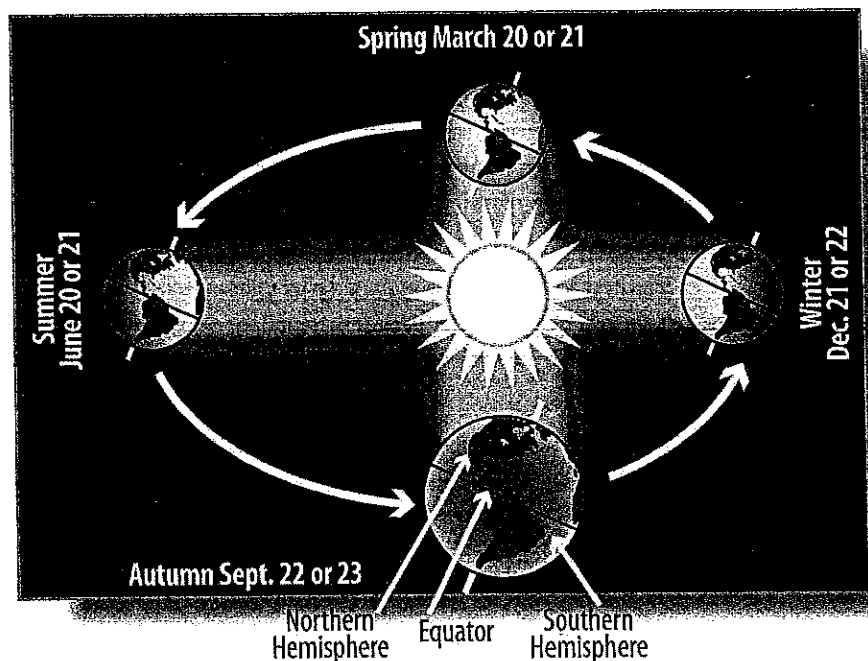


## Earth's Seasons

As Earth travels around the sun in the course of a year (365 1/4 days), it experiences different seasons: spring, summer, fall or autumn, and winter. Areas of the earth receive differing amounts and intensities of sunlight at different times of the year, so each season is associated with different temperatures, weather, and plant growth. These differences are more noticeable the farther away from the equator you get.

The seasons occur at opposite times of the year in the Northern and Southern Hemispheres. In the Northern Hemisphere **spring** begins about March 21, **summer** begins about June 21, **fall** begins about September 21, and **winter** begins about December 21. While the Northern Hemisphere is having summer, the Southern Hemisphere is having winter, and so on. The first day of spring is called the **vernal equinox**, and the first day of fall is called the **autumnal equinox** because these days have equal amounts of daylight and darkness. The first day of summer is called the **summer solstice**. This day has the most hours of daylight in the year. The first day of winter is called the **winter solstice**. It has the fewest hours of daylight in the year.



What causes these seasons? It is because the earth travels around, or **revolves** around, the sun and also because the earth is tilted on its axis at 23 1/2 degrees. Because the earth is tilted as it travels around the sun, sometimes the Northern Hemisphere is pointed more toward the sun, and sometimes the Southern Hemisphere is pointed more toward the sun. Whichever hemisphere is pointed toward the sun receives more direct sunlight and more hours of sunlight each day. This is the summer

season, and it allows for warmer temperatures and good growing conditions for plants. When a hemisphere is pointed away from the sun, it receives less direct sunlight and fewer hours of sunlight each day. This is the winter season, which is much colder. During the spring and fall seasons, the sunlight strikes the earth more evenly, so there is not much difference in the Northern and Southern Hemisphere temperatures. Locations along the equator do not experience much difference in seasons because sunlight is always shining directly at the equator.

The shape of earth's orbit around the sun is called an **ellipse**. It looks like an elongated circle. Because of the shape of the orbit, the earth is closer to the sun at certain points in the orbit, and at other points, it is farther away. However, this difference in distance does not have as much impact on seasons as the tilt of the earth.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Earth's Seasons: Decoding

**Directions:** Decode the missing words in the text below by using the code key at the bottom of the page.

- The differences in seasons are more noticeable the farther away from the \_\_\_\_\_ you get.  
 \_\_\_\_\_  
 22 10 6 26 7 12 9
- The seasons occur at opposite times of the year in the Northern and Southern \_\_\_\_\_.  
 \_\_\_\_\_  
 19 22 14 18 8 11 19 22 9 22 8
- The Northern Hemisphere \_\_\_\_\_ begins about March 21.  
 \_\_\_\_\_  
 8 11 9 18 13 20
- The first day of spring is called the \_\_\_\_\_.  
 \_\_\_\_\_  
 5 22 9 13 26 15 22 10 6 18 13 12 3
- \_\_\_\_\_ begins about June 21 in the Northern Hemisphere.  
 \_\_\_\_\_  
 8 6 14 14 22 9
- The day with the most hours of daylight is called the summer \_\_\_\_\_.  
 \_\_\_\_\_  
 8 12 15 8 7 18 24 22
- The first day of fall, about September 21 in the Northern Hemisphere, is called the \_\_\_\_\_ equinox.  
 \_\_\_\_\_  
 26 6 7 6 14 13 26 15
- Winter in the Northern Hemisphere begins about \_\_\_\_\_ 21.  
 \_\_\_\_\_  
 23 22 24 22 14 25 22 9
- The day with the fewest hours of daylight is called the \_\_\_\_\_ solstice.  
 \_\_\_\_\_  
 4 18 13 7 22 9
- Seasons change because the earth \_\_\_\_\_ around the sun.  
 \_\_\_\_\_  
 9 22 5 12 15 5 22 8
- Because the earth is \_\_\_\_\_ on its axis, the Northern or Southern Hemisphere is pointed more toward the sun at certain times of the year.  
 \_\_\_\_\_  
 7 18 15 7 22 23
- Earth travels around the sun in an orbit shaped like an \_\_\_\_\_.  
 \_\_\_\_\_  
 22 15 15 18 11 8 22
- When the Northern Hemisphere is tilted more toward the sun, it is receiving more direct \_\_\_\_\_.  
 \_\_\_\_\_  
 8 6 13 15 18 20 19 7
- There is not much difference in seasons near the equator because sunlight is always shining \_\_\_\_\_ at this area.  
 \_\_\_\_\_  
 23 18 9 22 24 7 15 2
- Each \_\_\_\_\_ is associated with different temperatures, weather, and plant growth.  
 \_\_\_\_\_  
 8 22 26 8 12 13

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1