

Investigating Convection

Summary

Students will plan and conduct an experiment that investigates convection currents.

Main Core Tie

Science - Earth Science

[Standard 2 Objective 1](#)

Time Frame

2 class periods of 45 minutes each

Group Size

Small Groups

Materials

Materials will vary depending on students plan. A source of heat such as a hot plate, alcohol burner or Bunsen burner probably will be needed. Ice cubes or cold packs may also be requested.

- [student worksheet](#)
(attached)

Background for Teachers

Time Required

: 20-30 minutes of planning time the first day, 40-50 minutes for lab time the second day.

If you are unfamiliar with inquiry based learning, this is an example of a simple experiment students can design and perform themselves. As a teacher, your job will be to answer questions and provide materials. Try not to direct students' plans, they will learn from "failures" as well as successes. Do try and guide them toward logical and safe experiments, but allow for genuine experimentation.

Student Prior Knowledge

Students should know what a convection current is and that they are an important part of plate tectonic theory.

Instructional Procedures

Explain to students that they are to design and perform an experiment that illustrates convection currents. They can use any materials (within reason) and may bring some from home if needed. Allow students to work in groups to design their experiments. The student sheet shown below may be copied for their use, or you may have them write the lab on their own paper.

Check experimental procedures for each group and give them permission to use their plan. Be sure safety guidelines are met.

Allow adequate lab time for the experiments. Often students take a little longer when they are figuring things out for themselves.

Have each group summarize their experiment and findings for the class.

Assessment Plan

Scoring Guide

:

1. Students make hypothesis.....5 pts.
2. Students design procedures to test hypothesis.....10 pts.
3. Students make good use to time, gather materials, perform experiment.....15 pts.
4. Students record data.....5 pts.
5. Students answer questions correctly.....10 pts.
6. Students make and report conclusions.....10 pts.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)