

WHAT CAN YOU OBSERVE ABOUT THE SEASONS IN YOUR AREA?

UNIT 3: Seasons INSTRUCTIONS



Overview

In this lesson, students write a poem about the different plants and animals that come and go with each passing season.

Theme Learning Goal

On successful completion of all units in Theme 1 (Changing Weather and Climate), students will be able to answer the following question with detail and specific examples appropriate to their age group: How are weather and climate changing in our area?

Objectives

On successful completion of this unit, students will be able to:

- A. Understand seasons in their area
- B. Use scientific processes and inquiry related to seasons

Targeted Alaska Science Standards

- [3] SA1.2 The student demonstrates an understanding of the processes of science by observing and describing the student's own world to answer simple questions

- [3] SA2.1 The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by answering, "how do you know?" questions with reasonable answers

- [3] SA3.1 The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by observing local conditions that determine which plants and/or animals survive



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- [3] SC1.1 The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution by sorting Alaskan plants and/or animals using physical characteristics (e.g., leaves, beaks, seasonal onset)

Targeted Alaska Cultural Standards

- [B] Culturally-knowledgeable students are able to build on the knowledge and skills of the local cultural community as a foundation from which to achieve personal and academic success throughout life.
- [B.2] Students who meet this cultural standard are able to make effective use of the knowledge, skills, and ways of knowing from their own cultural traditions to learn about the larger world in which they live.
- [D] Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.
- [D.1] Students who meet this cultural standard are able to acquire in-depth cultural knowledge through active participation and meaningful interaction with elders.
- [E] Culturally-knowledgeable students demonstrate an awareness of the relationships and processes of interaction of all elements in the world around them.
- [E.2] Students who meet this cultural standard are able to understand the ecology and geography of the bioregion they inhabit.
- [E.3] Students who meet this cultural standard are able to demonstrate an understanding of the relationship between world view and the way knowledge is formed and used.

Alignment to BSSD Scope & Sequence

1st grade sequence #10: Seasons



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Vocabulary

season	a time of the year that has a certain kind of weather. Four seasons are spring, summer, fall, and winter
winter	the coldest season of the year; also the season with the shortest days
spring	the season after winter and before summer when vegetation and animals begin to return
summer	the warmest season of the year; also the season with the longest days
fall autumn	the season after summer and before winter when many plants and berries are harvested

Language Links

Native Language Terms			
English	Yup'ik	Siberian Yupik	Iñupiaq
Summer	kiak	kiik	upingaaq
Winter	uksuq	uksuq	ukiuq
Fall	uksuaq	uksaaq	ukiaq
Spring	kiapauq, up'nerkaq	upenghaq	upingaksraq

Whole Picture

Scientifically, seasons are the result of the Earth's tilt, rotation, and orbit around the sun. When the North Pole is tipped away from the sun, it is winter in the Northern Hemisphere and summer in the Southern Hemisphere. Conversely, six months later, when the North Pole is tipped toward the sun, it is summer in the Northern Hemisphere and winter in the Southern Hemisphere.

Each season brings a different amount of daylight, different temperatures, and changes on the landscape. In Alaska, birds might be returning from their winter habitats in the south, salmon might be swimming up river to spawn, or berries might be ripe for picking. Understanding what to expect during different seasons allows people the opportunity to live off the bounty of the land and preserve cultural traditions.



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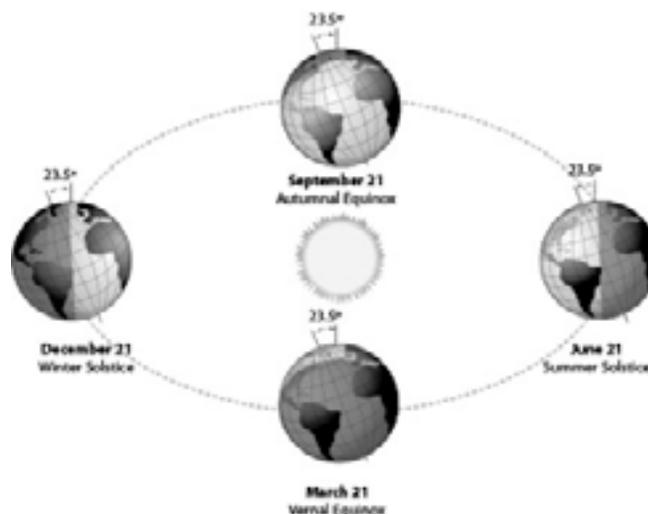


The observation of seasons by Alaska Native people is crucial for subsistence hunting, food gathering, celebrations, and other activities important to life in the Arctic. Awareness of seasonal migration patterns and animal behavior, such as mating and birthing, ensures successful fishing and hunting. For example, some animals, such as bears and beavers, hibernate and cannot easily be found throughout the winter season. Salmon return to the rivers from the ocean to spawn at certain times each summer. Some berries, like salmonberries are only available in early summer, while others, like cranberries are good only after the first frost in the fall. Understanding seasons, and being aware of seasonal cues, helps people make use of available resources.

