

## MAGNA-TILES® LESSON PLAN #8: Fabulous Fractions with Magna-Qubix®

### Objectives:

Students will engage in an activity that will introduce them to fractions by dividing a shape into equal parts.

Students will:

- Identify equal parts
- Tell how many parts are in a whole
- Use the words halves, thirds and fourths correctly

Common Core Objective: Partition circles and rectangles in two, three, or four equal shares, describe the shapes using the words halves, thirds, half of a, a third of, etc., and describe the whole as two halves, three thirds, four fourths. (2.G.A.3)

### Materials:

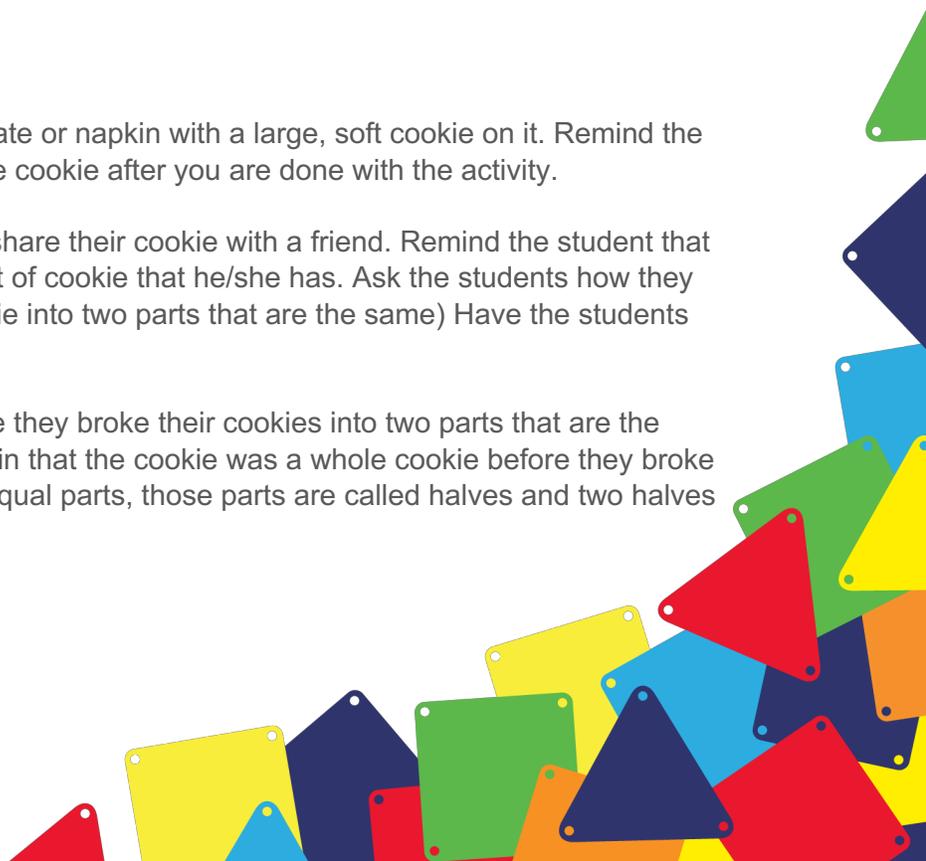
- Magna-Qubix® 19-Piece Set
- A soft cookie (that is a circle) for each student that is big enough to be broken into 2 and 4 parts (if you can't have food in your classroom, have the students decorate a paper circle to look like a cookie and have the students use that)
- Small paper plates or napkins

### Directions:

**#1.** Give each student a small paper plate or napkin with a large, soft cookie on it. Remind the students that they will be able to eat the cookie after you are done with the activity.

**#2.** Tell the students that they want to share their cookie with a friend. Remind the student that the friend would want the same amount of cookie that he/she has. Ask the students how they could do that. (Answer: divide the cookie into two parts that are the same) Have the students break their cookie into two equal parts.

**#3.** Discuss with the students that since they broke their cookies into two parts that are the same size those parts are equal. Explain that the cookie was a whole cookie before they broke it apart. Now that it is broken into two equal parts, those parts are called halves and two halves



make a whole cookie. Have the students put the two halves next to each other so they understand that it was a whole cookie.

**#4.** Explain to the students that two more friends would like a piece of the cookie. Remind the students that each friend would like the same amount of cookie. Ask the students how they could share their cookie with three friends. (Answer: divide the cookie into four equal parts) Have the students break their cookie into four equal parts. Make sure the students understand that to do this they will need to break each half into two equal parts.

