

# Fun at the Fair

Created by Kate Beck  
George Mason University, COMPLETE Math  
Fall 2015



## The Task

Mrs. Hoffmann brings her 6 children to the fair. She buys a big box of 45 mini-donuts for the children to share equally. How many mini-donuts will each child get?

The children are ready to go on the fair rides! Mrs. Hoffmann buys a bag of 45 ride tokens for the children to share equally. If each ride costs one token, how many rides can each child enjoy?

## Big Ideas

- The role of remainders in division situations
- The relationship between division and fractions

### Standards of Learning for Grades 3-4-5

- 3.3a The student will name and write fractions represented by a model.
- 3.6 The student will represent division, using area, set and number line models.
- 4.2c The student will identify the division statement that represents a fraction.
- 4.4c The student will divide whole numbers, finding quotients with and without remainders.
- 5.4 The student will create and solve single-step and multistep practical problems involving division with and without remainders of whole numbers.

### Standards of Learning for Grades 6-7-8

### **Process Goals**

- Problem Solving and Reasoning – Students will apply an understanding of division to divide the donuts and tokens and use logical reasoning to determine what to do with the remainder in each case.
- Connections and Representations – Students will recognize and use the connections between multiplication, division, and rational numbers to solve the problems. They will use a variety of representations as they solve and communicate their thinking.
- Communication – Students will justify their findings and present their results to the class with precise mathematical language.

### **Related Task – Bundles of Books**

Nate's grandma bought him 4 new books to read. She spent \$38, and each book cost the same amount of money. Nate wants to return one of the books to the store. How much money will he get back?

Nate is a fast reader! He can read 4 books in one hour. If he has 38 books to read, how many hours will it take him to read them all?

### **Related Task – Party Time**

Andrew is planning a surprise birthday party for his dad. Sixty people will be at the party, and each table will seat 8 people. How many tables does Andrew need?

Andrew has 60 balloons to use for decorating the tables. If he wants every table to look exactly the same, how many balloons will be at each table?

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## Lesson Plan

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#### Materials

- The tasks copied front to back
- Paper
- Scissors
- Tokens or coins
- Large presentation paper
- Markers

#### Facilitating Task

- This task can be completed individually or in small groups of 3-4 students.
- Read the task together and answer clarifying questions.
- Make materials available to the students/groups.

*If students work in groups:*

- *Give students individual think time before coming together.*
- *Each group will record the group's thinking and solution on the large presentation paper. They will present their findings to the class.*

*If students work individually:*

- *After solving, pair students to discuss and share strategies for 5-10 minutes.*
- *Select between 4 and 6 students with unique solution strategies to share with the class.*
- Allow 15-20 minutes for sharing and connections.
- Begin with the most concrete strategy and move to the most abstract strategy. Ask questions to highlight connections between strategies.
- Wrap up the lesson with a discussion of these questions: How are these problems the same? How are they different? As a class, record observations about the role of remainders in division.

<b>Misconceptions</b>	<b>Suggested Prompts or Questions</b>
<ul style="list-style-type: none"><li>• Individual donuts cannot be split.</li><li>• Tokens can be divided.</li><li>• The two problems have the same answer because <math>45 \div 6 = 7 \text{ R}3</math>.</li></ul>	<ul style="list-style-type: none"><li>• How many whole donuts will each child get?</li><li>• What can they do with the leftover donuts?</li><li>• What can they do with the leftover tokens?</li><li>• How are these problems the same?</li><li>• How are they different?</li></ul>

## Fun at the Fair



Name \_\_\_\_\_

Date \_\_\_\_\_

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Answer the question using pictures, words, tables, graphs, and/or symbols.

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