



California State University of Bakersfield, Department of Chemistry

## Air Pressure Balloon Jar



### 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:

*Fire needs oxygen to burn. Without oxygen, the fire will go out. In this experiment you will learn how to suck a balloon into a jar with fire and oxygen. When the balloon is first set on top of the jar the air pressure inside and outside of the jar are the same. But what will happen when there is a difference between the air pressure inside and outside of the jar; what will happen to the balloon?*

### Materials:

- One large jar (mason jar works well)
- One balloon
- Water
- A strip of paper
- Matches

*This material is based upon work supported by the CSUB Revitalizing Science University Program (REVS-UP) funded by Chevron Corporation. Opinions or points of view expressed in this document are those of the authors and do not necessarily reflect the official position of the Corporation or CSUB.*

**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. Fill the balloon with water until it's a little bit too big to fit through the top (mouth) of the jar.
2. Light a bit of paper on fire and drop it into the jar.
3. Quickly place the balloon on top of the jar.
4. Observe carefully.

**Data and Observations:**

1. Record your observations in this space.

**Questions:**

2. What happened to the balloon? Why?

3. Why did the fire burn out so quickly?

**References:**

1. Smith, Shelly.Education.Com. <http://www.education.com/science-fair/article/balloon-bottle-air-pressure/> (Accessed: July 28, 2014).

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