The importance of certain seasonal activities is evident in traditional place and time names. For example, in Yup'ik territory, spring has traditionally been marked by the return of migrating waterfowl; accordingly, "the name for April is Tegmiirvik, or 'time that birds come'"

(Fienup-Riordan & Rearden, 2012, p. 14). Customarily, people knew when it was time to hunt and harvest based on seasonal events and / or landscape changes. In the early spring, for example, women and children know to venture onto the tundra "...to gather a variety of edible greens, including the greens of marsh marigold and wild celery and the roots and shoots of wild parsnips." (Fienup-Riordan & Rearden, 2012, p. 14). Keen observation of the

changes on the land, like noticing the cotton flying, told people to prepare for the arrival of certain species, like salmon.



Climate Change Affecting Seasons

Climate change is having a significant impact on the reliability of seasonal indicators. Keen observation skills allow people to notice minute changes in the climate. According to Ruth Jimmie of Toksook Bay, "The crowberries turn brown quicker, and they taste different. These days, one cannot delay in picking them. Sometimes we wait to pick them until they taste better, and when we finally pick



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them, we'll see they've turned brown" (Fienup-Riordan and Rearden, 2012, p. 312). Another elder from Toksook Bay, Lizzie Chimigak, shared concerns about unpredictable seasons and temperatures spoiling food: "At the present time, the sun's heat spoils some food. In the past, when they got herring, they left them alone for a while [before hanging them to dry]. Nowadays, their intestines start to rot right away. And many fish hanging to dry are ruined when people don't turn them and cover them" (Fienup-Riordan and Rearden, 2012, p. 58). Understanding these changes and what each season brings, or will bring, will help people continue to live off the land.

References

Fienup-Riordan, Ann, and Alice Rearden. (2012) *Ellavut: Our Yup'ik World and Weather. Continuity and change on the Bearing Sea Coast*. Seattle and London: University of Washington Press.

Materials

- Colored construction paper
- Copies of STUDENT WORKSHEETS (Winter, Spring, Summer, Fall) — at least 1 per student
- Colored pencils / crayons
- Writing implement (pen / pencil)

Additional Resources (including BSSD text alignment)

- HSP I: Ch. 8, Lessons 1–4

Activity Preparation

- Invite a culture bearer or elder to help you learn the Native vocabulary, or suggest terms that are more appropriate for your area. If possible, invite them to your classroom to help students with the vocabulary.
- Make copies of STUDENT WORKSHEETS: Fall, Winter, Summer, Spring.



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Activity Procedure

1. Ask students to name the four seasons (winter, spring, summer, fall / autumn). As a class, discuss the following questions:
 - a. How does local weather change each season?
 - b. What plant life is different each season?
 - c. What is different about the animals you see (or how they behave) each season?
 - d. What things do you do in summer that you do not do in winter?
 - e. What do you do in winter that you do not do in summer?
 - f. What changes do you notice in the sunlight between winter and summer?
 - g. Are there any differences in the weather between winter and summer?
2. On the board, make a chart similar to the one below:

	Winter	Spring	Summer	Fall / Autumn
Hello				
Goodbye				

3. Brainstorm with students about what things they say “hello” and “goodbye” to in each season. Write their ideas in the appropriate columns / rows on the chart.
4. Ask each student to tell about which season they prefer and why.
5. Pass out a STUDENT WORKSHEET to each student (start by giving each student his or her favorite season. With remaining time, students may write an additional poem for a different season).
6. Assist students in writing their poem. On each line they write one word to describe what they say hello or goodbye to during that season. Students may also color or decorate their poems appropriately.
7. When students have finished, affix each poem to a colored sheet of construction paper.

Answers

Answers will vary, but may include weather events, sunlight, particular animals, types of clothing, seasonal activities, landscape changes, etc.