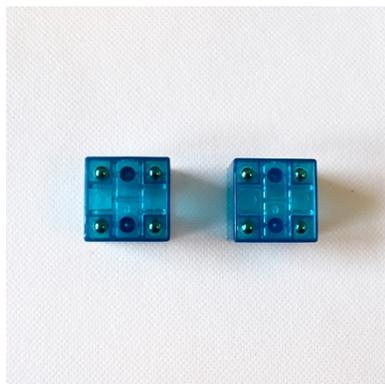
**#5.** Discuss with the students that since they broke their cookies into four parts that are the same size those parts are equal. Explain that the cookie was a whole cookie before they broke it apart. Now that it is broken into four equal parts, those parts are called fourths and four fourths make a whole cookie. Have the students put the four fourths next to each other so they understand that was a whole cookie.

**#6.** Have the students eat one part of their cookie. Explain to the students that the part they are eating is one part of the cookie, therefore it is one fourth of the cookie. Have the student eat another part of the cookie and discuss how he/she has eaten two fourths of the cookie. Continue this with the third part of the cookie and the fourth part of the cookie.

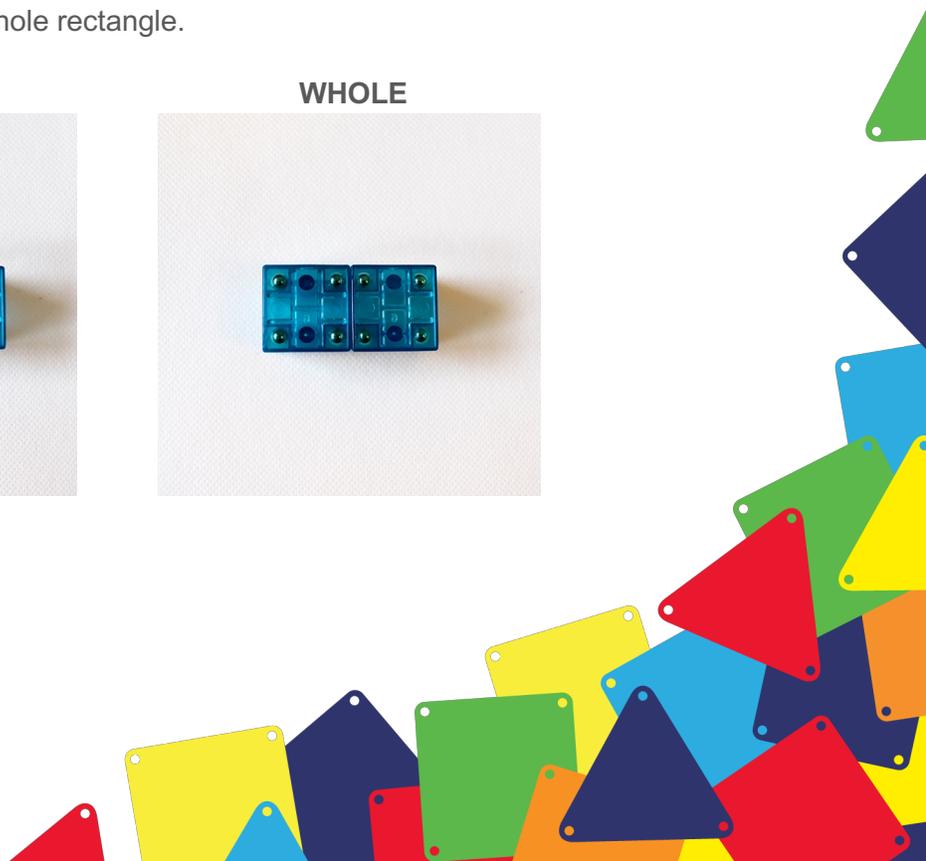
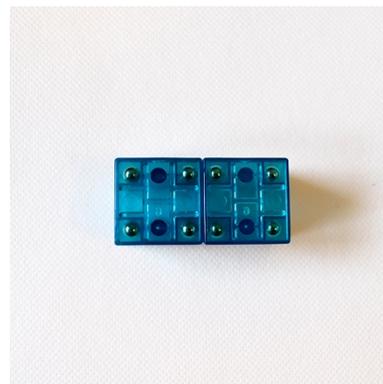
**#7.** Give groups of students four Magna-Qubix™. Have them explore how to make a rectangle with two of them.

**#8.** Lead the students in a discussion about how the two Magna-Qubix™ together make one rectangle. If the students pull the Magna-Qubix™ apart then each of them is a half. Discuss with the students how two halves make a whole rectangle.

