

Reason for the Seasons **Grades 3-5**

OVERVIEW: Seasons occur in four periods, or climatic seasons based on temperature and weather changes throughout the year. Each of the seasons lasts about three months and usually causes a change in temperature, weather and the amount of daylight for most places on Earth.

CONNECTIONS TO THE CURRICULUM: Science

STANDARDS: SC-P-EU-U-5

Students will understand that observable interactions of the sun, moon and the Earth can be used to identify the apparent pattern of their movement.

GEOGRAPHIC SKILLS:

- Acquiring Geographic Information
- Organizing Geographic Information
- Answering Geographic Questions
- Analyzing Geographic Information

TIME: One class session of 50 minutes

MATERIALS REQUIRED: (Demonstration)- Four inflatable globes or regular globes, four beverage-holder flats (from fast-food restaurant), construction paper signs labeled with the four seasons, table lamp with 75 watt-bulb (no shade).

(Poster)- one 14x8 sheet of white paper, 12x18 sheet of construction paper, ruler, glue, scissors, markers or crayons

OBJECTIVES:

1. To demonstrate how the four seasons occur.
2. To explain how the tilt of the Earth causes the seasons.

SUGGESTED PROCEDURE:

Opening- Explain to students that the earth's axis (an imaginary line through the center of the earth that the earth rotates around) tilts as the earth revolves a round the sun. Further explain that the earth takes 365 days, or one year, to make a revolution around the sun. Because it tilts as it revolves, different areas of the earth are closer to the sun and receive more of the sun's rays than other areas throughout a year. The difference is what causes the four seasons.

Strategies/Activities- Show students how the earth's tilt and its revolutions around the sun determine each season by setting up the following demonstration. Take the table lamp and set in the middle of the floor and plug in. This will represent the sun. Use four inflatable or regular globes and set each one on one of the beverage holders tilting it toward the lamp, so that each is toward the sun like the seasons. Set the paper signs at

each globe that represents the correct season. Dim the lights in the room and have the students to gather around the demonstration area and turn on the lamp. Beginning with the globe labeled Summer, point out how the sun's rays are shining directly on North America, causing hot weather and longer days. Continue to explain the sun's rays in relation to each season

After the demonstration, students will be divided into groups of four. Each group will create a poster that describes a particular season and the changes that are affected by the seasons. Each person in the group will explore one of four factors that are affected by season change—weather, people, plants and animals, activities—then list information on the paper about how the season affects that category. Each person then puts their information on the poster and as a group they decorate the poster to reflect the particular season.

For each group: Fold the white sheet of paper in half vertically, leaving one side a half-inch shorter than the other. Measure and mark four 3 ½ - inch sections along the paper. Cut apart the sections and give one to each group member. Fold the tab up similar to a matchbook. Write information about your topic on the inside of your section. Add a title and a picture about your topic on the front flap. Glue each section onto the sheet of construction paper. Title the sheet with the name of your group's season and decorate it.

SUGGESTED STUDENT ASSESSMENT:

As an assessment, students will answer an open response question about the seasons. The rubric at the bottom the page will be used for scoring.

- A. List two causes for our four seasons.
- B. Draw and label a diagram of the relationship of the Sun, Earth, and our four seasons.

EXTENDING THE LESSON: Students will access the following website and do a quiz about weather the seasons. Students must score a 50/50 to advance on to each level. They will be given the same quiz until they reach mastery. Once they reach mastery the questions get harder.

<http://www.cotf.edu/ete/modules/k4/teacher/weather/Wonline1.html>

ADAPTIONS:

Challenged Learner: Students with learning difficulties will have a scribe and reader as needed for writing. Directions will be read to the student. Students that need assistance will have an aide to help in the demonstration. Modifications will be based on each individual student IEP.

Challenging Learner: Students will create a brochure using Microsoft Publisher that describes the four seasons and activities that can be done during each particular season, convincing people that they can be active no matter what the season.

RELATED LINKS:

- [Kentucky Mesonet Website](#)
- [Oklahoma Mesonet Website](#)
- [Oklahoma EarthStorm Website](#)
- [National Weather Service Website](#)

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***Adapted from OK Mesonet: The Seasons**