Math is all around us. The more we look, the more we see it!

Where do YOU see math at the chocolate factory?

Episode 1: The Chocolate Factory
Managed and measured with math!

This video supports academic standards for 3rd, 4th and 5th grade students.
4th grade CCSS are provided and content can be scaffolded for other ages and abilities.

Chapter 1: Recipes with Lyla - How might you add or multiply fractions to increase the quantity of a recipe? Can drawing it out help?

CCSS.MATH.CONTENT.4.NF.B.4.C
Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if you want twice the amount of caramels, how much of each ingredient is needed?

Chapter 2: Managing with Olivia - How can you maximize efficiency and meet your customer’s needs without overproducing your product? Can analyzing different options help?

CCSS.MATH.CONTENT.4.MD.A.2
Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money… For example, determine which of two multiplicative options is better and support your thinking with equations.

Chapter 3: Shipping with Arii - Can you imagine how many candies can fit in one semi-truck? What might be a reasonable estimate? Perhaps visualizing the boxes and their arrangements can help us get started with this problem.

CCSS.MATH.CONTENT.4.OA.A.3
Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations. For example, use repeated addition or multiplication as strategies to determine how many candies might fit in a semi-truck.

Chapter 4: Packaging with Carter - How many different ways can you fill a chocolate box? If you have 12 confections to choose from, what are your options? Will organizing your thinking help you keep track of your answers?

CCSS.MATH.CONTENT.4.NF.B.3.B
Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. For example, 12/12 = 4/12 + 3/12 + 1/12 + 2/12 + 2/12 (The concept can be applied to whole numbers, if needed.)

*Printable materials are available for the math practice problems, but not needed.
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Consider these thinking strategies to increase awareness and connections during the video:

- **asking questions**...working to deepen understanding by asking questions about a concept
- **determining importance**...deciding what information is relevant and significant
- **drawing on background knowledge**...determining what information is known and how it can help us make sense of new information
- **inferring**...drawing conclusions based on the information provided
- **making mental models**...finding a variety of ways to represent information, ideas, and solutions
- **monitoring for meaning**...using “fix it” strategies when things aren’t going well and knowing to proceed when things ARE on track
- **synthesizing**...developing deeper understanding over time

Reference: Minds on Mathematics, by Wendy Ward Hoffer