

I Can

THINK and DO

using

Heavenly Father's

Favorite Numbers



VOLUME 3

FUN WITH FRACTIONS

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I Can Think and Do -- Using
HEAVENLY FATHER'S FAVORITE NUMBERS™
VOLUME 3
Fun with Fractions

by

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Dear Parents and Teachers,

Welcome to Volume 3 of "Heavenly Father's Favorite Numbers - Fractions." Before students use this book, they should have mastered Volume 1 - Addition & Subtraction, and Volume 2 - Multiplication & Division.

Students will need to understand that fractions are simply PARTS of whole numbers. In this book they will be exposed to simple fractions commonly used in their daily lives. Young people will use fractions in the kitchen and for building things. Fractions are also applied to numbers on a clock, as well as timing in music, in measuring inches and feet, and counting money.

Hands-on activities are suggested in this volume, so that through manipulative games and activities, the students can understand the importance as well as the use of fractions. In addition, they will study some scriptures to find out how Heavenly Father uses fractions.

Below is a suggested recipe for making salt-dough. This may be used for some of the Learning Exercises for practicing fractions. If you wish to let the children make their own personal salt-dough, have them use $\frac{1}{2}$ the ingredients shown (good practice for fractions!).

Ingredients:

1 cup flour

$\frac{1}{2}$ cup salt

1 Tbs vegetable oil (to keep it soft)

About $\frac{1}{3}$ c. Water

5 or more drops of food coloring (optional)

Mix flour and salt well. Mix food coloring in $\frac{1}{3}$ cup water (about 10 drops of desired color). Add oil and water slowly into flour/salt mixture while mixing by hand. Knead until dough is soft and workable. Store in a plastic container.

Now let's begin our new adventure by having FUN with FRACTIONS.

PRINCIPLE #1

**A WHOLE NUMBER CAN BE
DIVIDED INTO PARTS
CALLED FRACTIONS.**



READ THIS TOGETHER!

What does the word "fraction" mean? It means a "part of" something, or a small portion.

For example, if you wanted some pie, you would probably want just a piece of that pie - not the whole thing (well, maybe!). You usually only eat "part of" a pie. That would be a fraction of the pie. It is not the **WHOLE** pie, it is less than the whole pie.

Fractions are numbers that are **LESS** than a whole number.

Here are some fractions:

$$\text{One half} = \frac{1}{2}$$

$$\text{One third} = \frac{1}{3}$$

$$\text{One fourth} = \frac{1}{4}$$



So, why do we write fractions the way we do?

Let's look at those fractions more closely. This is one-half: $\frac{1}{2}$



The number above the little line (1) represents the whole pie. The number below the line (2) represents the number of pieces in the pie. One-half means that the pie is cut in two pieces. Above is a picture of $\frac{1}{2}$ of a pie.

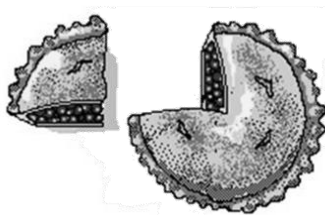
- If the pie was cut in 3 pieces, the fraction for one piece of pie

would look like this: $\frac{1}{3}$



- If the pie was cut in 4 pieces, the fraction for one piece of pie

would look like this: $\frac{1}{4}$



- If the pie was cut in 8 pieces, the fraction for one piece of

Pie, what would the fraction look like? _____

Now you might be asking yourself: When would I ever use fractions? And WHY do I need to know about them?

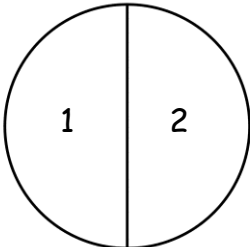
In everyday life, fractions are used when people tell the time, when they cook, shop, pay bills and split things up. Any time people need to work with the parts of something, they need to understand fractions.

You use fractions whenever you measure with your ruler. You probably don't realize you are using fractions when you are building with Legos or when you play computer games. Anytime you see something that is not "whole" you are looking at a fraction!

