

Introduction to Climate Change

Lesson Overview

Grade Level: 6th

Subject Area: MS-ESS2 Earth and Human Activity: Climate Change

Next Generation Standards: ESS3.2 Global Climate Change

Inquiry Question: How has human activity led to rising temperatures?

Overview: In this lesson students will be introduced to the concept of climate change through an article at 6th grade reading level.

Preparation: Create a free account on newsela.com. Print one copy of the article “Earth is getting hotter, scientists say, pointing to 2014’s record warmth” per student.

Teacher Background

This lesson plan is based around an article from Newsela.com. Newsela is a site that posts current events under the following categories: war& peace, science, kids, money, law, health, arts, and sports. The resources are free and can be adjusted to grade reading level. The article used for this lesson introduces the points that: the Earth is warming, and most of the warming is due to greenhouse gases and hence human caused.

This lesson plan not only requires students to use critical thinking skills, but also asks them to exercise their literary skills.

Prior Knowledge

Students should be familiar with the greenhouse gas effect and have a basic understanding of climate change

Student Objectives

Students will be able to convey how human activity is linked to rising temperature.

Students will have an understanding of warming trends caused by climate change.

Materials

Provided:

Newsela article “Earth is getting hotter, scientists say, pointing to 2014’s record warmth”

Needed:

Internet Access

Time Needed

45 Minutes

Procedures

ENGAGE

Grouping: Class

Timing: 5 minutes

- Ask students to the answer the question “Is the Earth’s temperature getting warmer? Why or why not?” Where did they get the idea they have? Parents? TV? Website?
- Tell students to journal what they believe to be the answer to this question.

EXPLAIN

Grouping: Class

Timing: 5 minutes

- Ask students if anyone wants to describe to the group what they believe to be the difference between weather and climate.
- Define the difference between weather and climate.

EXPLORE

Grouping: Individual

Timing: 15 minutes

- Tell students they will be given an article talking about the Earth’s temperature and climate change. They will have 10 minutes to read it.
- Tell students to underline parts that don’t make sense and circle the parts of the article they believe is the main idea.
- Give students a chance to ask questions they had about the article. Discuss and clarify sections that did not make sense to students.
- After they have read the article they will answer the same question “Is the Earth’s temperature getting warmer? Why or why not?” Have them start their sentence with: “According to the article...”
- Ask the students to answer the following question in their journal: “According to the article why is the Earth getting warmer?”

ELABORATE

Grouping: Small
Groups

Timing: 15 minutes

- Now that students understand that the Earth’s temperatures are rising, ask students to brainstorm in a small group the following questions. Ask them to think outside of the article.
 - What are some consequences of rising temperatures?
 - How has human activity led to rising temperatures?
- Ask students to answer the questions in bullet points as a group.
- Ask students to share their answers with the class and note similar answers between groups

EVALUATE

Grouping: Class

Timing: 5 minutes

- Make a list of common answers that students shared.

Assessment:

Option 1: Do students understand that the Earth's temperatures are rising?

- Formative Assessment: ask students to answer the following question in their journal "What evidence in the article supports the idea that Earth's temperature is rising?"

Option 2: Do students understand that the rising temperatures are linked to human activities?

- Formative Assessment: ask students to answer the following question in their journal "What are some possible causes for the Earth's temperature rising described in the article?"

Extensions:

If students have time have them answer the question: How do rising temperatures affect the ocean?

Homework or In Class Assignment: Have students match vocabulary words to the definition or give students vocabulary words and ask them to define.

Resources: www.newsela.com,
<http://images.sodahead.com/profiles/0/0/1/7/3/7/6/7/1/melting-glacier-17086093277.jpeg>

Vocabulary

Drought: a long period of unusually small rainfall; a shortage of water due to this

Fossil Fuels: any combustible (burnable) organic material, as oil, coal, or natural gas, derived from the remains of former life.

Climate: the generally prevailing weather conditions of a region, as temperature, air pressure, humidity, precipitation, sunshine, cloudiness, and winds throughout the year, averaged over a series of years.

Temperature: a measure of the warmth or coldness of an object or substance with reference to some standard value.

Greenhouse Gases: any of the gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide, methane, ozone, and the fluorocarbons.

Atmosphere: the gaseous envelope surrounding the earth; the air.

Skeptics: a person who maintains a doubting attitude as towards values, plans, statements.

Evidence: that which tends to prove or disprove something; ground for belief; proof.

Average: a typical amount, rate, degree, etc.; norm.

El Nino: a warm ocean current of variable intensity that develops after late December along the coast of Ecuador and Peru and sometimes causes catastrophic weather conditions.

Polar Vortex: a large pocket of very cold air, typically the coldest air in the Northern Hemisphere, which sits over the polar region during the winter season (accuweather.com)

Latitudes: the angular (having an angle or angles) distance north or south from the equator of a point on the earth's surface, measured on the meridian of the point.

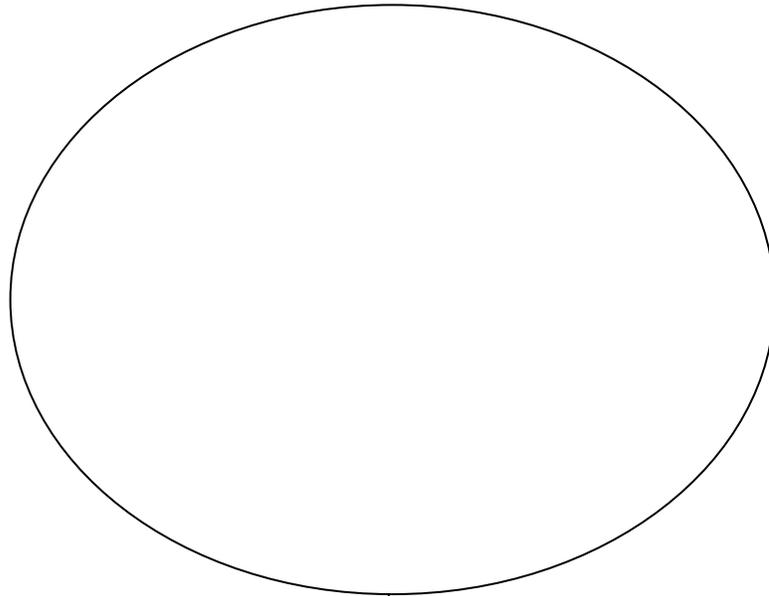
NASA: National Aeronautics and Space Administration, an agency of the US government, charged with directing civilian programs in aeronautics (the science of art of flight) research and space exploration.

NOAA: National Oceanic and Atmospheric Administration, a division of the Department of Commerce...that conducts research on the world's oceans and atmosphere.

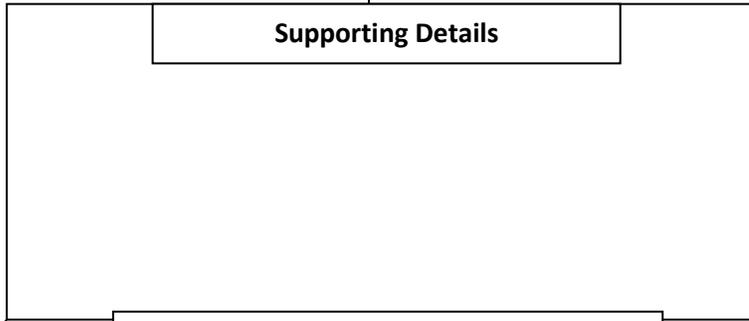
Fahrenheit: Of or relating to a temperature scale that registers the freezing point of water as 32 degrees F and the boiling point as 212 degrees F at one atmosphere of pressure.

Definitions from dictionary.com

Main Idea of Article



Supporting Details



Evidence

