

Sithney C.P. School Knowledge Organisers



Science. Physics: Earth and Space

What you should already know:

We have four seasons (autumn, winter, spring and summer).

The Sun is a source of light but the Moon is not.

Know that a shadow is caused when an object blocks light from passing through it.

The properties of a sphere.

Key learning:

- The Sun is a star. It is at the centre of our solar system.
- There are 8 planets (can choose to name them, but not essential). These travel around the Sun in fixed orbits.
- Earth takes $365\frac{1}{4}$ days to complete its orbit around the Sun.
- The Earth rotates (spins) on its axis every 24 hours.
- As Earth rotates half faces the Sun (day) and half is facing away from the Sun (night).
- As the Earth rotates, the Sun appears to move across the sky.
- The Moon orbits the Earth. It takes about 28 days to complete its orbit.
- The Sun, Earth and Moon are approximately spherical.

Key Vocabulary:

Axis: An imaginary line through the middle of something

Leap year: A year which has 366 days. The extra day is the 29th February. There is a leap year every four years

Orbit: the curved path in space that is followed by an object going round and round a planet, moon, or star

Planet: A spherically shaped object that orbits a star

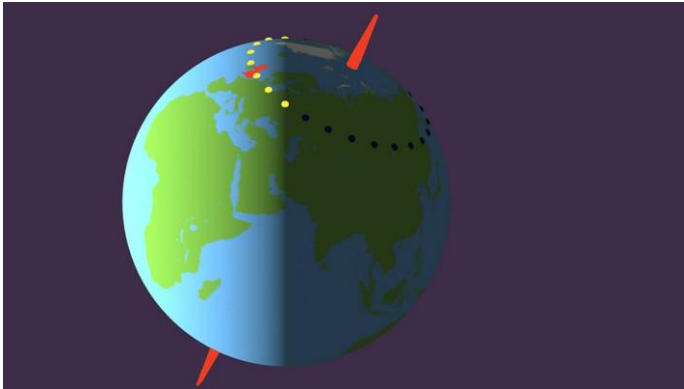
Rotates: To spin

Star: A giant ball of gas held together by its own gravity

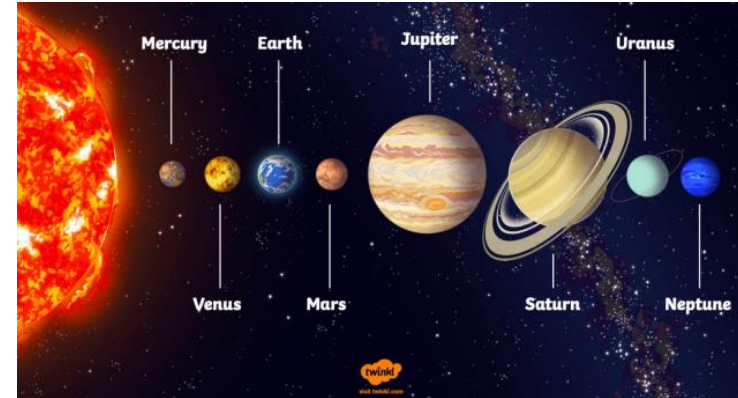
Satellite: Any object in space that orbits something else. E.g. the moon is a satellite of Earth

Spherical: Round in shape like a ball.

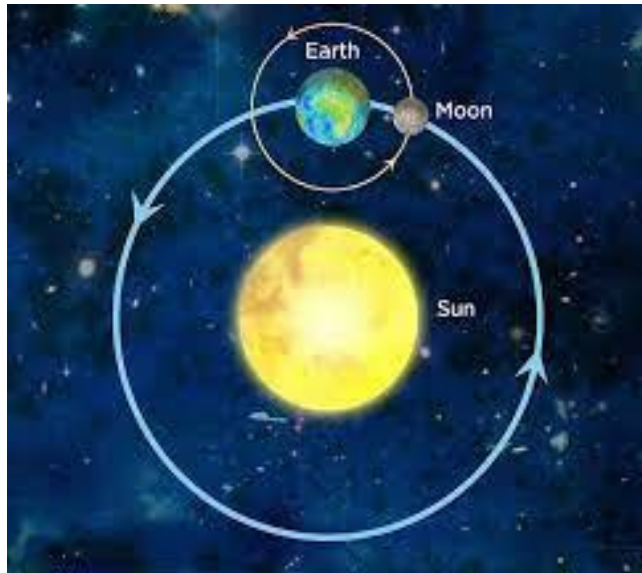
Solar System: A star (they sun) and all the planets that orbit around it.



The Earth is tilted at 23.5° as it spins on its own axis anticlockwise.



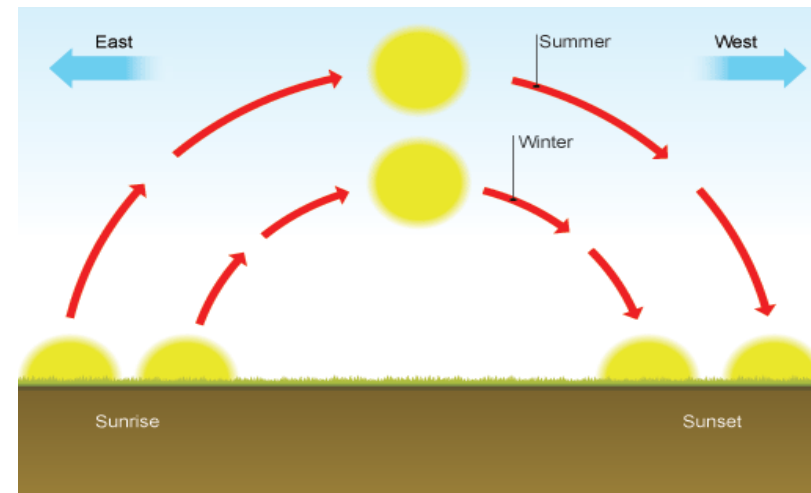
The Earth orbits the sun every 365 ¼ days. The moon orbits the Earth every 28 days.



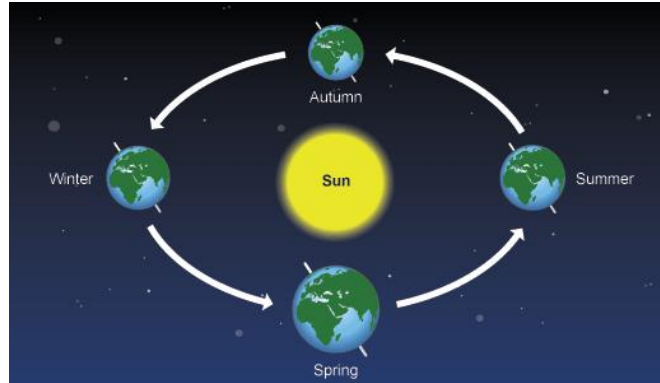
Phases of the moon during the lunar cycle:



The sun appears to move through the sky, rising in the East and setting in the West.



During the winter, the North Pole is tilted away from the Sun's rays. As Earth travels around the Sun, the tilt of Earth changes. By June, the North Pole is tilted towards the Sun and the days become very long. **Earth takes a year to orbit the Sun and it is the tilt which creates the seasons.**



When a piece of debris strikes the moon, it causes materials on the moon's surface to fly out in every direction, creating a mostly circular hole.

It's like what happens if you drop a rock into a pile of mud.

