

# Mountain Barriers

## Summary

Students will understand how abiotic factors can influence biotic factors and how the lithosphere interacts with the atmosphere.

## Main Core Tie

Science - Earth Science

[Standard 2 Objective 3](#)

## Time Frame

1 class periods of 45 minutes each

## Group Size

Pairs

## Materials

- food coloring
- hot water
- cold water
- clear Water tight container (Rubbermaid works great)
- small paper cup (Dixie cups great)
- pencil
- [student worksheet](#)  
(attached)

## Instructional Procedures

- Ask the students how they feel the mountains affect our weather here in the valley.
- Go over lab procedures
- Monitor lab progress
- Go over questions at the conclusion of the lab

## Assessment Plan

### Scoring Rubric

:

1. Understand how to conduct a lab efficiently.....4
2. Understand how to draw conclusions from an experiment.....4
3. Understand Abiotic factors and how they influence biotic factors ....4
4. Understand how the lithosphere interacts with the atmosphere...4

### Answer Key:

### Data:

1-4. Grade accordingly

### Analysis:

Mountains can affect the temperature of the surrounding land as well as the vegetation and animal life.

Mountain building can change temperature as well as precipitation causing plants and animals to either adapt or move.

Abiotic factors, such as temperature and mountains, can cause the temperature to change making the area habitable or inhabitable for certain animals.

Mountains can inhibit the transfer of air (cold or warm) from one place to another. Even areas in relatively the same area can change temperature depending on the geology of the area.

The lithosphere has caused the cold air to become trapped or has inhibited the flow of air and temperature from one area to another.

Anywhere there are mountains. Meteorology, Biology, etc. .Plate tectonics may have contributed to the ice ages and times when the world was much warmer.

Grade accordingly.

### Bibliography

Lesson Design by Jordan School District Teachers and Staff.

### Authors

[Utah LessonPlans](#)