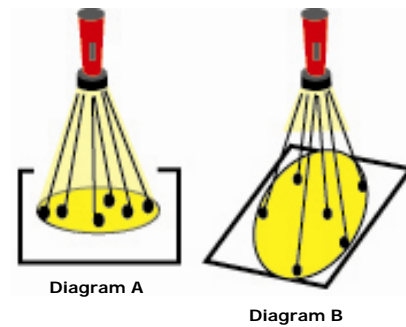


Literary Readings – Seasons

Many people incorrectly believe that the seasons are caused by changes in Earth's distance from the sun during its yearly revolution, but we know better. In fact, we are closest to the sun during our winter. So what *does* cause the seasons each year?

The changing of Earth's seasons depend on two important facts: (1) Earth revolves, or makes one revolution around the sun every 365 days; and (2) Earth is on an angle (tilted 23.5 degrees) in relation to the sun. Earth's orbit, the path it takes during its revolution around the sun, is nearly circular and takes a year. Earth's axis of rotation, the imaginary poles on which Earth spins, is at a 23.5 degree angel title relative to the sun. As Earth revolves around the sun, it maintains this tilt, and always points in the same direction – towards the North Star. The combination of Earth's revolution around the sun, and Earth's 23.5 degree angle tilt are the real reasons for the seasons.

Why does tilt make a difference? Think of a sunburn you may have received during a day playing outdoors. Which part of you got the worst burn? Chances are, it was your shoulders. The direct angle of your shoulders to the sun caused them to receive the most direct light from the sun. Your legs were angled away from the sun and absorbed less of the sun's energy. The diagram to the side shows another way to think of the sun's light and tilt. Notice that the space between the rays in diagram A are much closer than diagram B. The heat produced by the light in diagram A will be much greater than in diagram B.



As Earth revolves around the sun, Earth's tilt never changes, yet Earth's tilt does change in relation to the sun. When Earth's North pole points away from the sun, the Northern Hemisphere receives less direct light and its days are shorter. Because of these two factors the Northern Hemisphere experiences winter. The Southern Hemisphere is angled towards the sun, which causes it to get more sunlight and longer days, and it experiences summer. Six months later, Earth's North pole is pointing towards the sun and receives the most direct rays and warmth from the sun. This is when the United States has summer and the Southern Hemisphere enjoys winter.