



What is a Lifetime Supply of Chocolate?

Introduction

Students will use estimation, calculations and variables to find out how much chocolate would be included in a lifetime supply.

Academic Content Standards:

Students demonstrate number sense, including an understanding of number systems and operations and how they relate to one another.

Students compute fluently and make reasonable estimates using paper and pencil, technology-supported and mental methods.

Students use patterns, relations and functions to model, represent and analyze problem situations that involve variable quantities.

Students use mathematical processes and knowledge to solve problems.

- ❖ **Ohio Academic Content Standards for Mathematics: #1 Number, Number Sense and Operations; #4 Patterns, Functions and Algebra; and #6 Mathematical Processes**

Getting Started

Materials

- Paper
- Pencil
- Handouts: It may be helpful if students have a data sheet with information such as days in a week, days in each month, days in a year, days in a decade. Formulas for calculations may be helpful as well.

Vocabulary

- Estimation
- Prediction
- Quantity
- Variable

Lesson

Orientation Activity

Begin activities with a class discussion to identify variables that could change while calculating a lifetime supply of chocolate (e.g. life expectancy of males and females, how much chocolate consumed in a specified time, etc.).

Learning Activity

Each student will estimate how many chocolate bars he or she could possibly eat in a lifetime. Each student will then calculate, using the variable of one candy bar

per day, how many chocolate bars he or she could eat in a week, a given month, a year, a decade, a lifetime (given a certain age when chocolate will no longer be needed). All students should derive at the same answers.

Each student will then choose the number of chocolate bars he or she would like to eat in a day and make the same calculations. (How many chocolate bars would be eaten in a week, a given month, a year, a decade, and a lifetime (given a certain age when chocolate will no longer be needed)).

Evaluation and Follow-Up

Assessment Tools and Methods

Students will state the number of chocolate bars that will be eaten per day by each of the children that received a Golden Ticket in *Charlie and the Chocolate Factory*. Rationale will also be given for the number estimated for each child. Students will then calculate the number of chocolate bars that will be necessary for each one of the Golden Ticket winners for 10, 50 and 80 years.

Interdisciplinary Connections

Students will write letters to companies that have recently had contests that awarded winners with a lifetime supply of a product. Students will request how that company calculated a lifetime supply.

Technology Integration:

- Use of the Internet and web resources to research and collect data for the average life expectancy for human males and females. Use this information to help calculate how much chocolate would be needed for a lifetime supply.
- Use of a computer spreadsheet program, such as *Microsoft Excel*, to record collected data.

Web Links:

<http://www.mce.k12tn.net/chocolate/made/made.htm> How Chocolate is Made
<http://www.candyusa.org/Publications/chbrochure.pdf> Chocolate and Health
<http://www.mathforum.org> The Math Forum