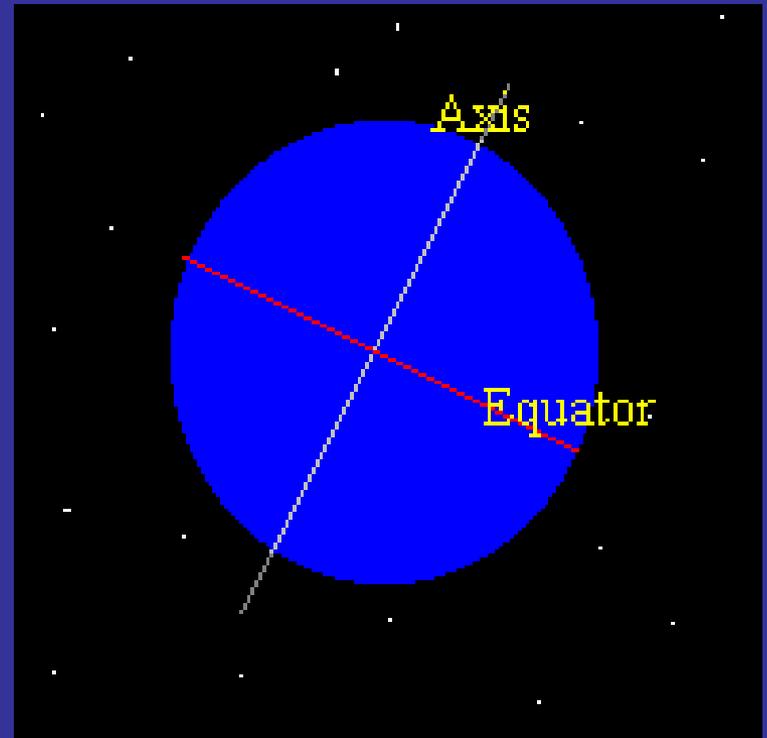


Seasons



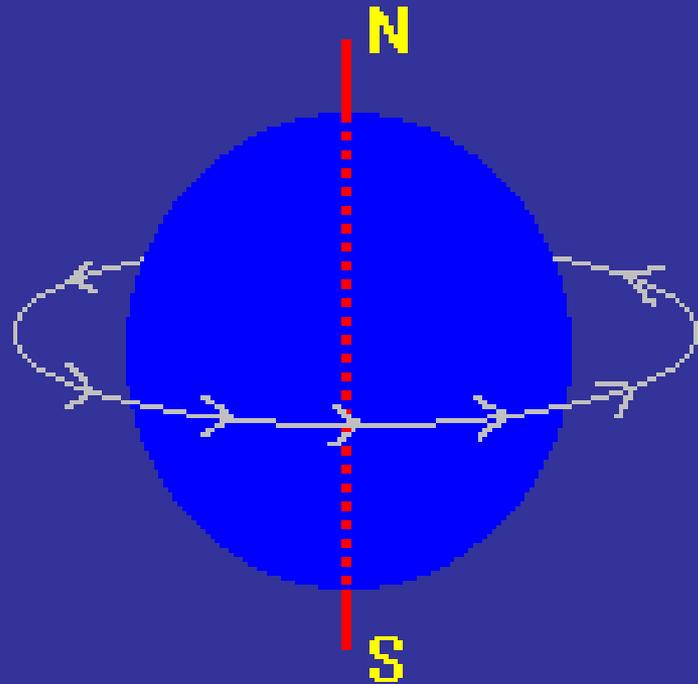
Words to know:

Axis - imaginary
line around which
Earth spins



Words to know:

