be the most boring?



Each player in the group must share one thing they already know about this topic.



As a whole group, discuss what interesting steps you might take to better understand this topic? Come up with three unique ideas.



Give a few reasons why this is an important topic to learn about.

ThinkDots: Seeing the Difference Projects Through Multiple Intelligences

attachment #10







<p>●</p> <p>Write lyrics to a song or rap to show the similarities and differences you have noted between the Revolutionary War and the Civil War. Include information about 3 of the following: technology, weapons, clothing, architecture, leaders and locations.</p> <p>Musical/Rhythmic</p>	<p>● ●</p> <p>Design a brochure about the similarities and differences you have noted between the Revolutionary War and the Civil War. Refer to the images in the lesson to guide the elements you include in your brochure. Include information about 3 of the following: technology, weapons, clothing, architecture, leaders and locations.</p> <p>Visual/Spatial</p>	<p>● ● ●</p> <p>Create pantomimes that show the similarities and differences you have noted between the Revolutionary War and the Civil War. Include information about 3 of the following: the technology, weapons, clothing, architecture, leaders and locations. Be prepared to act them out for the class.</p> <p>Body/Kinesthetic</p>
<p>● ● ●</p> <p>Pretend you are a news reporter doing a story about the Revolutionary War or the Civil War. Write the script and use the class microphone to read it to the class. Include information about 3 of the following: technology, weapons, clothing, architecture, leaders and locations.</p> <p>Verbal/Linguistic</p>	<p>● ● ● ● ●</p> <p>Research statistics regarding the final battles that ended the Revolutionary War and the Civil War. Design graphs using Excel or hand drawn graphs to show your findings.</p> <p>Mathematical/Logical</p>	<p>● ● ● ● ●</p> <p>Design a mural to show the differences between the Revolutionary War and Civil War. Include information about 3 of the following: technology, weapons, clothing, architecture, leaders and locations.</p> <p>Visual/Spatial</p>

Think Dots

Know -

Understand -

Do -

Think Dots

Directions: At your table group, take turns rolling the dice and complete the learning task from the corresponding dot. If the first roll is something you don't want to do, you can roll a second time. It is alright if more than one person rolls the same number as each person's response will be individual.

