

Quickie Experiments

This activity was developed by Sandi King at Beacon Learning Center.

PROBLEM	PROCEDURE FOR SOLUTION
<p>#1- Splatter Size</p> <p>How will the height from which a drop of water is dropped affect the size of the splatter?</p>	<p>Procedure/Splatter Size</p> <p>Using a dropper, colored water and a yardstick, drop one drop of water from different heights onto white paper. Then measure the splatter.</p>
<p>#2- Rolling Cans</p> <p>How will the angle of a ramp affect the distance that a matchbox car will travel?</p>	<p>Procedure-Rolling Cans</p> <p>Using a ramp (inclined plane), a tape measure, and a matchbox car, change the angle of inclination for several trials. Based on collected measurements, determine if the angle of the ramp affected the distance that the car traveled.</p>
<p>#3- Roll Marble Down Ruler</p> <p>How will the angle of a plastic ruler (with grooves) affect the distance that a marble will travel?</p>	<p>Procedure-Roll Marble</p> <p>Using a plastic ruler (with grooves), a tape measure, and a round marble, change the angle of inclination for several trials. Based on collected measurements, determine if the angle of the ruler affected the distance that the marble traveled.</p>
<p>#4 -Melt Ice Cube</p> <p>How fast will an ice cube in a bare hand melt compared to an ice cube in a gloved (fabric) hand?</p>	<p>Procedure-Melt Ice Cube</p> <p>Using a student's hand, a stopwatch, a gardening (not rubber) glove, and at least two ice cubes the exact same size, conduct an experiment which determines which way the ice cube will melt faster- in a bare hand or a hand that wears a glove.</p>

T-Chart for Class Discussion

Which is longer, the circumference or the length?

How do we determine which is longer, the circumference of the tennis ball canister or the length of the canister?

Experimental Design Rubric

Levels of Achievement Standard → ↓	4 Exemplary	3 Good	2 Acceptable	1 Unacceptable
MA.E.3.3.1.8.1 The student formulates a hypothesis and designs an experiment.	The hypothesis is logical. The experiment is designed to test the hypothesis.	The hypothesis is mostly logical. The experiment is designed to test only a portion of the hypothesis.	The hypothesis is somewhat logical, AND/OR the design of the experiment is flawed and only partially tests the hypothesis.	The hypothesis lacks logical reasoning, AND/OR the design of the experiment is incorrect and neglects to test the hypothesis.
MA.E.3.3.1.8.3 The student evaluates the hypothesis by making inferences and drawing conclusions based on statistical results.	Using data collected from the experiment, a logical conclusion is made based on accurate results. Following the experiment, the results acquired completely support the original hypothesis.	Using most of the data collected from the experiment, a logical conclusion is made based on the results; however, some bias is present. Following the experiment, the results acquired mostly support the original hypothesis.	Using some of the data collected from the experiment, an illogical conclusion is made, AND/OR following the experiment, the results acquired somewhat support the original hypothesis.	Without using the data collected from the experiment, an inaccurate conclusion is made, AND/OR following the experiment, the results acquired refute the original hypothesis.