

Understanding Fractions

Geometric Fractions

Materials:

Colors or colored paper
Triangular graph paper
Scissors

Color and/or cut two yellow (or any color) hexagons, using six triangles, from the graph paper. Color and/or cut 6 red (or any color) trapezoids, using three triangles, from the graph paper. Color and/or cut 8 blue (or any color) rhombuses, using two triangles, from the graph paper. Color and/or cut 12 green (or any color) triangles, using the graph paper triangles.

Then play games, as Vicki Head did, with sixths (triangles), thirds (rhombuses), halves (trapezoids) and wholes (hexagons). You can even make other shapes and talk about how many like shapes it takes to make either another fraction or whole.

Square Grid Fractions

Materials:

Square cereal (or crackers)
Square graph paper
Colors and a pencil

Start with the square cereal. Choose a few squares. Then tell your child that they represent a fraction (like $\frac{1}{4}$ of some whole). Ask them how many like fractions it would take to make the whole. Have them model their answer with cereal squares. Then ask them how many cereal squares are in a whole. Ask them to prove it by lining up the same number of squares beside their original fractions pushed together. Do as many fractions as necessary to make sure your child understands that there are # number of $\frac{1}{\#}$ in a whole. Also, emphasize the relationship between fractions, division and multiplication. For instance, if three cereal squares are $\frac{1}{4}$, then it would take four of them to make a whole, and that whole would be equal to 12 squares. That means 12 divided by 4 is 3 and 3 times 4 is twelve.

As another alternative, use the graph paper. Tell your child how many squares represent a fraction. Then tell your child to color the squares that represent the fraction and the whole. Below the colored line or squares, have your child write the fact family those squares represent. Using the previous example, $\frac{1}{4} \times 12 = 3$, $3 \times 4 = 12$, $\frac{4}{4} = 1$, and so forth.