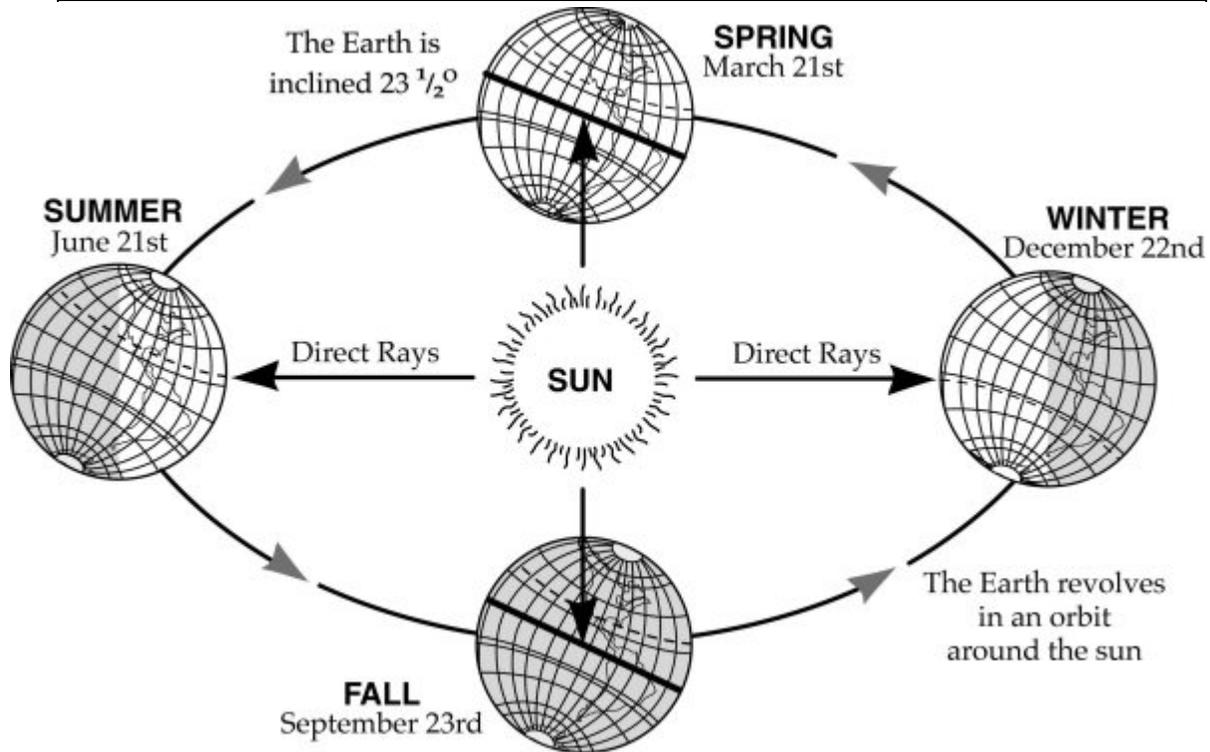


## Globe Lesson 15 - The Changing Seasons - Grade 6+



The Earth revolves around the Sun in what is called an orbit (circle). As the Earth moves around the Sun, it is inclined, or tilted,  $23\frac{1}{2}^\circ$  from the perpendicular. The Earth's revolution and inclination are what cause the changing seasons.

The illustration above shows the Earth's orbit around the Sun. Note that the Earth is not straight up and down. The Earth is inclined  $23\frac{1}{2}^\circ$ . The arrows extending from the Sun to the Earth represent where the direct rays of the Sun are striking the Earth on the first day of each season.

### Finding the Sun Lines

There are five special lines of latitude on the globe. One of these lines is the Equator. Locate the Equator on your globe. In the drawing the direct rays of the Sun are striking the Equator on what two days? These days are the start of which seasons on the Northern Hemisphere?

1. Day \_\_\_\_\_ Season  
\_\_\_\_\_

2. Day \_\_\_\_\_ Season  
\_\_\_\_\_

The arrow that points at June 21st is pointing to a line of dashes north of the Equator. On December 22nd, the arrow is pointing at a line of dashes south of the Equator. Find and identify these lines on your globe. Write the names of these Sun lines on the space provided.

3. June 21st \_\_\_\_\_ 4. December 22nd  
\_\_\_\_\_

There are two more lines that are made of dashes on the globe. Find these on the globe. List the names of these lines according to location.

5. \_\_\_\_\_ is  $23\frac{1}{2}^\circ$  south of the North Pole

6. \_\_\_\_\_ is  $23\frac{1}{2}^\circ$  north of the South Pole

All of these lines are the same number of degrees from either the Equator or one of the poles. This relates to  $23\frac{1}{2}^\circ$  tilt of the Earth.

### Opposite Season

When it is winter in the Northern Hemisphere it is summer in the Southern Hemisphere. The seasons are exactly the opposite. Look at the drawing again. On June 21st, the Arctic Circle is tilted toward the Sun. This is the first day of summer in the Northern Hemisphere. The Antarctic Circle is tilted away from the Sun. This is the first day of winter in the Southern Hemisphere.

Check the answer:

7. On December 27th, the Arctic Circle is tilted \_\_\_\_\_ toward \_\_\_\_\_ away from the Sun.

8. December 22nd is the first day of \_\_\_\_\_ summer \_\_\_\_\_ winter in the Southern Hemisphere.

9. What is the first day of fall in the Southern Hemisphere?

\_\_\_\_\_

