

Learning Objectives

- 1) Realize that time is like a turning wheel; as time keeps going and as the years proceed, the seasons keep repeating.
- 2) Understand that the position of the earth in respect to the sun is responsible for the four seasons. During the winter, the earth is tilted away from the sun; consequently, the days are shorter and colder. During the summer, the earth is tilted toward the sun, so the days are longer and warmer. During the spring and fall, the earth is in between being tilted toward and away from the sun; therefore, there are no extremes in day length, or temperature.
- 3) Understand the characteristics of the four seasons, winter, spring, summer, and autumn (fall).
 - a) **Winter** begins on December 21 with Winter Solstice, which is the shortest day of the year. From then on, the days get longer and longer. The winter is a cold time of year when plants go dormant, many animals either hibernate or migrate to a warmer climate, and humans dress up in warm clothing. As the days grow longer and longer, spring is approaching.
 - b) On the first day of **spring**, called the Vernal Equinox, day and night are the same length. During the spring, the days continue to get longer and warmer. Extra sunlight, warmer weather, and damp soil cause the seeds in the soil to germinate. New shoots of grass, flowers, and leaves begin to grow during the spring. Farmers begin to plant the crops that will provide people with food for the year. Animals that were in hibernation come out of their dens and begin to feed and many baby animals are born in the spring.
 - c) **Summer** begins on June 21 with Summer Solstice, which is the longest day of the year. From then on, the days get shorter and shorter. Plants grow well during warm summer days. During the summer, farmers harvest certain crops, and plant other crops. People wear cool clothes and seek areas where the temperature is not hot.
 - d) The first day of **fall**, called the Autumnal Equinox, is another time when the day and night are the same length.

During the fall, or autumn, the days get shorter and colder. As the weather changes, flowers begin to die, seeds fall from the plants and stay dormant in the soil until spring, and leaves change color and fall from the trees. Animals begin to prepare for the winter by collecting food. The last of the crops are harvested during the fall, and the days get shorter and shorter until Winter Solstice.

Suggested Activities

1) Before viewing the video:

- a) Bring some sign of the season to school (an autumn leaf, a bare twig, a flower, or a small branch with summer leaves). Ask the students to identify the sign and tell what season it represents. Take a walk outside to see all of the seasonal signs. Discuss that sometimes it is difficult to determine the season depending on where one lives. Ask the students to name the other three seasons. The video will show many ways that the seasons change.

2) After viewing the video:

- a) **A Seasonal Art Project:** Give each student a 9" by 12" sheet of blue paper, a brown crayon, and a handful of two-inch square pieces of colored tissue paper. Provide the colors that are appropriate to the present season.
 - i) Fall: red, yellow, brown, orange (autumn leaves)
 - ii) Winter: white (snowflakes)
 - iii) Spring: pink, yellow, white, light green (flowering trees)
 - iv) Summer: dark green (summer leaves)

Give each student a butter dish lid with a dollop of glue. The students first draw tree trunks with bare branches. Then put a finger in the middle of a square of paper and squeeze the paper around the fingertip, lightly touch to the glue, and touch to a tree branch. Students might find it easier to wrap the paper around a pencil instead of using their fingers. With a little effort, a beautiful tree can be created with many of these "stand-up" tissues placed close together on the branches. Do this for every season to produce a lovely book of *The Four Seasons* at the end of the year.

- b) **A Leaf Math Game:** Give each student a 9" by 12" sheet of blue paper, a brown crayon, some paste, and 3" squares of red, brown, yellow, and orange construction paper. Have each student draw a tree with bare branches. Next, tear the squares into small torn leaves. Kindergartners should tear only about eight leaves for each color so that they can paste and count them easily. Caution students not to tear the leaves too small or they will be difficult to count. Then the leaves are pasted on the tree, alternating colors for easy counting. They do not all have to be on the tree.

- i) Kindergartners count the leaves.
- ii) First graders count the leaves on the trees, falling leaves, and those on the ground. Record the number of leaves for each paper beside it. Trade with a neighbor and see if they get the same answers.
- iii) Second graders count the leaves and write that number on the back. Fold the paper in half. Count the number of leaves on each half, add them, and see if the number equals the number on the back. Trade with a friend to check.

Vocabulary

Dormant — No longer growing

Equinox — Either of two times during the year when the day and night are of equal length everywhere

Harvest — To gather a crop

Hibernate — To pass the winter in a state of rest

Solstice — The point at which the sun is farthest away from the equator either north or south

