Making A Cake

Unit 5: Parts of A Whole

Grade Level
Grade 2

Overview
In this task, students will justify that the numerator represents objects of the set or parts of the whole and that the denominator represents the total objects of the set or the total parts of the whole. Students will also compare simple fractions and tell why one fraction is greater than, less than, or equal to the other; and represent halves, thirds, fourths, sixths, eighths, and tenths using various fraction models.

Key Standards
M2N4. Students will understand and compare common fractions with small denominators.
   a. Model, identify, label, and compare fractions (thirds, sixths, eighths, tenths) as a representation of equal parts of a whole or of a set.
   b. Know that when all fractional parts are included, such as three thirds, the result is equal to the whole.

Possible Materials
- circle or rectangular shaped pans
- Play-Doe
- poster with task
- cards numbered 3,6,8, and 10
- large craft sticks
- chart paper
- markers
- book *Gator Pie* by Louise Mathews

Materials for extension activity:
- pictures of school staff or students voting on their favorite cake or pie
- rubric for chart
- student checklist
- pie cards

Task
1. Read the book *Gator Pie* by Louise Mathews
2. Discuss what happens to the slices of cake as the denominator gets larger.
3. Present the Making a Cake task: *Imagine if you had a cake at your table and wanted to share the whole thing with the students at your table. How could you cut your cake to assure...*
that each person had the same amount of cake? What fraction would each person get to eat? Use pictures, words, and numbers to explain your answers.

4. Provide pairs of students with a pan, chart paper, play-doe, markers, number card to tell students how many people they need to imagine are at their table, and a craft stick. They design their cake and cut it into a given amount.

5. Students complete the Making a Cake Task.

6. Examine each piece of cake and determine the fraction to describe one slice taken out. Put the slices in order from smallest to largest as a whole class. Students share their findings in groups through class presentations. The teacher asks probing questions about connections between various groups.

Extension Task: Pie Fractions

The Making a Cake activity can be extended through the task entitled Pie Fractions. In this task, students focus on moving from parts of a whole to parts of a set. Prior to the lesson, have students or school staff vote on their favorite kind of cake or pie. Pie cards are included in attachments to make sorting pictures easier for the students. These are used for teachers to hold as their picture is taken.

After developing the pictures, the teacher should place a predetermined set of pictures in a bag (either 3, 6, 8, or 10.) Students will use their set of pictures to look for attributes to create fractions using the set of pictures. (Ex. 2/3 of the teachers like apple pie or 2/6 of the teachers are men.) Students will be able to make a numerous amount of fractions using these pictures as they identify attributes. After making fractions, ask students to display the data. You can create a picture graph on the wall in your classroom and use it for further discussion throughout the unit.

Sample Questions

1. What is a fraction?
2. What is a numerator? What does it tell us about a set or whole?
3. What is a denominator? What does it tell us about a set or whole?
4. If you have two fractions, how do you know which is greater or has more value?
5. What do the parts of a fraction tell about its’ numerator and denominator?
6. What is your plan on making each slice of cake as equal as possible?
7. What if you had a cake with 6 slices and only 3 people come to a party, how many slices would each person be able to eat?
8. Why should I know about fractions? When can I use fractions? Where have you seen fractions used? What other things can be divided into fractions? (Money, ruler)

Sample Question Solutions

Students can model different fractions to visually see fractions that are greater, less, and equal. Have someone come in front of the room and describe things that can be divided into fractions. They could model their ideas if the items are in the classroom.
**Assessment Ideas**

- **Teacher Observation – Group Chats** – (Teacher listens, observes, and asks questions to check for misconceptions and essential understanding)
- **Rubric for Finding Fractions in a Student Checklist for Finding Fractions in Sets** (helps guide students as they are working in a group)