Discovering Chocolate Density

Grade Levels – 9-12

Standards –
-3.3.10.A
-3.2.10.A
-3.2.10.B
-3.2.10.C

Materials Needed –

-5 different types of Hershey's Miniatures with different physical properties
-Graph paper
-Data Record Sheet
-Scales (classroom set)

Teacher Background –

This lesson is intended to enrich your students' visit to The Hershey Story. It seeks to use chocolate in a way that allows your students to practice measuring mass, density, and volume. During this lesson, students will measure the mass, density, and volume of several different types of chocolates. Students will use the Scientific method to make predictions and hypotheses about what causes the changes in volume among the different candy bars. This lesson will take approximately 1-50 minute class periods to complete.

Lesson Plan

Essential Question –

How does the density change among various different types of Hershey's chocolate bars?

Vocabulary – (Have these words and their definitions posted in your classroom)

1. Density
2. Mass
3. Volume

Activating Strategies –

Step 1 – Remind students of the 5 steps of the scientific method

1. Come up with a question about the world
2. Create a hypothesis that could possibly answer the question

3. Design an experiment that would prove the hypothesis correct or incorrect
4. Perform the experiment, and collect data.
5. Draw conclusions from the data

Step 2 – Inform your students that the first step of the method has been completed for them… Ask them to complete the next step by coming up with a testable hypothesis that answers the question.

Teaching Strategies –

Step 1 - Inform your students that they are going to perform an experiment that tests their hypothesis.

Step 2 – Tell your students that they are going to weigh 5 Hershey's miniatures from each of the different types in the assortment bag (Milk, Dark, Goodbar, Krackel)

Step 3 – Inform your students that the volume of the candy will be the same… Each bar is the same size and each type will be weighed 5 at a time.

Step 4 – Allow your students to weigh each candy type and record the mass of each type.

Summarizing Strategies:

Instruct your students to create a new hypothesis. This time the hypothesis should answer the following question – "What accounts for the differences in density among each of the different candy types?"

Data Record Sheet

How does the density change among different types of Hershey's chocolate bars?

Hypothesis:

Experiment:
Weigh each different type of candy to find its' mass and density. Record your data on the chart below.

Candy Type -	Milk Chocolate	Dark Chocolate	Mr. Goodbar	Krackel

Conclusion: (Answer the initial question in a well organized paragraph)

Homework Hypothesis:
Create a new hypothesis that explains the differences in mass between each of the different types of chocolates. Design an experiment that could potentially test the hypothesis.