

Home Connections in Mathematics

May 2018: Supporting the Understanding of Fractions at Home - It's More than Sharing Pizza.

Understanding fractions is essential for success in mathematics. There are many ways that we can support this understanding at home. When learning about fractions, it is helpful to focus on basic fractions e.g. halves, quarters, eighths, thirds, fifths and tenths. Consider the following activities that you can incorporate into your children's learning.

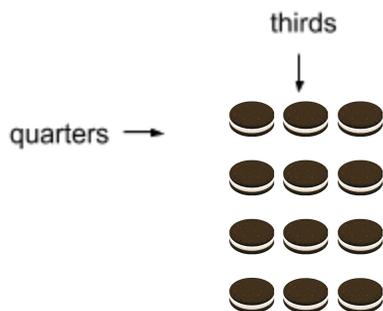
Dividing up Sets of Things

Sample Activity:

If we have 6 cookies and 2 friends are sharing them, how many cookies would each person get? Each person gets 3 cookies. Three cookies is half of all the cookies.



By organizing the cookies into an array with rows and columns, it is easier to see fractions. In the following image, you can see the vertical rows as thirds and the horizontal rows as quarters. You can help your child to see and express different fractions this way.



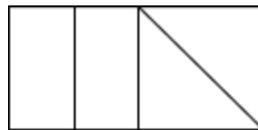
$\frac{1}{3}$ of 12 is 3 $\frac{2}{3}$ of 12 is 8 $\frac{3}{4}$ of 12 is 9

Dividing Whole Objects into Equal-sized Parts

Sample Activity:

Ask your child to divide an object such as a brownie or a granola bar into equal-sized pieces such as halves, thirds, and quarters. Challenge them to divide it in different ways; the parts may not even be the same shape. Even though the shape may be different, they are all $\frac{1}{4}$ of the size of the whole. Would

the following brownie be divided into quarters? To prove some of these relationships, consider paper-folding.



Measuring with Unit Fractions

Recent research has focused on the importance of understanding unit fractions. A unit fraction is the base unit of any fraction and always has a numerator of 1. For example, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{3}$ are all unit fractions. Every fraction can be thought of as some number unit fractions. For example, in the number $\frac{3}{4}$, $\frac{1}{4}$ is the unit fraction and we are thinking about 3 of them. It is important that students understand $\frac{3}{4}$ as 3 units of $\frac{1}{4}$ and $\frac{5}{4}$ as 5 units of $\frac{1}{4}$ or 1 whole and one more fourth.

Sample Activity:

Make simple recipes but only use a single measuring cup. For example, to make jello, you need 2 cups of water. How could you make it if you only had a $\frac{1}{4}$ cup measure or a $\frac{1}{2}$ cup measure or a $\frac{1}{3}$ cup measure?



Finding a Fraction of a Distance

Sample Activity:

For younger children, you can ask them to come half-way, a quarter of the way or a third of the way to you. This can be especially effective if there are tiles on the floor. If your child is 8 tiles away from you, how many tiles would they have to move to get half-way to you? They can estimate the distance or use tiles on the floor to count and help them see one-half.

For older children, when travelling, look at the road signs to determine how far you have to travel. For example, if you are travelling 60 km to get to your destination, how many km would you travel to be $\frac{1}{4}$ or $\frac{1}{3}$ or $\frac{1}{2}$ way to your destination? For an even greater challenge, junior and intermediate aged children could try to determine how long it would take to get a fraction of the way there based on the speed of the car.

Using fractions in meaningful contexts at home can support students understanding of fractions in school.