Pattern Block Fractions

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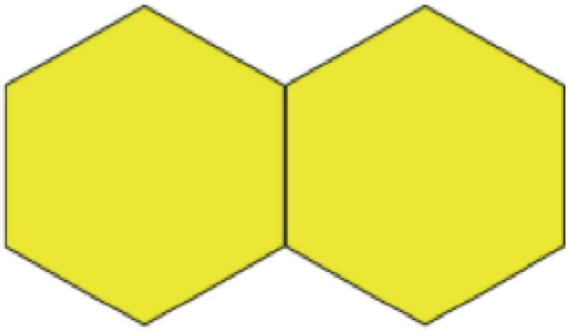
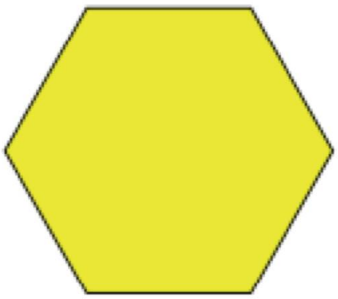
					1
	1				
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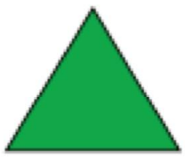				1	

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Math on Wheels 2009

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Directions: Use pattern blocks to model the following computations.

$\frac{1}{6}+\frac{1}{6}=$	$\frac{1}{2}+\frac{1}{6}=$
$1\frac{1}{3}-\frac{2}{3}=$	$\frac{2}{3}-\frac{1}{2}=$

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Directions: Use pattern blocks to model the following word problems.

Darius is making cookies. He needs $\frac{1}{2}$ cup of chocolate chips and $\frac{1}{3}$ cup of peanut butter chips. How much is that all together?	Janine's mom ordered a pepperoni pizza for dinner. Before Janine came to the dinner table, $\frac{2}{3}$ of the pizza had already been eaten. How much of the pizza remained?
Cody's bedroom has posters covering $\frac{2}{3}$ of his wall. Austin's bedroom has posters covering $\frac{5}{6}$ of his wall. Who has more space covered on their wall?	Mrs. Knight is making a quilt. She has $1\frac{1}{3}$ yards of fabric. She needs $3\frac{2}{3}$ yards of fabric to complete her project. How many more yards of fabric does she need?

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Multiplication of Fractions Bootcamp

Multiplication:

- Think of the multiplication sign as the word "of"
- We are taking a piece of something less than one, so naturally our product should be smaller than what we began with
- The second factor tells you how much to begin with
- The first factor tells you how much to take of the second factor

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

Tells how much to take of the $\frac{1}{3}$

Begin with $\frac{1}{3}$

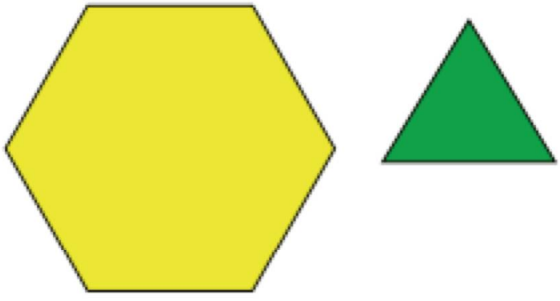
So, we want to begin with $\frac{1}{3}$ and find how much is $\frac{1}{2}$ of it.

Pattern Blocks:

Begin with $\frac{1}{3}$

Think: What would $\frac{1}{2}$ of that piece look like?

Now, compare that back to the whole.



The green piece is $\frac{1}{6}$ of the whole.

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Division of Fractions Bootcamp

Division:

- Remember that division means grouping or sharing
- We are thinking about how much of a piece fits into another piece
- Begin with the first number (the dividend) of the expression to tell you what your "whole" is
- The second number in the expression (the divisor) is the amount we want to fit into the dividend

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

Begin with this amount

You are "fitting" this amount into the dividend

So, we want to find out how many $\frac{1}{3}$'s fit into $\frac{1}{2}$?