LOOK AT THESE EXAMPLES

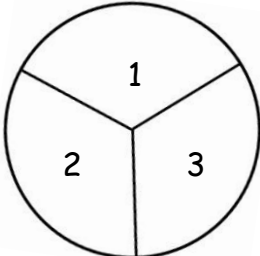
Fractions can be shown like these pies. Memorize these pies which are:

CUT IN HALVES
(Or two parts)



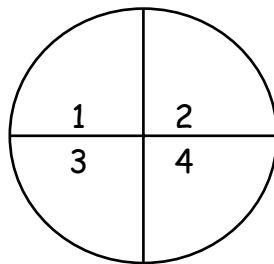
One half is written like this: $\frac{1}{2}$

CUT IN THIRDS
(Or three parts)



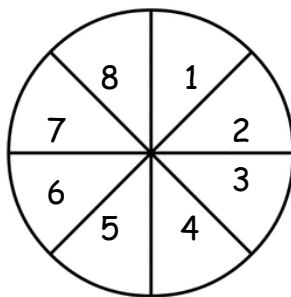
One-third is written like this: $\frac{1}{3}$

CUT IN FOURTHS



One-fourth is written like this: $\frac{1}{4}$
(Or four parts)

CUT IN EIGHTHS
(Or eight parts)



One-eighth is written like this: $\frac{1}{8}$



EXAMPLES FROM THE SCRIPTURES

Do you think fractions are used in the scriptures?

Yes, they are! Look up some of these scriptures and write in your math notebook the fraction mentioned. Then have someone tell you some of the stories about them.

Esther 5:3

Luke 19:8

Revelation 8:1

Revelation 8:7-9, 12

2 Samuel 18:2

2 Kings 11:5

Numbers 23:10

1 Samuel 9:8

1 Samuel 8:17

Genesis 28:22

(LDS:)

Helaman 4:10

Alma 13:1

Doctrine & Covenants 29:36

Doctrine & Covenants 119:3

*In your notebook, do the
Learning Exercises
shown on the following pages.*



LEARNING EXERCISE #1

On the following page you will find many different shapes divided into fractions. Make a copy of that page and color the shapes. Then cut them out into the fractions shown. Make different designs with all the shapes. Can you put them back together again? Glue them on a piece of colored paper any way you wish to make a fun fractions collage.

LEARNING EXERCISE #2

On a piece of plain paper draw three large pizzas. Color each pizza with different toppings that you like. Then:

- a. Cut one pizza in half.
- b. Cut the second pizza in thirds (notice it makes a Y shape).
- c. Cut the last pizza in enough slices for everyone in your family to have a piece. Can you make all the slices even? In your notebook, write how would you write that fraction.

