# Boarshaw Primary School - Science

| Topic: Earth and Space | Year: 5 | Strand: Physics |
|---|---|---|

## What should I already know?

The sun is a light source and that light from the sun can be dangerous so we must protect our eyes.

The moon is a rock which reflects light.

Forces such as push and pull and friction.

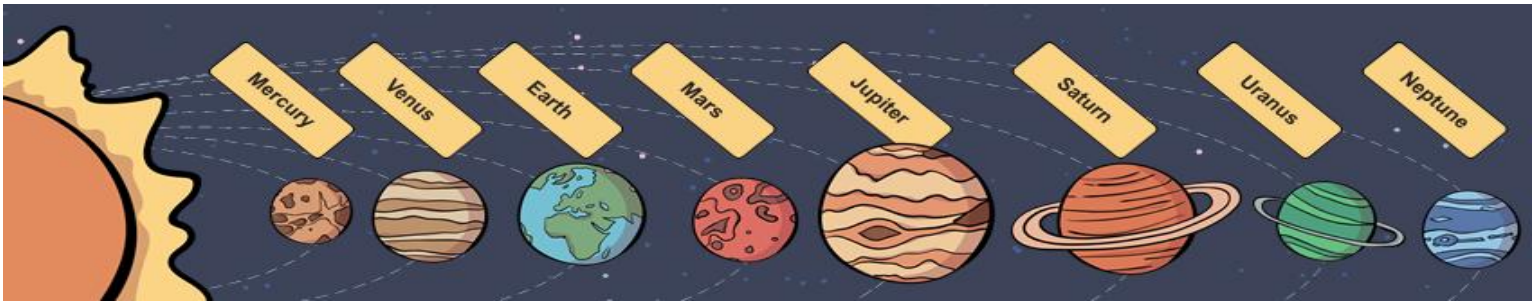
Shadows are formed when light from a light source is blocked by an opaque object and we can find patterns in the way that the size of shadows change.

## What will I know by the end of the unit?

The movement of the Earth, and other planets, relative to the Sun and the Solar System and the movement of the Moon relative to the Earth.

That the Sun, Earth and Moon are approximate spherical bodies.

The Earth rotates to explain day and night which also explains the apparent movement of the sun across the sky.




## Orbits

All the planets in our solar system **orbit the Sun**. The Sun is at the **centre of our solar system**. Each planet takes a different amount of time to orbit the Sun, depending on how far away it is and how slowly it moves.
Planets orbit the Sun because of **gravity**. The Sun's gravitational pull keeps all the planets in orbit. Planets travel on an **elliptical path** around the Sun, which keeps them from falling into the Sun. Below is a table showing how long each planet takes to orbit the Sun.

| | |
|---|---|
| Mercury | 87.97 Earth days |
| Venus | 224.70 Earth days |
| Earth | 365.25 Earth days |
| Mars | 686.98 Earth days |
| Jupiter | 4332.82 Earth days |
| Saturn | 10,755.70 Earth days |
| Uranus | 30,687.15 Earth days |
| Neptune | 60,190.03 Earth days |

## The Sun

The Sun is **not a planet!** It is a **star**. It is at the **centre of our solar system** and gives **light** and **heat** to all the planets in it. It also has a **gravitational pull** that keeps all the planets in orbit around it.

## Key Vocabulary

**dwarf planet** - a small planet

**friction** - the force that acts upon one surface when it moves against another

**gravity** - a pull force that acts at a distance

**orbit** - the curved path around a star, planet or moon

**planet** - an object in space that orbits a star

**pull** - to move something towards

**push** - to move something away

**solar system** - the name given to our Sun and eight planets and their moons

**star** - an object in space made of luminous plasma (bright gas) held together by its own gravity

## Moons

We are not the only planet with a moon.
Some planets have more moons than us!

Mercury and Venus - **0** moons
Earth - **1** moon
Mars - **2** moons
Jupiter - **79** moons
Saturn - **82** moons
Uranus - **27** moons
Neptune - **14** moons

