

Atmosphere 6-Station Lab

Summary

This is a "6-station" lab where students move from one small experiment to another to learn about the properties of Earth's atmosphere.

Time Frame

1 class periods of 60 minutes each

Group Size

Small Groups

Materials

Background for Teachers

Time needed:

Prep time will vary (about an hour). Lab 50 minutes. (6-7 minutes/station).

Safety/Security Concerns: Fire

The trickiest station to help the students understand is the egg in the bottle. The process of combustion (the alcohol burning inside the bottle) causes air inside of the bottle to heat up and expand. Some of the original air is forced out of the bottle before the egg is placed on top. Before the egg is placed on top the air pressure is the same inside and outside of the bottle. When the egg seals the top of the bottle, the flame goes out and the gases on the inside of the bottle begin to cool. The cooler molecules of gas, move less rapidly, causing less collisions of the gas molecules, which results in less air pressure. However, the air pressure remains the same on the outside of the bottle. This causes the air pressure on the outside of the bottle (which has a greater pressure than the inside of the bottle) to push the egg through the tiny opening and into the bottle.

Instructional Procedures

Print [Station directions](#) (attached) and [student sheets](#) (attached). Place in page protectors and

Post at each station

Collect supplies. Set up Lab Stations.

3. "Hook"

the students with the egg station as a demonstration. Use the suggestions above to perform this well. Have students fill in Station #6 on their student sheets.

Create 6 groups of students and assign them a starting station number. Allow 5-10 minutes/station.

Assessment Plan

Use [answer key](#) (attached).

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)