Chocolate Math

Grade levels: 3-6

Standards: Pennsylvania Academic Standards for Reading, Writing, Speaking, and Listening
1.6.5 D, 1.6.5 E Pennsylvania Academic Standards for Mathematics
2.1.3 L, 2.2.5 A, 2.2.5 D

Common Core: SL.5.1, 3.OA.8, 7.NS.2

Materials: Chocolate Math Sheet – 1 per student

Teacher Background:
>   This lesson is designed to have students put their math skills to the test as they are learning about how chocolate is made. Students will be given a scenario in which they will have to solve math problems to help the Hershey Chocolate Factory. Students will be solving word problems containing actual chocolate making statistics. They will be using multiplication, rounding, and division skills to solve the problems.
>   Students will become familiar with the fact that chocolate making begins with the Cacao tree. The Cacao tree grows in the tropics and it is from this tree that cacao pods are harvested. Each tree produces approximately 30 pods a year. Each pod contains roughly 40 cocoa beans. It takes approximately 500 beans to make 1 pound of chocolate, so therefore each tree produces about 2 pounds of chocolate a year.

Lesson Plan

Essential Question: How does math factor into making chocolate?

Activating Strategies:

Step 1 – Review with students the experience they had while visiting The Hershey Story.

Step 2 – Read the essential question to the class and have students share their thoughts together as a class.

Step 3 – Explain to students that they will be putting their math skills to the test to help the Hershey Chocolate Factory solve a dilemma.

Teaching Strategies:

Step 1 – Decide how you would like students to complete the math sheet – individually, in pairs, or in groups. Arrange students accordingly and pass out the math sheet.

Step 2 – Read the beginning story to the students and then allow them time to complete the problems.

Summarizing Strategies: Have students share their answers to the problems on the page and

collect them.

Bibliography

McMahon Jr, James D. Built On Chocolate – The Story of the Hershey Chocolate Company. Los Angeles: General Publishing Group, 1998.

Chocolate Math

HELP! The Hershey Chocolate Factory is going berserk! They have lost part of the recipe for making chocolate! They have some of the information, but they need YOUR help to figure out the rest! See if you can solve the following problems to help the chocolate factory get back on track. GOOD LUCK!

1. A Cacao tree grows approximately 30 pods a year. Each cacao pod contains about 40 cocoa beans. How many cocoa beans does each tree produce every year?

_____ beans

2. Round your answer from number 1 to the nearest thousand.

_____

3. If it takes approximately 500 cocoa beans to produce 1 pound of chocolate, how many pounds of chocolate can each Cacao tree produce in 1 year?

_____ pounds

4. How many Cacao trees would you need to make 40 pounds of chocolate?

_____ trees

5. An average milk chocolate bar weighs about 1.5 ounces. There are 16 ounces in a pound. How many chocolate bars can be made with one pound of chocolate?

_____ bars

6. How many chocolate bars can be made from 35 pounds of chocolate?

_____ bars

Thanks for your help! The mystery has been solved!

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Answer Sheet

1. 30 pods x 40 beans = 1,200 beans

2. 1000

3. 2 pounds

4. 40 pounds divided by 2 pounds per cacao tree = 20 trees

5. 1 ½ (1.5) x 10 = 15 Therefore you can make 10 bars per pound

6. 35 pounds x 10 bars per pound = 350 bars