



## Earth and Space



## Year 5

### What should I already know?

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Recognise that light from the sun can be dangerous and that there are ways to protect your eyes.
- Recognise that shadows are formed when the light from a light source is blocked by a solid object.
- Find patterns in the way that the size of shadows change.

### Learning Journey Assessment

- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe the Sun, Earth and Moon as approximately spherical bodies.
- Explain the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.
- Carry out a full investigation into the length of shadows at different times of the day

### Famous Scientists



### Vocabulary

<b>Sun</b>	A huge star that Earth and the other <b>planets</b> in our solar system <b>orbit</b> around.
<b>star</b>	A giant ball of gas held together by its own gravity.
<b>moon</b>	A natural <b>satellite</b> which orbits Earth or other <b>planets</b> .
<b>planet</b>	A large object, round or nearly round, that <b>orbits</b> a <b>star</b> .
<b>sphere</b>	A round 3D shape in the shape of a ball.
<b>spherical bodies</b>	Astronomical objects shapes like <b>spheres</b> .
<b>satellite</b>	Any object or body in space that <b>orbits</b> something else, for example: the <b>Moon</b> is a <b>satellite</b> of Earth.
<b>orbit</b>	To move in a regular, repeating curved path around another object.
<b>rotate</b>	To spin. E.g. Earth <b>rotates</b> on its own <b>axis</b> .
<b>axis</b>	An imaginary line that a body <b>rotates</b> around. E.g. Earth's <b>axis</b> (imaginary line) runs from the North Pole to the South Pole.
<b>geocentric model</b>	A belief people used to have that other <b>planets</b> and the <b>Sun</b> orbited around Earth.
<b>heliocentric model</b>	The structure of the Solar System where the <b>planets</b> orbit around the <b>Sun</b> .
<b>astronomer</b>	Someone who studies or is an expert in astronomy (space science).

### Diagrams

Earth **rotates** (spins) on its axis. It does a full **rotation** once in every 24 hours. At the same time that Earth is **rotating**, it is also **orbiting** (revolving) around the **Sun**. It takes a little more than 365 days to orbit the **Sun**. Daytime occurs when the side of Earth is facing towards the **Sun**. Night occurs when the side of Earth is facing away from the **Sun**.

It appears to us that the **Sun** moves across the sky during the day but the **Sun** does not move at all. It seems to us that the **Sun** moves because of the movements of Earth.

Our Solar System (not to scale)

The **Moon** orbits Earth in an oval-shaped path while spinning on its axis. At various times in a month, the **Moon** appears to be different shapes. This is because as the **Moon** **rotates** round Earth, the **Sun** lights up different parts of it.

**Geocentric model**  
Years ago people believed that **planets** moved around the Earth.

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