Rotation -
spinning of Earth
on its axis



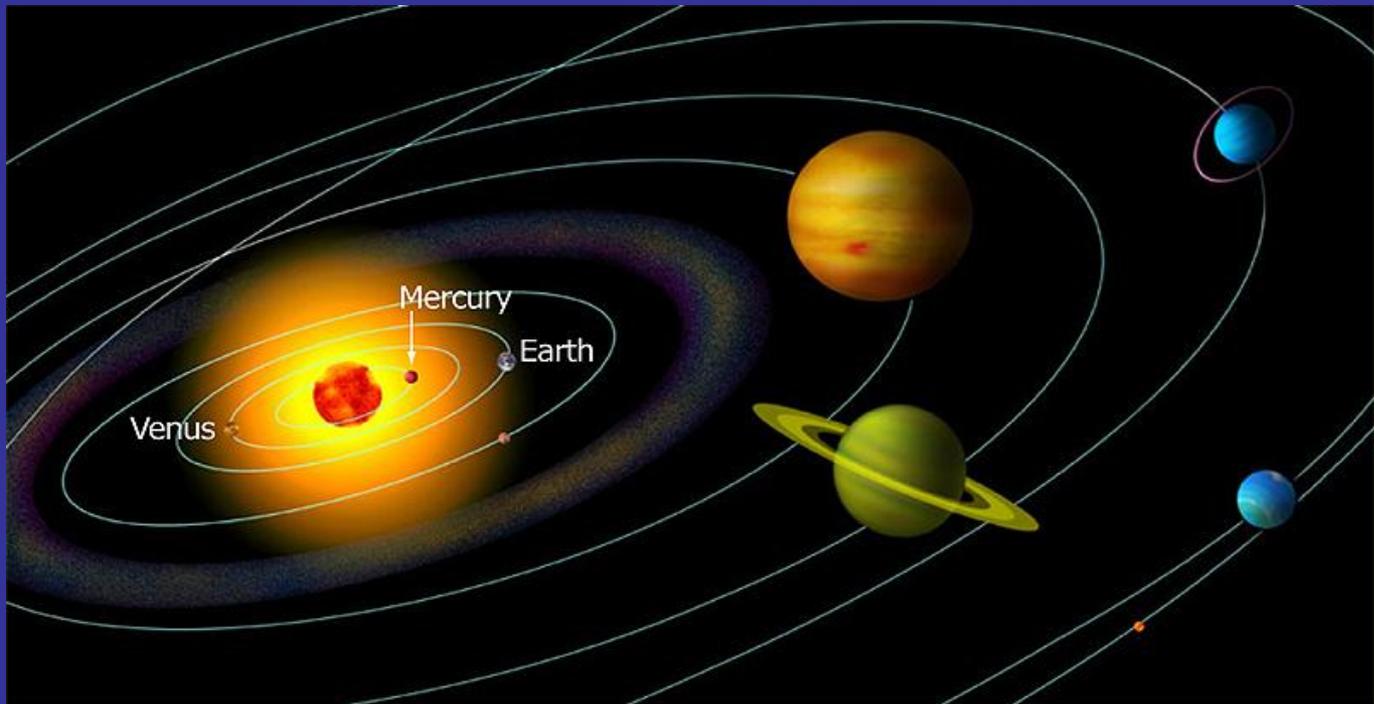
Words to know:

Revolution - the motion of Earth
around the Sun



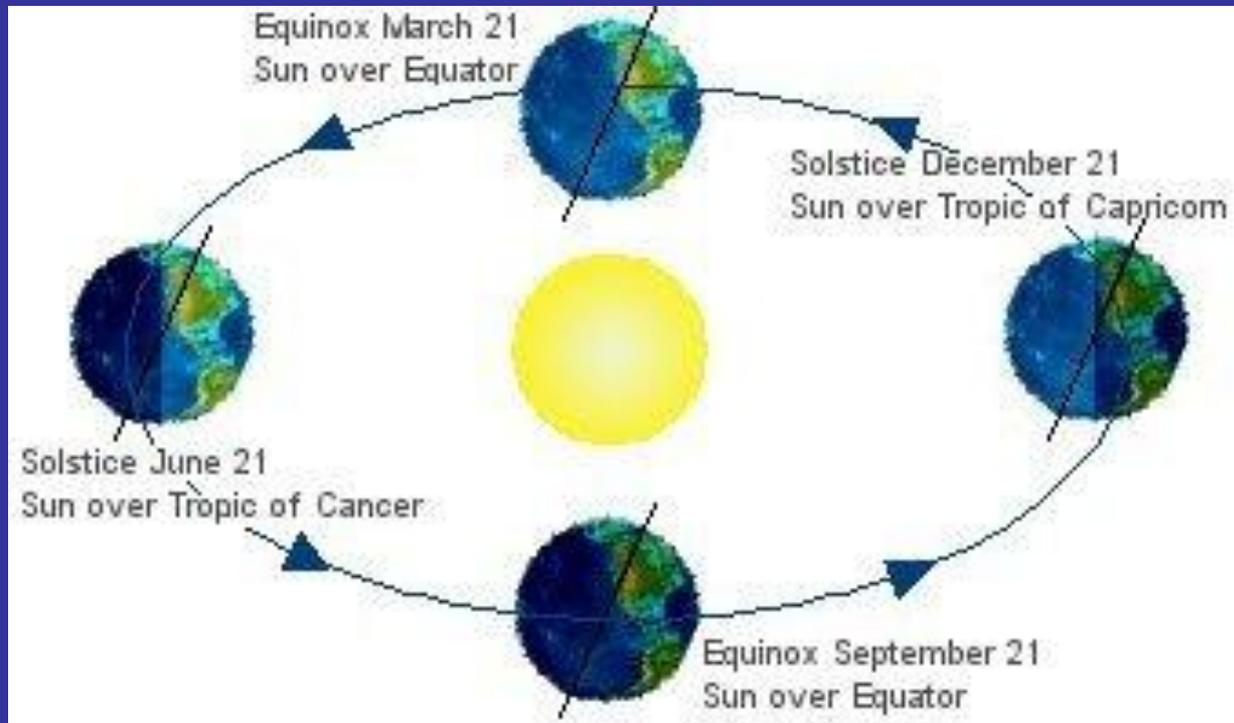
Words to know:

