

Mystery Mixtures

I. Topic Area

Formulating and experimenting to separate and measure the weight of ingredients in a mixture.

II. Math Objectives

Students will be able to convert data into fractions and percents.

Students will be able to read a spring scale.

Students will correctly and accurately collect and record data on a chart.

Science Objectives

Students will be able to design and conduct an experiment.

Students will be able to reach independent conclusions about the results of an experiment.

III. Description of the Activity

Upon examining the contents of a mixture, students will design their own method for separating and weighing its components. The weight of each ingredient will be recorded and written as a fraction and percent.

IV. Anticipatory Set

Hand out trail mix to every student. Discuss how they might separate the ingredients.

V. AR Math Standards (6th)

NO.1.6.1 Demonstrate conceptual understanding to find a specific percent of a number, using models, real life examples, or explanations

NO.1.6.2 Find decimal and percent equivalents for proper fractions and explain why they represent the same value

M.12.6.1 Identify and select appropriate units and tools from both systems to measure

V. AR Science Standards (6th)

PS.2.4. Experiment and identify physical and chemical changes.

PS.3.1. Design and conduct different kinds of scientific investigations to answer different kinds of questions.

PS.3.2. Demonstrate how physical science is connected to mathematics (analyze collected data).

PS.3.3. Apply multiple strategies to problem solving.

PS.3.4. Use appropriate equipment, tools, techniques, technology, mathematics, and technical writing in scientific investigation.

VI. Materials

You will need coffee filters, tweezers, screens with various size openings, cloth netting, paper plates, magnets, plastic spoons, clear plastic cups, spring scales, funnels, tongs, toothpicks, and a plastic bag containing a candy mixture with five different types and amounts of candy(one for each class).

VII. Prerequisite Skills

1. Students need to have an understanding of mixtures.
2. Students know how to read spring scales.