

The Earth, Moon and Sun



Earth

Earth completes a rotation on its axis once every 24 hours. A rotation is a spin. The axis is an imaginary line passing through the center of the Earth. Earth rotates once in a day. During this rotation, half of the Earth will be facing the sun. That half of the Earth will have daylight. The other half of the Earth not facing the sun will have night time. During the day, it looks like the sun is moving across the sky. It is really our Earth that is moving during its rotation.

The Earth is tilted on its axis. At different times of the year, half of the Earth will be tilted toward the sun and the other half will be tilted away from the sun. This tilt during Earth's revolution causes the seasons. To revolve means to go around an object. Earth revolves around the sun. Earth's revolution around the sun takes 356 and $\frac{1}{4}$ days.



The Moon

The Earth's gravity keeps the moon in orbit. The moon is Earth's satellite. It rotates on its axis and revolves around the Earth. The moon's rotation and revolution takes 28 days. On Earth, the moon looks different each night. The changes in the moon's appearance each night is called moon phases. We only see the part of the moon that reflects light from the sun. The moon has no light of its own. The part of the moon that reflects light depends on its position in orbit around Earth. The moon sometimes looks like a complete circle. This phase is called a full moon. First quarter and last quarter both look like half circles that are lit on opposite sides. During the new moon phase we cannot see the moon in the sky at all. That is because the part that receives light is not visible to us on Earth.

The pull of gravity between the Earth and moon causes daily ocean tides. High tides take place when the water comes up higher on the beach. Low tides are when the water is pulled back from the beach. Six hours will pass between a high tide and low tide.



The Sun

The sun is Earth's closest star and the center of our solar system. It is a huge ball of very hot gases. The sun's gravity keeps the planets in the solar system revolving around it. The sun has several layers. Its atmosphere is called the corona. On the sun's surface, there are dark spots. These spots are cooler than the rest of the sun's surface and are called sunspots.

The sun is the source of almost all energy on Earth. Plants take the sun's energy and change it to food energy. When people and animals eat plants we are getting the sun's energy.