WHAT CAN YOU OBSERVE ABOUT THE SEASONS IN YOUR AREA?

UNIT 3: Seasons
STUDENT WORK



Student Worksheet: Winter

Hello Winter
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello Winter

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UNIT 3: Seasons
STUDENT WORK



Student Worksheet: Spring

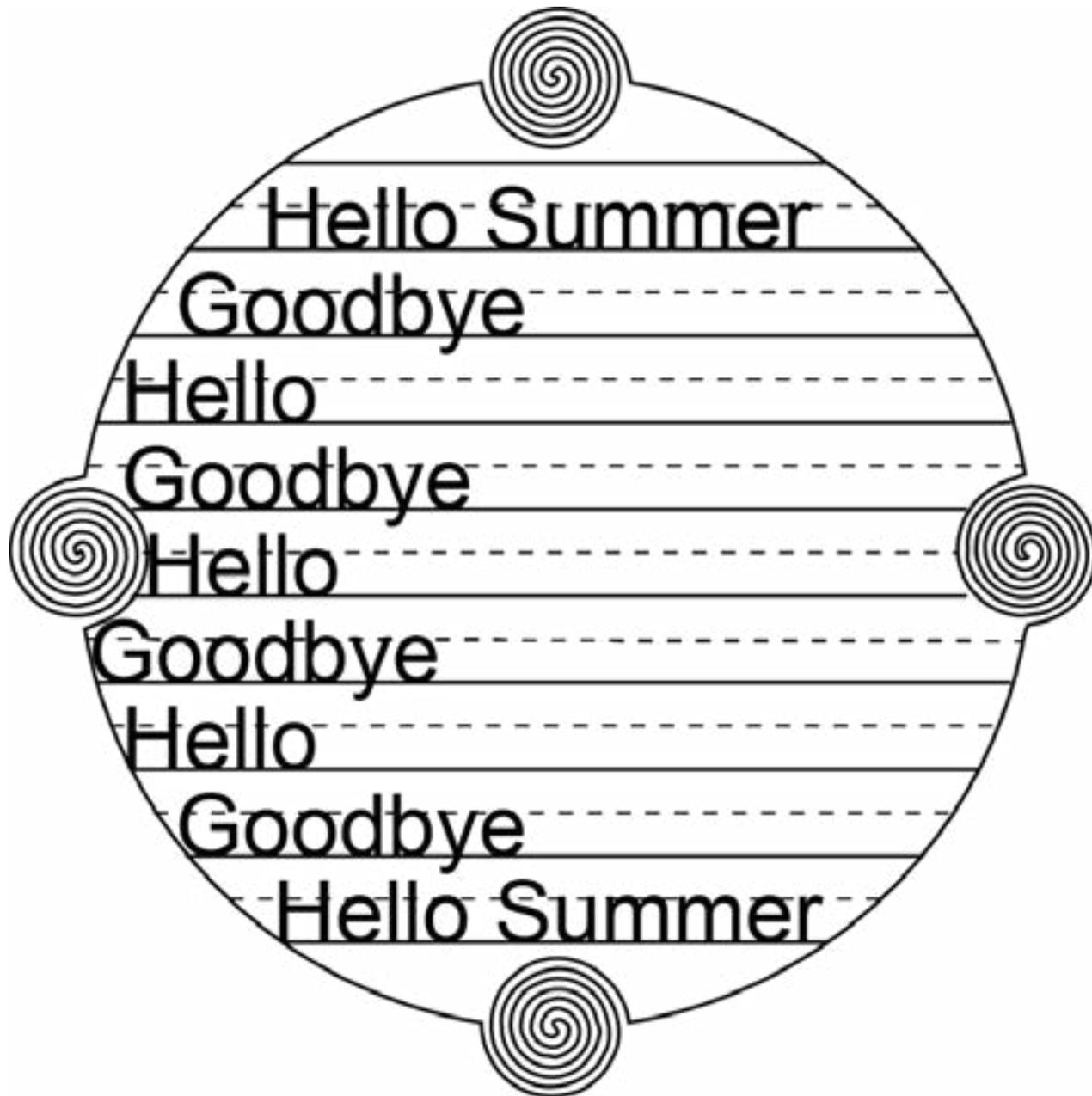
Hello Spring
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello Spring

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STUDENT WORK



Student Worksheet: Summer



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STUDENT WORK



Student Worksheet: Fall / Autumn

Hello Fall
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello
Goodbye
Hello Fall