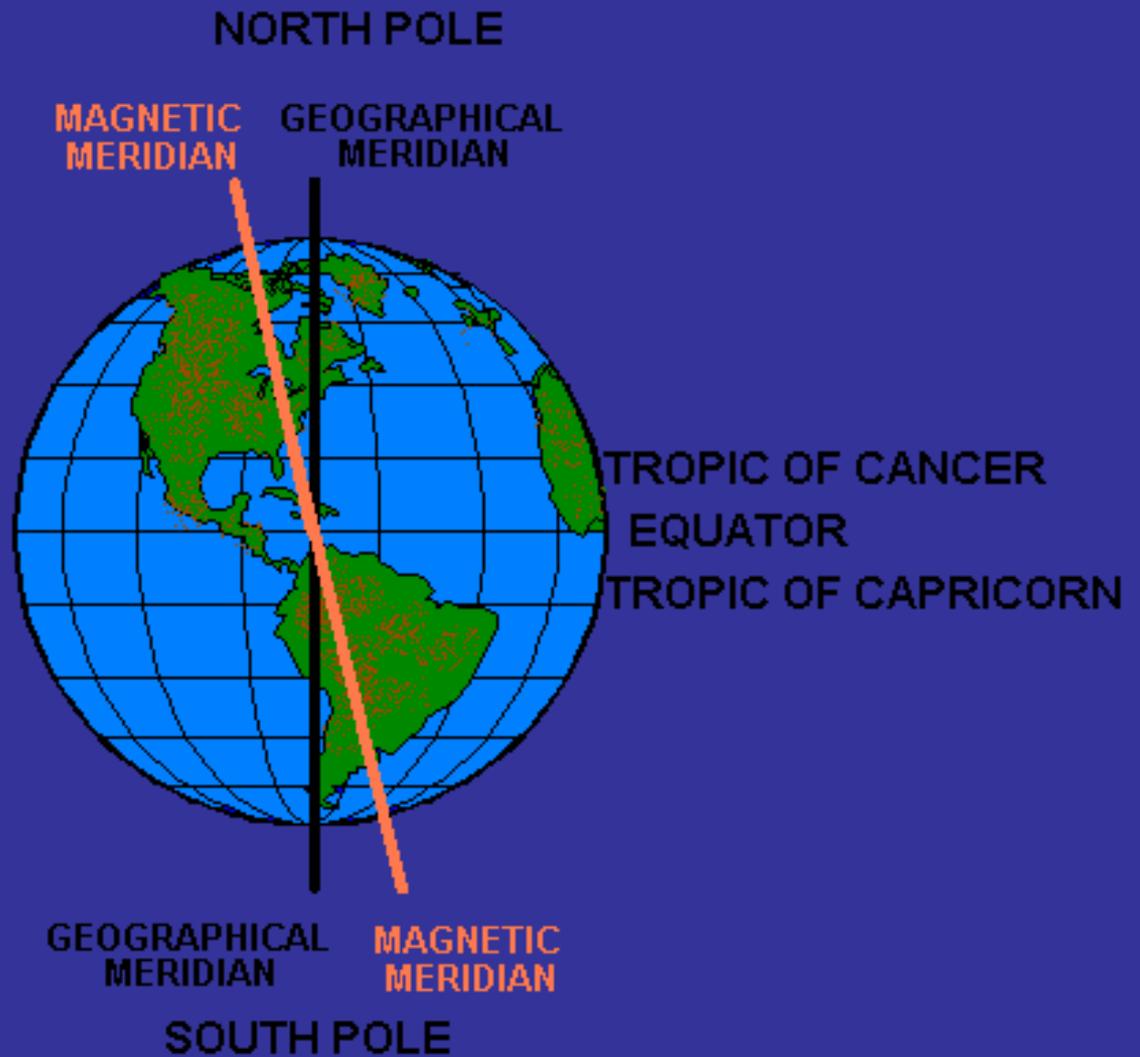
Orbit - curved path followed by Earth as it moves around the Sun

