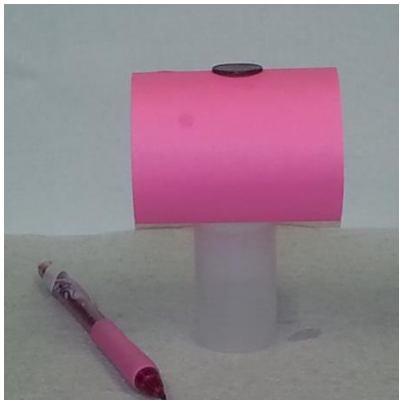
California State University of Bakersfield, Department of Chemistry

Lincoln High Dive



Standards:

K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

Introduction:

An object at rest remains at rest unless acted upon by an outside force. But what will happen if you apply a force to that object or any object near it? In this experiment you will learn about Newton's First Law of Motion as well as the gravitational pull on objects.

Materials:

- A Lincoln penny (or other small coin)
- A piece of card stock or stiff paper
- A film canister, baby food jar, or other similar size container with a mouth slightly larger than a penny
- Pencil or pen
- Scissors
- Scotch tape
- Ruler

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Safety:

- Always have an adult with you to help you during your experiment.
- Always wear eye protection and gloves when doing chemistry experiments

Procedure:

1. Cut the cardstock paper into a strip about 8 inches long and 3 inches wide. (The paper is really stiff so you may want to put a piece of tape to hold the cylinder together.)
2. Fill the film canister (container) with water and place it on a level surface.
3. Place the hoop on the film canister (container) and balance the penny on top of the hoop.
4. Place a pencil through the center of the hoop and in one swift motion fling the hoop off to the side. (If you do this correctly, the hoop will fly out of the way, and the penny will fall straight down into the canister (container) with a splash.)

Data and Observations:

1. Record your observations in this space

Questions:

2. What happened to the penny?

3. Why did the penny fall into the container?

References:

1. Science Bob http://www.sciencebob.com/experiments/the lincolndive.php

(Accessed: July 23, 2014).

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