Pattern Blocks:

Begin with $\frac{1}{2}$

Think: How many $\frac{1}{3}$'s will fit into that piece? Well, we need to know what $\frac{1}{3}$ looks like.

So, how many blues fit into the red?

One fits and there is still some room. How much room? Half of the blue could fit again. So $\frac{1}{2} \div \frac{1}{3} = 1\frac{1}{2}$.

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Multiplication of Fractions Word Problems

Noelle has one half of a cup of marshmallows. She gives one third of what she has to her little brother. How much of a cup did her little brother receive?	One half of the 7th grade class went to Busch Gardens. Of the students that went, $\frac{3}{7}$ did not ride *The Griffin* roller coaster. What fraction of the 7th grade class did not ride *The Griffin* roller coaster?
Mandy ordered a piece of pie from a restaurant. When it came out Mandy was so surprised at how large it was she asked the waiter, "How big is this piece?" The waiter replied that it was $\frac{1}{6}$ of the whole pie. Mandy could only eat half of her piece. How much of the whole pie did she eat?	One half of the math class went to the library to study. $\frac{2}{5}$ of that group returned to school on time. What fraction of the class returned on time?

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Multiplication of Fractions Word Problems Continued

One third of the 6th grade is in band. One fifth of those students play a wood wind instrument. What fraction of the 6th grade plays a wood wind instrument?	Lisa bought $\frac{3}{4}$ of a yard of ribbon at the craft store. She only used $\frac{1}{2}$ of what she bought to make an art project. How much of a yard did she use in her art project?
Tim went bowling with his family. Time threw his first ball and left $\frac{1}{2}$ of the pins still standing. Tim threw his second ball. Now $\frac{2}{5}$ of the pins from the first throw remained standing. What fraction of all of the pins remained standing after 2 balls were thrown?	Jordan's mom poured a half of a bowl of cereal. When she was not looking, Jordan ate one fourth of the amount his mom just poured. What fraction of the whole bowl did Jordan eat?

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Division of Fractions Word Problems

Joel has $\frac{1}{3}$a gallon of blue paint. He is mixing the blue paint with yellow paint to make green paint. To make one can of the right shade of green Joel needs $\frac{1}{7}$ of a gallon of blue paint. How many cans of green paint can Joel make with his $\frac{1}{3}$ of a gallon of blue paint?	Steve is going to make some batches of chocolate chip cookies for his church's bake sale. He gets out all of the ingredients and has plenty of everything except his bag of chocolate chips isn't full. He measures his chocolate chips and finds that he has one half a cup of chocolate chips. His recipe calls for $\frac{1}{3}$ a cup of chocolate chips per batch. How many batches of chocolate chip cookies can Steve make?
Lynn has a half of a container of soil. But, the container has a crack in it and Lynn needs to transfer the soil into smaller containers that hold $\frac{2}{5}$ of the original container. How many of the smaller containers will Lynn need?	The serving size on Fruity-O's cereal box is $\frac{2}{3}$ of a cup. If you eat $\frac{4}{9}$ of a cup, how many servings have you had?

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Division of Fractions Word Problems

Betty has $2\frac{1}{3}$ yards of fabric. She is making clothes for her grandchildren. Each pattern requires $\frac{7}{8}$ of a yard of fabric. How many patterns can Betty make?	Mrs. Jones teaches math lessons. Each of her math lessons is one fourth of an hour. She teaches for a total of $1\frac{1}{3}$ hours. How many lessons can she teach in that amount of time?
I have $\frac{5}{6}$ of a gallon of gasoline. I need to pour it into a container that holds $\frac{3}{4}$ of a gallon. Will it all fit? If not, how much of it will fit?	Julie has finished $\frac{1}{6}$ of a homework assignment. Her goal is to finish $\frac{1}{3}$ of the assignment before dinner. What part of the goal has she completed?

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