

## 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:

According to Richard K. Nelson, author of "Make Prayers to the Raven: A Koyukon View of the Northern Forest," weather is "the most fully personified element in the Koyukon physical world."

Temperature is likened to a wild and moody animal, but can be predicted by a careful observer. For example, when cold weather is coming, the sun often has a bright spot on either side. Koyukon people say, "The sun is building fires beside her ears," to say the temperature could drop to -30° Fahrenheit or even lower. Such cold was not welcomed, and anything that might provoke it to come was taboo. Moving a boat in the winter was thought to bring cold temperatures. So was throwing snowballs. "People used to be so very careful about causing bad weather, because if they couldn't go out they would get behind. So everything was just [taboo]."

Another way to cause a storm, with winds, rain or snow, was to clean a bear skin by shaking it outside. To dream about a bear meant bad weather is coming. To be disrespectful toward certain birds could also cause a storm. To stop the rain, people were to sing, "Wolverine! Wolverine! Your child's parka is getting wet. Sweep the sky with you tail!"

## EARTH'S WEATHER SCAVENGER HUNT

Subsistence is a way of life for many people and an intricate relationship with the environment is vital to success. A working knowledge of the seasonal cycles of weather and climate is talk about continuously and passed from Elder to younger.

In Western talk, "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
- VIDEO: "Earth's Weather"
- STUDENT WORKSHEET: "Earth's Weather Scavenger Hunt"

### Activity Procedure:

1. Distribute the STUDENT WORKSHEET: "Earth's Weather Scavenger Hunt." Ask students to complete the worksheet by navigating through the VIDEO: "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 – 16. Answers will vary

**NAME: \_\_\_\_\_**  
**EARTH'S WEATHER SCAVENGER HUNT**

**Directions:** Watch the VIDEO: "Earth's Weather" 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:

\_\_\_\_\_

\_\_\_\_\_

NAME: \_\_\_\_\_  
EARTH'S WEATHER SCAVENGER HUNT

Sketch to illustrate the following terms.

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

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

---

---

---

---

---

---