THE SHORTEST DAY
by
Wendy Pfeffer

People in ancient times attached superstitions to the gradually shortening of their days, and celebrated when the days began to get long again. We can chart the length of the days and see which days are shortest (have the fewest daylight hours), which days are longest (have the most daylight hours), and which days have about the same number of daylight hours as night time hours. As you chart the daylight hours talk about the types of festivals and celebrations which marked these days in the past, and how these customs have evolved into what we know today.

To transition to this activity, talk about the length of days and how they seem to get shorter in the winter. Explore with them reasons why this would be so. Talk about the Earth's rotation, revolution, and the tilt of its axis.

MATERIALS: pencils, colored markers, four (4) copies of the "Make a Winter Sunrise/Sunset Chart", copies of the daily newspaper with information about the days' sunrises and sunsets, tape

ACTIVITY: You could start this activity on the first day of school. Although the specific directions mention the span of one month, it would be really interesting to chart and entire year and see if your students can recognize the solstices and the equinoxes by looking at the chart. At least allow one month. It would be best to chart December 6th through January 5th for the purposes of the book. That time period will encompass the Winter Solstice and fifteen days on either side and should give a great visual of what happens. Follow the directions on the attached chart.

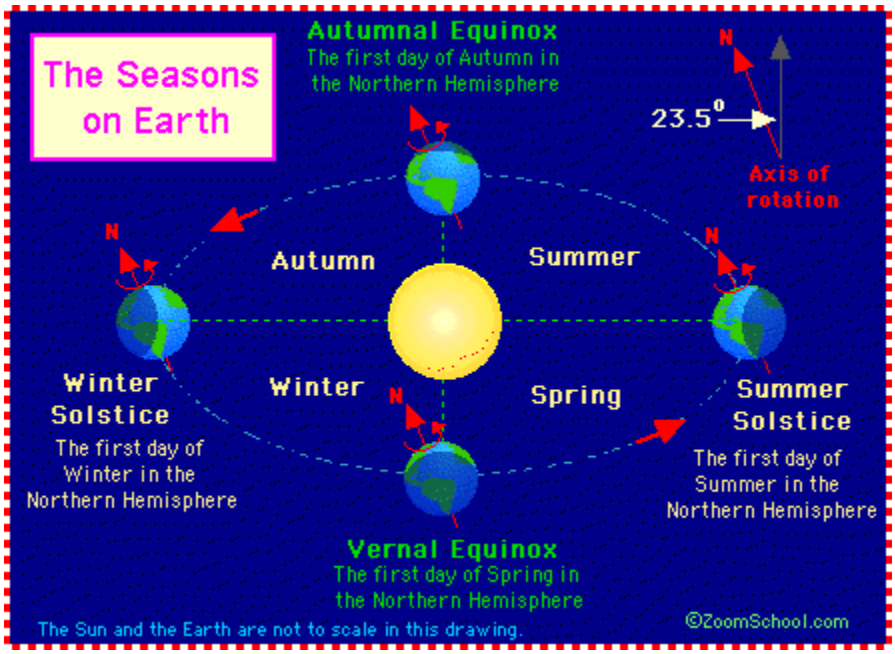
STANDARDS:
BSL: 1.3, 1.7, 4.1, 9.7, 12.1, 12.2,
NCTM: 2a, 3a, 3b, 4d, 6a, 6d, 10a, 10b, 11a, 11b, 13a
SCS: A1, D2, H2

SOURCE: The Shortest Day by Wendy Pfeffer -- activity section in the back.

WEBSITES:

http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Seasons.shtml

This chart found at the above website shows how the tilt of the Earth affects the Winter and Summer Solstice. Please go to this site for additional information about the seasons.



http://www.energy.ca.gov/daylightsaving.html

Pfeffer, Wendy. The Shortest Day. [394.261 Pfe] Illus by Jesse Reisch. NY: Dutton Children's Books, c2003. ISBN#0525469680 Described how and why daylight grows shorter as winter approaches, the effect of shorter days on animals, and people, and how the winter solstice has been celebrated throughout history. Includes activities.

Jackson, Ellen. The Autumn Equinox. [394.264 Jac] Illus. by Jan Davey Ellis. Brookfield, CT: Millbrook Press, c2000. ISBN#0761313540 Discusses the significance of some of the harvest festivals around the world and describes how they are celebrated. Includes ideas for Activities and recipes.

_____ . The Spring Equinox. [394.262 Jac] Illus. by Jan Davey Ellis. Brookfield, CT: Millbrook Press, C2002. ISBN#07613119557 Discusses the significance of some of the spring rites around the world and describes how they are celebrated. Includes ideas for Activities and recipes.

_____ . The Summer Solstice. [394.263 Jac] Illus. by Jan Davey Ellis. Brookfield, CT: Millbrook Press, c200I. ISBN#076131623X Discusses the

significance of some of the summer festivals around the world and describes how they are celebrated. Includes ideas for Activities and recipes.

_____ . The Winter Solstice. [394.26 Jac] Illus. by Jan Davey Ellis. Brookfield, CT Millbrook Press, cl997. ISBN#0761302972 Discusses the significance of some of the winter festivals around the world and describes how they are celebrated. Includes ideas for Activities and recipes.

Timeline of Daylight Saving Time
Spring forward…Fall back…

1784: The idea was first suggested by Benjamin Franklin in as essay called "An Economical Project."

1918: Daylight time was formally adopted in the U.S. It has been used in many European countries since World War I/\.

1942: During World War II, President Roosevelt instituted year-round daylight time called "war Time."

1966: By this time, most Americans were observing daylight time based on local laws and customs. To establish consistency, Congress passed the Uniform Time Act. Daylight time would begin on the last Sunday in April and end on the last Sunday in October. Any state could exempt itself from daylight time by passing a law.

1974: President Nixon signed the Emergency Daylight Saving Time Energy Conservation Act on January 4, 1974. Clocks were set ahead one hour for a 15 month period ending April 27, 1975.

1986: Congress amended the law so that daylight time would begin earlier on the first Sunday in April.

1985: The Energy Policy Act of 1985 established that, beginning in 2007, Daylight Saving Time would be extended one month and would begin for most of the United States at 2 a.m. on the Second Sunday in March and end on 2 a.m. on the First Sunday in November.

One of the biggest reasons we change our clocks to Daylight Saving Time (DST) is that it saves energy. Energy use and the demand for electricity for lighting our homes are directly connected to when we go to bed and when we get up. Bedtime for most of us is late evening through the year. When we go to bed, we turn off the lights and TV. The California Energy Commission has a great website that can answer all your questions. http://www.energy.ca.gov/daylightsaving.html

MAKE A WINTER SUNRISE/SUNSET CHART

What you need:

- a pencil and a colored marker
- four copies of the chart below
- a daily newspaper
- tape

What to do:

1. List the times on your copies of the chart below.
2. Write in the dates you are going to chart.
3. Find the sunrise and sunset times in each day's newspaper.
4. Record the sunrise time.
5. Record the sunset time.
6. Color in the hours between sunrise and sunset.
7. Tape four weekly charts together, in order.

If you faithfully chart the sunrise and sunset times for a month, your chart will show an interesting shape!