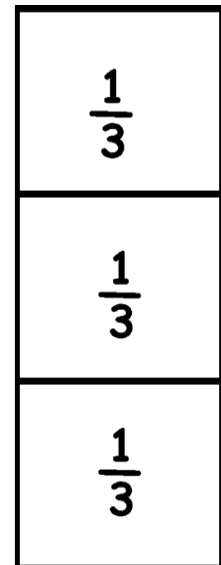
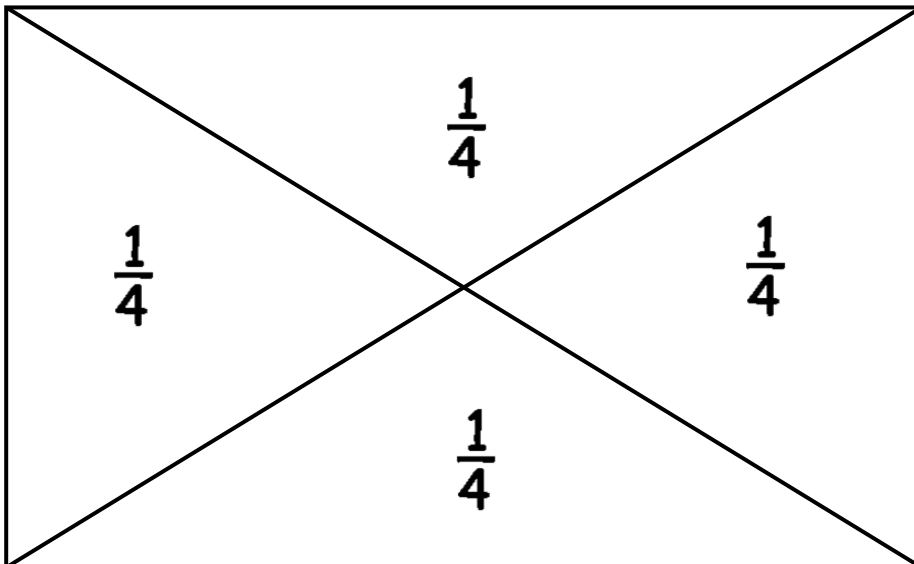
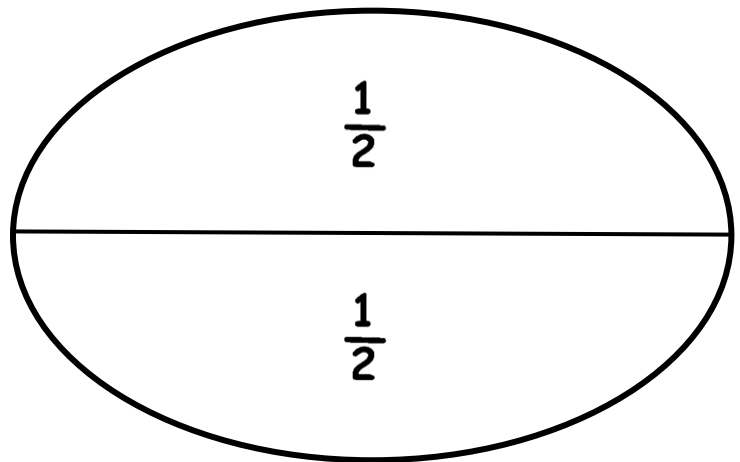
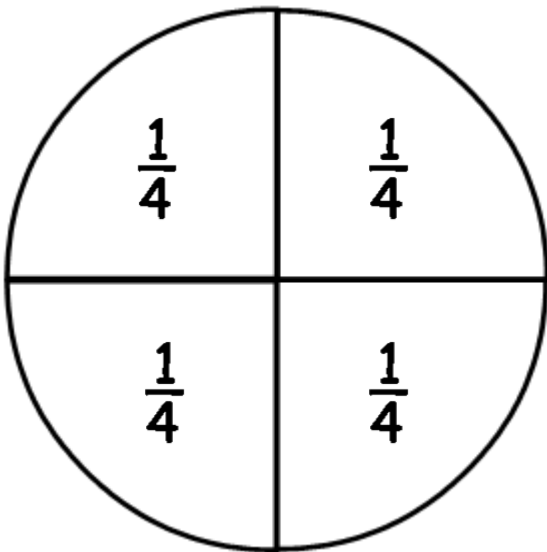
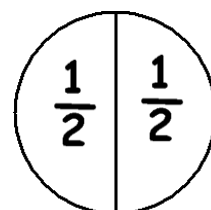
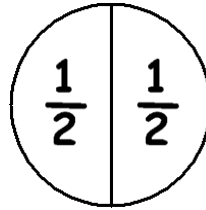
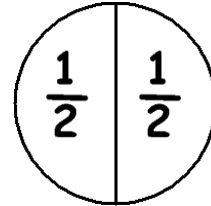
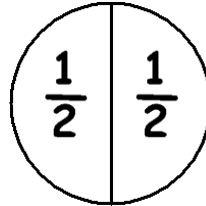
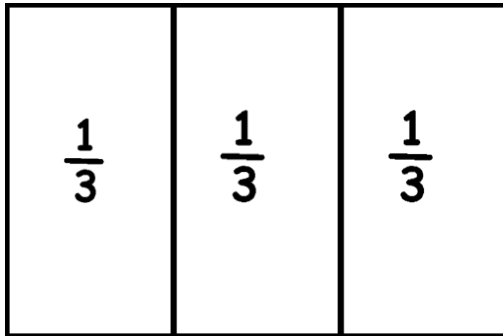
LEARNING EXERCISE #3

With adult help, make the salt-dough recipe, using any color you wish. Make a round ball with the dough. Flatten it out into a circle (like your pizzas in Learning Exercise #2). Use a stick or table knife to practice making pie shapes. Cut them evenly into different parts, or fractions. What other flat shapes can you make with the dough? Squares? Triangles? Cut them into fractions. Draw these and write their fractions in your notebook.

