



California State University of Bakersfield, Department of Chemistry

Anti-Gravity Rice



Standards:

MS-PS2-2 Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Introduction:

Imagine picking up thousands of grains of rice by just picking up one pencil. In this experiment, you will pour uncooked rice into a dry bottle, leaving a few inches empty at the top of the bottle. If you repeatedly jab a pencil into the rice in the bottle eventually the bottle will lift with the pencil.

Materials:

- 1 clear, clean and dry bottle
- 1 new sharpened pencil
- Dry uncooked rice
- 1 funnel that dry rice will slide through

Safety:

- Always have an adult with you to help you during your experiment.
- Ensure you follow the sharp objects safety procedures.

Procedure:

1. Place the funnel into the bottle.
2. Poor the rice into the bottle leaving a few inches of space at the top.

3. Place the pencil into the top of the bottle and then proceed to jab the pencil repeatedly into the rice.
4. After a few jabs the pencil should be stuck in the rice. This is because the rice has settled. The rice squeezes in on the pencil causing a friction between the rice and pencil.
5. Lift the pencil and bottle together.

Data and Observations:

Record your observations in this space

What did you see? Anything you were not expecting? Describe it here.

Questions:

Why do we need a sharpened pencil?

Would a pen work for this experiment?

Would another grain work instead of rice?

References:

1. Digital Bits Science Lab. Science Experiments for Kids, Parents and Teachers. <http://www.andybrain.com/sciencelab/2007/12/02/pick-up-thousands-of-rice-grains-with-a-pencil/> (accessed Jul 18, 2013).