Rational Number Project

Initial Fraction Ideas
Lesson 6.5: Overview

Students order fractions embedded in division story problems. Students order fractions with like numerators and with like denominators.

Materials
• Fraction Circles for students and teacher
• Student Pages A and B

Teaching Actions

Warm Up

Which is larger: 1-fourth or 3-fourths? Draw a picture to support your answer.

Large Group Introduction

1. Introduce this story problem. Ask students to draw a picture to answer the question. Kara entered the Pizza Factory. She saw 2 friends in 1 booth and 3 friends in another booth. Both groups have just been served a large pizza. Which group should she sit with so that she gets the most to eat?

2. Draw this diagram:

3. Ask students to show Kara’s share in booth 1 (with 2 friends) and in booth 2 (with 3 friends).

4. Which group has the most people? In which group does a person have the smallest share of pizza?

5. Conclude that 1/3 of the pizza is more than 1/4 of the pizza. [Repeat with 6 people at a table; 8 people at a table.]

Comments

In this lesson students build understanding of ordering non-unit fractions with the same numerator and reviews ordering fractions with the same denominators. Students use fair share story problems to reinforce the idea that the more you divide a unit into equal parts, the parts become smaller.

Students also reinforce this idea by using fraction circles to model fractions with same numerator or same denominator.

All of this work is to help students build mental images for fractions so they can judge the relative size of fractions. This is an essential skill to have in order to estimate when adding and subtracting fractions. For example to estimate $\frac{3}{4} + \frac{1}{8}$ students with strong mental images for fractions will see that $\frac{3}{4}$ is $\frac{1}{4}$ away from the whole. $\frac{1}{8}$ is smaller than $\frac{1}{4}$ so the sum must be less than one. With strong mental images students will also know that $\frac{3}{4} > \frac{1}{2}$.
### Teaching Actions

6. Present this story: You have two small square pans of brownies. Both pans are divided into 8 equal parts. Allie ate 2 brownies from the first pan with nuts on top. Hamdi ate 3 brownies from the second pan that didn’t have nuts. How much of each pan did each girl eat? Who ate more? How do you know?

### Small Group/Partner Work

7. Assign Practice Pages A and B

### Wrap Up

8. Ask students to imagine these two fraction amounts. If the whole circle is the unit, what does $\frac{3}{4}$ look like? What does $\frac{3}{12}$ look like? Which is bigger? How do you know?

Select students you know can verbalize clearly how to think about these two fractions. You want students to model for others the idea of acknowledging both the numerator and denominator in their thinking.

*Fourths are larger than twelfths. So 3 larger pieces are more than 3 smaller pieces.*

$\frac{3}{4} > \frac{3}{12}$

### Translations

- Real life to picture to verbal
- Manipulative to written symbols to verbal
- Written symbols to manipulative
- Real life to manipulative to pictures
Which is larger: 1-fourth or 3-fourths? Draw a picture to support your answer.
Draw pictures or use fraction circles to solve each problem.

1. Four children share one large pizza at the blue table in the lunchroom. Three children share one large pizza at the green table. At which table does each child get more pizza? Why?

2. Who gets more candy: a child at a table where 6 children are sharing a candy bar or a child at a table where 3 children are sharing a candy bar?

3. Jessica and Kim shared a large pizza. Jessica ate \(\frac{2}{6}\) of a pizza. Kim ate \(\frac{3}{6}\) of the pizza. Who ate more? How do you know?

4. Josie eats 2 brownies from a small pan of brownies that was divided into 6 equal parts. You ate 2 brownies from a small pan of brownies (the same size pan as Josie’s) divided into 8 equal parts. How much of each pan did Josie and you eat? Who ate more? How do you know?
**Directions:**
Use fraction circles to compare the two fractions. Circle the **larger** fraction.

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