

axis – the imaginary line on which the Earth spins

Apollo Missions – The Apollo program designed to land humans on the Moon and bring them safely back to Earth

Earth – the third planet from the sun; supports life (93 million miles away from the sun)

lunar eclipse – when the Earth moves between the sun and the moon (A shadow is cast on the moon.)

moon – a small, rocky, natural satellite that revolves around the Earth (1/4 the size of the Earth)

NASA – National Aeronautics and Space Administration

orbit – the path an object in space follows as it revolves around another object

phases of the moon – a pattern that repeats itself every 29 1/3 days

revolution – one full orbit (circle) around another object

rotation – the spinning motion of an object on its axis (like a top)

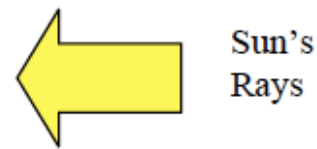
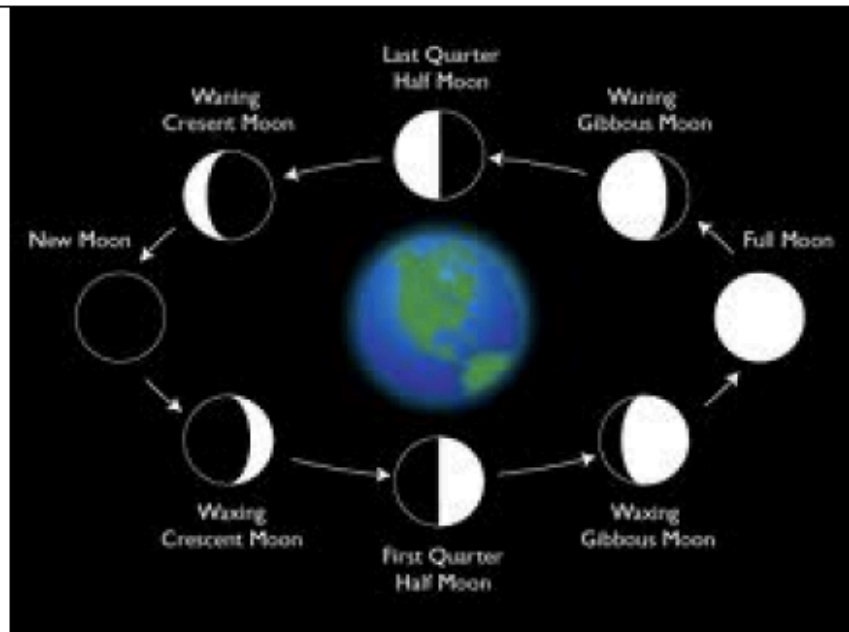
solar eclipse – when the moon moves between the Earth and the sun (A shadow is cast on the Earth.)

sun – a yellow, average-size star at the center of our solar system that produces heat and light (110 times the diameter of the Earth)

waning – a term used to describe the moon reflecting less light (seems to grow smaller)

waxing – a term used to describe the moon reflecting more light (seems to grow larger)

- Earth completes one revolution around the sun every 365 1/4 days. The moon revolves around Earth about once every month.
- Due to its axial tilt, Earth experiences seasons during its revolution around the sun.
- The phases of the moon are caused by its position relative to Earth and the sun. The phases of the moon include the new, waxing crescent, first quarter, waxing gibbous, full, waning gibbous, last (third) quarter, and waning crescent.
- The sun is an average-sized yellow star, about 110 times the diameter of Earth. The sun is approximately 4.6 billion years old.
- Our moon is a small rocky satellite, having about one-quarter the diameter of Earth and one-eighth its mass. It has extremes of temperature, virtually no atmosphere or life, and very little water.
- Earth is one of eight planets that revolve around the sun and comprise the solar system. Earth, the third planet from the sun, is one of the four terrestrial inner planets. It is about 150 million kilometers from the sun.
- Earth is a geologically active planet with a surface that is constantly changing. Unlike the other three inner planets (Mercury, Venus, and Mars), it has large amounts of life-supporting water and an oxygen-rich atmosphere. Earth's protective atmosphere blocks out most of the sun's damaging rays.
- Our understanding of the solar system has changed from an Earth-centered model of Aristotle and Ptolemy to the sun-centered model of Copernicus and Galileo.
- The NASA Apollo missions added greatly to our understanding of the moon.
- Our understanding of the sun, moon, and the solar system continues to change with new scientific discoveries.



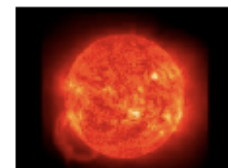
The Moon

- The moon is a small rocky satellite, having about one-quarter the diameter of the Earth and one-eighth of its mass.
- The moon is approximately 4.6 billion years old.
- The moon has little or no atmosphere and no oxygen.
- The moon has no water, wind, clouds, weather, or life.
- You would weigh one-sixth of your Earth weight on the moon.
- The moon is pitted with large craters.
- The moon's surface is very hot during its days and freezing during its nights.
- The distance from the moon to the Earth is 240,000 miles.
- The NASA Apollo missions added greatly to our understanding of the moon.



The Sun

- The sun is 1.4 million kilometers (870,000 miles) in diameter. It is about 110 times the diameter of the Earth.
- The sun is a large globe of hot gas with a surface temperature of 10,000,000° Celsius.
- The distance between the Earth and the sun is 150 million kilometers (93 million miles).
- The sun is made mostly of hydrogen. It has enough hydrogen to stay shining for about 4 billion years.
- The sun is an average-size star. It is just like the others in the sky, except the sun is much closer to us.
- The sun is approximately 4.6 billion years old.



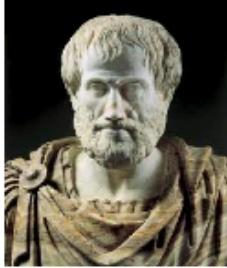
Earth

- The Earth is the 3rd planet from the Sun.
- The Earth is one of the 4 rocky inner planets.
- It has large amounts of life-supporting water and an oxygen-rich atmosphere.
- It is a geologically active planet with a surface that is constantly changing.
- The Earth's protective atmosphere blocks out most of the sun's damaging rays.



Historical Contributions:

Aristotle



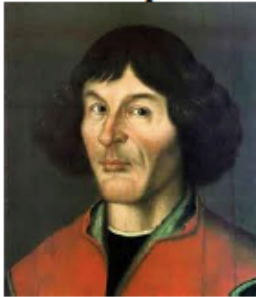
Aristotle was born in Greece. He believed that the Earth was a sphere and that the universe was spherical.

Claudius Ptolemy



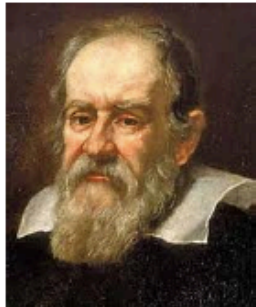
Ptolemy was an Egyptian geographer, astronomer, and mathematician who believed that the planets and sun orbited the earth. He agreed with Aristotle that the solar system was an Earth-centered model.

Nicolas Copernicus



Copernicus was a Polish astronomer who theorized that the planets revolved around the sun. He determined the size of the sun and moon and the distances of the sun and moon from the Earth.

Galilei Galileo



Galileo was an Italian scientist who was the first to use a telescope for astronomy. He discovered the rings of Saturn and the mountains and craters on the moon. He supported Copernicus' theory that everything revolved around the sun (sun-centered model).

Phases of the Moon:

