1.G Equal Shares

Task

Materials

- Paper cut outs of rectangles, circles, and squares
- Blank paper

Actions

Part One:

a. Give each pair of students a square and ask, “How can you share the square equally so that you and your partner get the same size piece?”

b. Ask students to fold the paper to show how they could get two equal parts.

c. Call on student volunteers to share, asking the class as each example is displayed, “Is the paper shared equally? Will each person get the same size piece? How do you know?”

d. Create a chart, showing some of the ways students folded the square to make two equal parts. Students may fold vertically, horizontally, or diagonally.

e. Tell students, “There are two equal parts.” Ask students, “What can we call each part of the rectangle?” Elicit student thinking, building the understanding that each piece is one of two equal parts, or half of the rectangle. The standard calls for students to "describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of." Helping students develop this language is critical. If students don't come up with this language, it's important to introduce it. After introducing the terms "half" and "half of" in this case, adding labels to the chart will help anchor the language.

You may repeat this with other shapes (circle, rectangle) or increase the number of

students sharing the paper shape from 2 to 4. If you repeat with a rectangle some students may a scissors as scaffolding to cut the rectangle instead of folding when they divide the rectangle diagonally.

Part Two:

a. Pose the problem to students: "If you and three friends want to share a cake so that you each get the same amount, how can you much can each person have?" Ask questions to ensure students understand the context and problem being posed. Questions might include:

- ***What is the story about?***
- ***How many people are sharing the cake?***
- ***What does it mean for each person to get the same amount?***

Provide students with tools such as blank paper and/or paper shapes to solve the problem. The cake context was selected to allow students to explore with multiple shapes as cakes may be round, square, or rectangular in shape.

b. As students solve the problem, monitor their progress looking for students that partition a shape into four equal shares.

c. Conduct a share out, showing several different student solutions that show a shape partitioned into four equal parts. It may be helpful to consider the features of each solution being shared by posing questions that get at student thinking and the essential mathematical ideas.

The teacher might ask questions such as:

- ***How many people are sharing the cake?***
- ***What does the picture represent? What is the circle? What is the square? What is the rectangle?***
- ***How is ___'s picture similar or different than ___'s?***
- ***How much cake does each person get?***
- ***Some people represented the cake with rectangles and others with squares or circles, did that change the amount of cake each person gets? Why or why not?***
- ***What can we call these parts? How can we label them?***
- ***Why do the parts need to be equal?***