

Modeling Fractions

Reporting Category Number and Number Sense

Topic Modeling fractions

Primary SOL 3.3 The student will
b) model fractions (including mixed numbers) and write the fractions' names.

Related SOL 3.3a

Materials

- Box of graham crackers
- Loaf of bread
- Chocolate bars (no nuts)
- English muffins
- Fraction bars
- Fraction circles

Vocabulary

numerator, denominator, whole number, mixed number

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Using food items, demonstrate how to model fractions, including mixed numbers, and write the fractions' names.
2. Give each student two whole graham crackers and have them model a particular fraction. Allow students to share their modeled fractions with the class. Have the class write the name of the fraction.
3. Next, have students model mixed numbers, using the graham crackers. Allow students to share their modeled mixed numbers with the class before eating their graham crackers.
4. Continue to practice modeling fractions using slices of bread, chocolate bars, and English muffins, which can be made to look like mini pizzas.

Assessment

• Questions

- How would you model $\frac{1}{4}$, using a graham cracker? Draw a picture of this model.
- How many whole graham crackers would you need to model $2\frac{1}{2}$?

• Journal/Writing Prompts

- Identify some other food items that you could use to model fractions and mixed numbers. Describe why these food items would be helpful in modeling.
- Explain why sometimes you have a whole number with a fraction, but other times you have just a fraction.

- **Other**

- Have students match given fractions and mixed numbers with corresponding fraction bars or fraction circles.
- Have students draw models for given fractions and mixed numbers.

Extensions and Connections (for all students)

- Have students use measuring devices to model fractions in relation to such units of measure as cups, inches, and pounds.

Strategies for Differentiation

- Have students use grid paper to assist them in drawing fraction models.
- Provide blank fraction bars or fraction circles for students to use to practice modeling fractions and mixed numbers before using food items.