

Unit Plan: Weather vs. Climate

Lesson: Climate Challenge

Time Required: 90 minutes

Submitted by: Karen McCabe

Recommended Grade Level: 8

Discipline: Earth and Space Science

Topic: Climate

Required Materials:

1. "What's the Climate?" handout from previous day
2. Graph paper or graphing software
3. Copies of "Climate Challenge" handout

Internet Resources

NOAA JetStream - Climate: <http://www.srh.noaa.gov/jetstream/global/climate.htm>

Image: United States Annual Mean Daily Average Temperature:

<http://www.ncdc.noaa.gov/img/about/cdrom/climatls1/info/temp.gif>

Image: United States Annual Mean Total Precipitation:

<http://www.ncdc.noaa.gov/img/about/cdrom/climatls1/info/prec.gif>

National Science Education Standards Addressed

Earth and Space Science

- Structure of the Earth system
- Global patterns of atmospheric movement influence local weather.

Abilities Necessary to Do Scientific Inquiry

- Use appropriate tools and techniques to gather, analyze and interpret data.
- Develop descriptions, explanations, predictions, and models using evidence.
- Think critically and logically to make the relationships between evidence and explanations.

Learning Objective

Students will interpret climate data from the prior activity and make decisions based on that data.

Recommended Ward's Science Materials

**Note: This lab activity was submitted to Ward's Science by a third party educator for the sole purpose of sharing content and ideas with other educators. Ward's Science is not affiliated with the author of this lesson plan. All product recommendations made by Ward's Science are suggestions for completion or extension of the activity or topics addressed, but are not required to complete the activity.*

Procedure

1. Distribute both handouts.
2. Go over scenario below:

You are employed as a climatologist for the National Oceanic and Atmospheric Agency (NOAA) in your city. Your role is to work with your team to set up weather stations that record the daily weather for your region throughout the year and compile annual climate data reports. Your supervisor has just notified you that your team is being transferred from your current city to one of these cities:

- Galveston, Texas
- Burlington, Vermont
- San Francisco, California
- Miami, Florida

3. Students will use the temperature and precipitation data from the "What's The Climate?" table to create a line graph that illustrates the data.
4. Students will decide which city they will relocate to first, second, third, and fourth. Using their graph, students will write a report detailing their decision.

Name: _____

Date: _____

Day: _____ Period: _____

Climate Challenge

You will need the climate data sheets from Worksheet #1 to complete this task.

Challenge: You are employed as a climatologist for the National Oceanic and Atmospheric Agency (NOAA) in your city. Your role is to work with your team to set up weather stations that record the daily weather for your region throughout the year and compile annual climate data reports. Your supervisor has just notified you that your team is being transferred from your current city to one of these cities:

- Galveston, Texas
- Burlington, Vermont
- San Francisco, California
- Miami, Florida

Part 1: Using the temperature and precipitation data from the “What’s The Climate?” table, create a graph that illustrates the data. You may use spreadsheet software or graph paper to complete your graph.

*Attach your graph to this handout.

Part 2: You must now decide which city you will relocate to first, second, third, and fourth. Your length of stay in each location is approximately two years. Using the graph above, write a detailed report for your supervisor stating your choices and provide detailed explanations to support your decision.

**Note: This lab activity was submitted to Ward’s Science by a third party educator for the sole purpose of sharing content and ideas with other educators. Ward’s Science is not affiliated with the author of this lesson plan. All product recommendations made by Ward’s Science are suggestions for completion or extension of the activity or topics addressed, but are not required to complete the activity.*

**Note: This lab activity was submitted to Ward's Science by a third party educator for the sole purpose of sharing content and ideas with other educators. Ward's Science is not affiliated with the author of this lesson plan. All product recommendations made by Ward's Science are suggestions for completion or extension of the activity or topics addressed, but are not required to complete the activity.*

Resources

This unit plan was adapted and modified from a NOAA resource I found at the following:

http://oceanservice.noaa.gov/education/lessons/which_location.html

Weather Eye: http://weathereye.kgan.com/cadet/climate/climate_vs.html

A Student's Guide to Climate Change

<http://www.epa.gov/climatechange/kids/>

NOAA JetStream - Climate: <http://www.srh.noaa.gov/jetstream/global/climate.htm>

United States Annual Mean Daily Average Temperature:

<http://www.ncdc.noaa.gov/img/about/cdrom/climatls1/info/temp.gif>

United States Annual Mean Total Precipitation:

<http://www.ncdc.noaa.gov/img/about/cdrom/climatls1/info/prec.gif>

**Note: This lab activity was submitted to Ward's Science by a third party educator for the sole purpose of sharing content and ideas with other educators. Ward's Science is not affiliated with the author of this lesson plan. All product recommendations made by Ward's Science are suggestions for completion or extension of the activity or topics addressed, but are not required to complete the activity.*