

Seasons
Lesson One
Signs of the Changing of the Seasons

Standard II: Students will understand how Earth's Tilt on its axis changes the length of daylight and creates the seasons.

Objective 1: Describe the relationship between the tilt of Earth's axis and its yearly orbit around the sun.

Indicator a: Describe the yearly revolution (orbit) of Earth around the sun.

Supplies: Worksheet "Signs of the Changing of the Seasons"

Directions:

1. Make groups of three's for student discussion.
2. Pass out the worksheet, "Signs of the Changing of the Seasons" to each student.
3. Have the groups try to fill in the left hand space of the "Signs of the Changing of the Seasons" from summer to winter. Give them about 15 minutes.
4. Have a class discussion of what they see happening, but not to try to tell why, but just to tell what they notice.
5. Tell the students that for the next few days, we are going to do experiments that show why each of these things happen.

SIGNS OF THE CHANGING OF THE SEASONS

Toward Winter

Toward Summer

Less daylight; more dark time Starting on June 21 st	More daylight; less dark time Starting on December 21 st
Sun comes up later each day	Sun comes up earlier each day
Sun goes down earlier each day	Sun goes down later each day
Sun increasingly gets lower in the southern sky above the horizon as the sun seems to move across the sky	Sun increasing gets higher in the southern sky above the horizon as the sun seems to move across the sky
Temperature gets progressively colder month to month	Temperature gets progressively warmer month to month
Aquarius is in the western sky at 10:00 p.m. in the winter	Leo is in the western sky at 10:00 p.m. in the summer
The waxing crescent moonlight has a more downward angle when going down	The waxing crescent moonlight has a more horizontal angle when going down
Birds are flying to continents in the southern hemisphere	Birds are flying to continents in the northern hemisphere
Above the Arctic Circle the sun doesn't come up for at least 1 day and up to 6 months depending the location	Above the Arctic Circle the sun doesn't go down for at least 1 day and up to 6 months depending the location
Equal time of daylight and darkness on September 21 st	Equal time of daylight and darkness on March 21 st
Shadows of objects get longer each day at noon	Shadows of objects get shorter each day at noon
Leaves start dying on deciduous trees	Leaves begin to grow on deciduous trees
Darkness seems to come immediately after sunset.	The light hangs around for quite a long time after sunset.