



Climate Change Debate

Grade Level: 8th-9th

Objective:

The purpose of this activity is to engage students in the knowledge of their local climate, while accurately defining weather patterns and regional climate characterizes.

Introduction:

Following individual review of content listed below, students are to engage in group or classroom discussion regarding specified questions below.

Materials and Equipment:

Paper

Writing utensil

Keywords and Concepts:

Climate

Weather

Humidity

Precipitation

Research Questions:

How does this activity related to NevCAN research?

Experimental Procedure:

1. Describing Weather

Weather describes the daily precipitation, temperature, air pressure, humidity, and wind conditions at a given location at a given time. Weather happens from minute to minute and can change a lot within a very short time. For example, the day may start out clear, then become cloudy, and be followed by rain in the afternoon. We make plans about what to wear, where to go, and how to travel there depending on what we know about the weather. Check a local paper or weather website (weather.com) to record your current weather conditions:

What is the weather like today?

2. Causes of Weather

The sun is a fiery ball of burning gases. Rays of sunlight (solar radiation) shine down on Earth every day. Some of these rays bounce off our atmosphere and return to space and about half pass through our atmosphere. When sunlight hits the Earth's surface most of it turns into heat

(thermal energy). This drives weather patterns all over the planet. As the land and oceans warm, they heat the air above them, causing that air to rise. As the heated air rises, cooler surrounding air flows in, setting in motion an endless movement of air in great swirling, churning currents that distribute heat energy from the sun across the planet. The oceans also distribute heat around the globe. As heated air and water move around the Earth and mix with colder air and water, we get weather: clouds form, rain falls, and wind blows.

Because the Earth is spherical and not flat, the Sun shines more directly around the Equator, heating it more intensely so that it is warm all year long. However, the Polar regions are at such an angle to the Sun that they get little or no sunlight during the winter, causing them to be cold and ice-bound.

What is the main factor that makes weather happen on the Earth?

3. Describing Climate

Weather may change on a daily basis, but climate only changes over a long period of time. Climate describes the pattern formed by weather occurring over a period of at least 30 years in a given place. This includes average weather conditions, seasonal weather variations, and special weather events such as tornadoes and floods. Climate tells us what it's usually like in the places where we live. San Diego is known as having a mild climate, New Orleans a humid climate, Buffalo a snowy climate, and Seattle a rainy climate.

How would you describe the climate where you live?

4. Average Temperature in Nevada

Graph the average temperature in your region using a weather reporting database pertaining to the past 5 weeks.