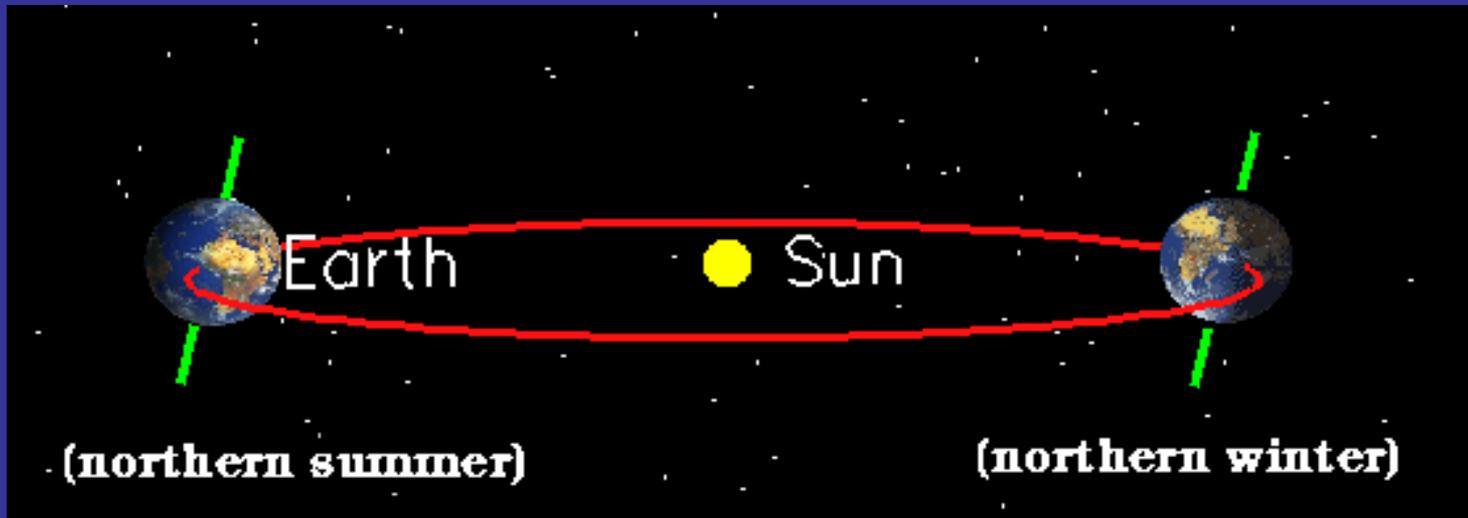


The Earth's Tilt

The Earth's axis is tilted by 23.5°







As the Earth moves around the Sun, this axis stays always pointing in the same direction.

This means that, during part of the year, the northern part of the Earth will lean more directly to the sun, and during other parts of the year the southern part of the Earth will.



When the southern hemisphere is leaning away from the sun, the rays coming from it hit this part of the Earth at a smaller angle than on other parts of the world.



This means that the same amount of light is distributed over a larger surface, and so these places receive less heat than the others.



The northern hemisphere is experiencing Summer, the southern hemisphere has Winter.



In half a year, the situation reverses, and it is now Winter in the southern hemisphere since that part of the earth is now leaning away from the sun.

The energy that hits the Earth by the Sun changes over of the year.

The **angle** the Sun is above the horizon determines how much heat and light strike each square meter of ground.

Winter Solstice



In the winter the Sun's energy is weakened because the Sun's rays strike the ground rather indirectly as compared to the summer months when the Sun's rays strike the ground more directly.

Winter Solstice



This means that the ground receives more energy (more heat) per square meter in the summer than in the winter.

More energy is received by the ground during the summer (high temperatures) and less energy during the winter (lower temperatures).

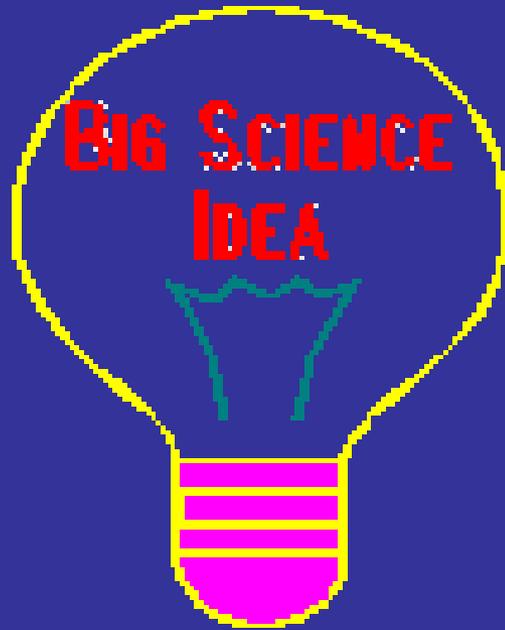
So, seasons are caused by
the tilt of the Earth's axis



Remember:

- The seasons are the result of this tilt of the Earth's axis.
- If the tilt of the Earth's axis was 0° there would be no difference in how the rays from the sun hit its different regions, and there would be no seasons.

The Earth's seasons are not caused by the differences in the distance from the Sun throughout the year.



Review

Look closely at where the Sun is hitting the Earth during each season:

