

Introduction

Munching on Math

PURPOSE:¹

Students review foundational skills associated with proportional reasoning to predict sales for a new business selling lemonade, brownies, and smoothies.

COMMON CORE STATE STANDARDS TARGETED:

This task is designed as a review of key foundational skills for CCSS 8 EE5-6.

[CCSS: 7 RP](#)– Analyze proportional relationships and use them to solve real-world and mathematical problems.

[CCMP: 3](#) – Construct viable arguments and critique the reasoning of others

LEARNING GOALS:

Students will understand/ be able to...

- Determine unit rate (i.e., sales per hour).
- Represent the unit rate in different ways (i.e., words, graphs, tables, and diagrams).
- Compare the unit rates of two different proportions.

EXPECTATIONS:

We will know students have accomplished the learning goals when they...

- Represent the unit rate in words, a table, a diagram, and a graph and can define unit rate in their own words.
- Determine the unit rate based on information given in a graph and/or table.
- Compare two rates from a graph and predict what happens in the future, explaining how the graphed data represents the unit rate.

¹ Inspiration for this task: Textbook introduction to EE5, particularly Ready for Proportional Relationships (p. 72) found in California Go Math! Middle School Grade 8 (Houghton Mifflin/Harcourt), Problem of the Month – Movin ‘n Groovin, downloaded from Inside Mathematics, developed by Noyce Foundation. Munching Challenge adapted from Paying Attention to Proportional Reasoning: Support Document for Paying Attention to Mathematical Education. (2012). ServiceOntario, Ontario, Canada.

Across tasks, students should be aware of the following expectations:

Work is accurate and precise:

- The problem is set up in a way that helps you solve it.
- Your responses use appropriate units.
- You have checked your work for calculation errors.

Student explanations:

- Describe what you did and why you did it.
- Use multiple representations to show your thinking about math.
- Include a logical argument and evidence to support each answer. It makes sense.

ESTIMATED TIME:

Approximately 50 minutes

MATERIALS:

- Powerpoint slides
- Student worksheet
- Answer sheet

WAYS TO MAKE THIS TASK MORE ACCESSIBLE FOR ALL LEARNERS:

- Encourage students to draw a picture (or use another type of representation) to help them think.
- Encourage students to share their encounters with unit rates outside of school. If possible, students can send pictures to you using their cell phones to share with the class (e.g., advertisements, signs at the gas station/post office, etc.).

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