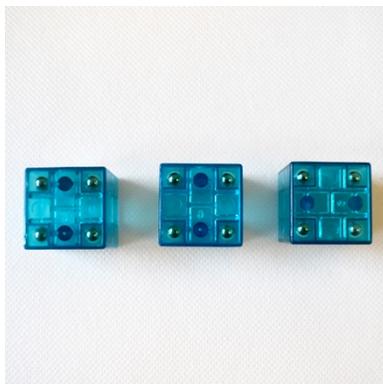
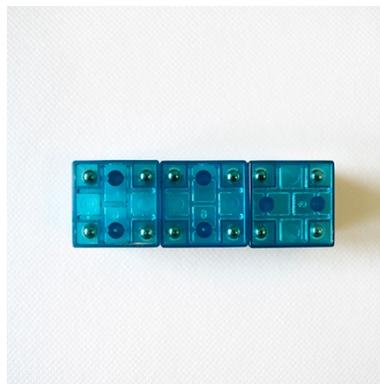
**TWO HALVES**



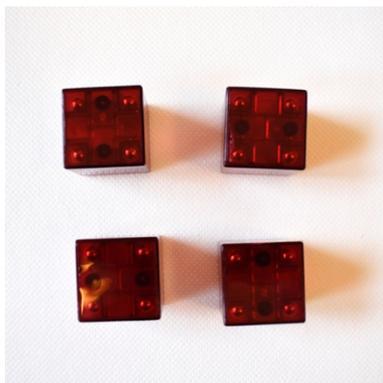
**WHOLE**



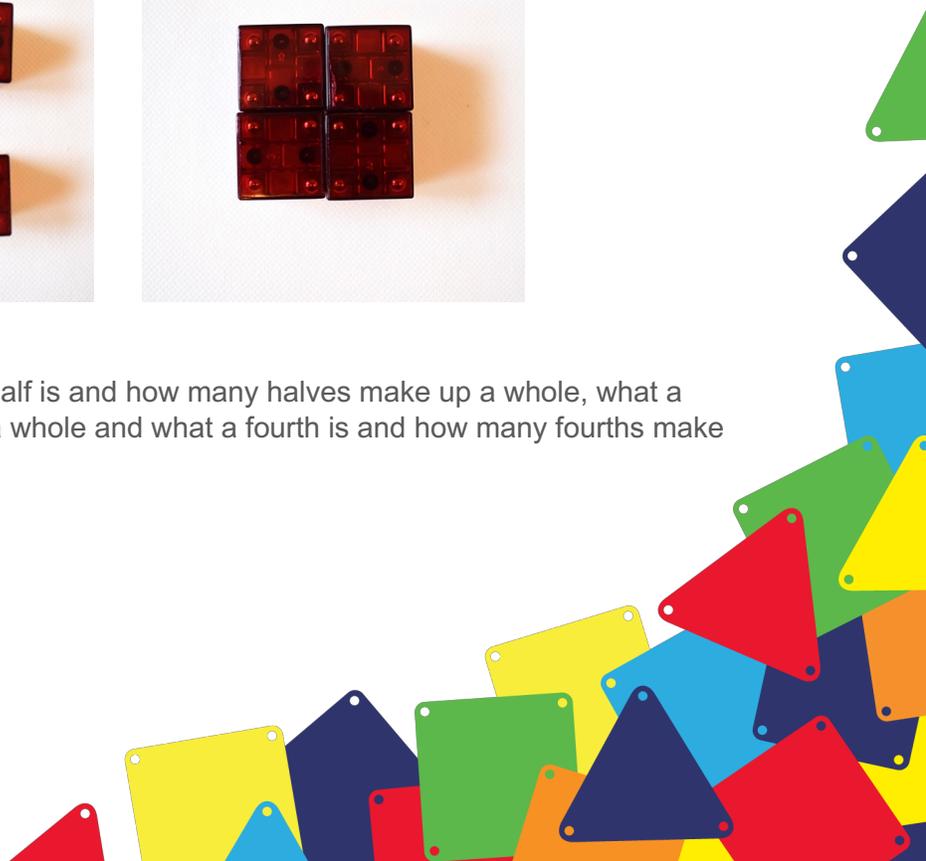
**#9.** Have the students make a rectangle with three of the Magna-Qubix™. Lead the students in a discussion about how each of the Magna-Qubix™ make up a third of the rectangle. Talk about how three thirds make a whole rectangle.

**THREE THIRDS**

**WHOLE**


**#10.** Have the students make a square with four of the Magna-Qubix™. Lead the students in a discussion about how each of the Magna-Qubix™ make up a fourth of the square. Talk about how four fourths make a whole square.

**FOUR FOURTHS**

**WHOLE**


**#11.** Review with the students what a half is and how many halves make up a whole, what a third is and how many thirds make up a whole and what a fourth is and how many fourths make up a whole.



**Assessment:**

Give each student two paper rectangles and a paper square. Have the students draw a line on one paper rectangle to show it divided into halves. Have the students draw two lines on the other paper rectangle to show it divided into thirds. On the paper square have the students draw two lines to show that it is divided into fourths.

**Extension:**

Using chart paper, make a classroom poster to show halves, thirds and fourths. Make three columns on the chart paper. Write halves at the top of one column, thirds at the top of one column and fourths at the top of a column. Then give the students different paper shapes (i.e. circles, rectangles, triangle, squares). Allow them to draw lines to divide each shape into halves, thirds or fourths. Then have the students glue their shapes under the correct column on the poster.

