

EARTH'S WEATHER SCAVENGER HUNT

Overview:

Students identify key information about Earth's weather by navigating the UNITE US multimedia and searching for answers to weather related questions.

Objectives:

The student will:

- describe two methods of traditional weather prediction; and
- describe components of weather.

Targeted Alaska Grade Level Expectations:

Science

- [7-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [7] SD3.1 The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by describing the weather using accepted meteorological terms (e.g., pressure systems, fronts, precipitation).

Vocabulary:

atmosphere - the mixture of gases that surround Earth. The atmosphere is divided into layers

cirrus - cirrus clouds form at the upper levels of the atmosphere and are feathery patches, streamers or bands

cumulus - cumulus clouds form at the lower levels of the atmosphere and are fluffy and billowy In shape

front - the boundary between two air masses that have different temperatures. They are often followed by rain and described as cold or warm

meteorology - the study of weather

precipitation - a form of water, such as rain, snow, sleet, or hail that develops in the atmosphere and falls to Earth's surface

pressure system - a region of Earth's atmosphere where air pressure is unusually high or low

stratus - a low-lying, grayish cloud layer that sometimes makes drizzle. Stratus clouds close to the ground are called fog

Whole Picture:

"Weather" and "climate" are often used interchangeably. However, they are two different concepts. Weather is a description of the state of the atmosphere at a certain time, that can represent the present time and extend to weeks. Weather includes temperature, humidity, precipitation, cloudiness and wind. Climate is a description of weather conditions over extended periods of time. As such, climate is useful in helping to determine how present weather conditions compare to the expected weather patterns gathered from observations in the past.

Materials:

- Internet access
- MULTIMEDIA FILE: "Earth's Weather" (www.uniteusforclimate.org/multimedia)
- STUDENT WORKSHEET: "Earth's Weather Scavenger Hunt"

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Activity Procedure:

1. Distribute the STUDENT WORKSHEET: "Earth's Weather Scavenger Hunt." Ask students to complete the worksheet by navigating through the UNITE US Multimedia: "Earth's Weather."
2. At the end of the lesson, make a class description of the day's weather in terms of temperature, precipitation, cloudiness, and wind.

Answers:

1.	Observation of Denali	The weather will be:
	Clouds around the mountain	<i>windy.</i>
	Pink color around the mountain	<i>extremely cold.</i>
	Blue color around the mountain	<i>warm.</i>

2. The further the sun dogs are away from the sun, cold weather conditions will remain the same for a long period of time. As sundogs move closer to the sun, it is more likely that the temperature will increase.
3. troposphere
4. thermosphere
5. meteorology
6. stratocumulus clouds
7. e
8. warm, cold
9. counter clockwise
10. rain, snow, sleet and hail
11. drought
- 12 – 17. Answers will vary

NAME: _____
WORKSHEET TITLE

Directions: Access the MULTIMEDIA FILE: "Earth's Weather" at the UNITE US website (www.uniteusforclimate.org/multimedia) to find the answers to the questions below.

1. According to Athabascan Elder Robert Charlie, what do the following observations of Denali mean for weather prediction?

Observation of Denali	The weather will be:
Clouds around the mountain	
Pink color around the mountain	
Blue color around the mountain	

2. What does the distance between sundogs and the sun tell about weather prediction?

3. Most of Earth's weather occurs in the layer of atmosphere called the _____.

4. What layer of the atmosphere do space shuttles reach? _____

5. _____ is the study of weather.

6. Cumulus and stratus clouds combine to form _____.

7. Clouds form when water vapor rises and condenses. Water vapor finds its way to the atmosphere through:

- | | |
|---|--------------------------------|
| a. warm air rising | d. warm fronts and cold fronts |
| b. man-made clouds, such as "contrails" | e. all of the above |
| c. mountain winds | |

8. A warm front occurs when _____ air replaces _____ air.

9. In the Northern Hemisphere, low pressure systems rotate _____.

10. List four forms of precipitation:

11. What form of severe weather causes more deaths than any other? _____

NAME: _____
WORKSHEET TITLE

Sketch to illustrate the following terms.

12. High pressure system	13. Low pressure system
14. Warm front	15. Cold front
16. Precipitation	

17. How would you describe the weather right now? Think about temperature, precipitation, cloudiness, and wind.