Save your salt-dough in a plastic container for games you may be playing with fractions later on.

EXTRA: With adult help, make a batch of cookies. Count how many cookies you end up with and share HALF of them with a neighbor.

Fraction Shapes to Copy, Color and Cut Out



PRINCIPLE #2

**A WHOLE NUMBER CAN BE
DIVIDED INTO 2 EQUAL PARTS
CALLED HALVES.**



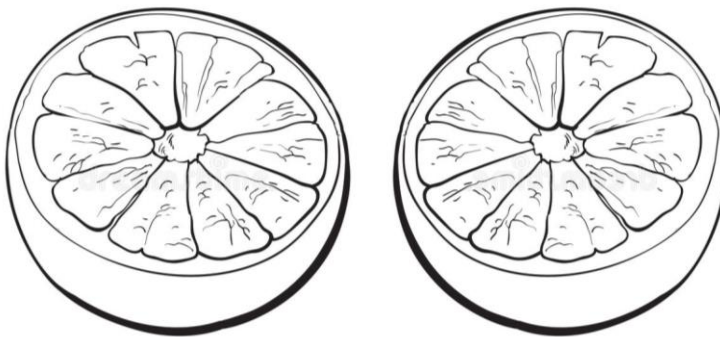
READ THIS TOGETHER!

We have already talked about half a pie. When something is divided into two parts, we say that one part is a "half."

(This is different from the word "have." We say "I have a book." But you could say "I have read half of the book.")

The plural word of half is halves. As you know, there are two HALVES in a whole. You've already completed some learning exercises with halves. With this principle you will do some more practicing, just for fun.

Two Halves of a Whole Grapefruit



*In your notebook, do the Learning Exercises
shown on the following pages.*



LEARNING EXERCISE #1

For this learning exercise you will need some modeling clay or play-doh. Shape your clay or dough into a nice round ball. Make it as perfectly round as possible! With a table knife, cut it in half. Compare the two pieces to see how accurate you were to get the two halves exactly the same. If one was bigger than the other, form the ball again and repeat until you feel the two halves are exactly the same.

Now cut the two halves in half again, making them exactly the same. How many do you have now? Four! Can you cut them again? How many pieces can you make out of your "whole" ball of clay or dough?

LEARNING EXERCISE #2

Have someone tell you the story about "halves" in 1 Kings, Chapter 3, verses 16 - 28. Draw a picture of this story and then write a paragraph about why you think Solomon did what he did.

LEARNING EXERCISE #3

Bake some "SNICKERDOODLE" cookies for friends or neighbors! Use the recipe below and use only HALF of the ingredients. Bake the cookies, then give HALF to one friend or neighbor, and HALF to another. Write a note that says, "If we HALF to be friends, then here is your half of my cookies. I gave the other half to _____."

- 1 cup shortening
- 1 cup sugar
- 3 eggs (how can you half these?)
- 3 cups flour
- 2 teaspoons cream of tarter
- 1 teaspoon baking soda
- 1 teaspoon salt
- 1 teaspoon lemon extract
- 1 teaspoon vanilla

Mix all together until smooth. (Dough should be quite stiff. If not, add more flour.) Make into small balls about the size of a walnut. Put on an ungreased cookie sheet and flatten with a glass that has been dipped in sugar and cinnamon.

Bake approximately 10 minutes at 375 degrees or until very soft brown. Put on rack to cool. (NOTE: Do NOT cut the time or temperature in half!)