

Knowledge Organiser Science Year 5 Spring

Forces and space: Earth and space



St Elizabeth's Catholic Primary School
"Love one another as I have loved you"

Prior knowledge



Year 3

- ❑ We need light in order to see things; dark is the absence of light.
- ❑ Light from the Sun can be dangerous, so eyes need protecting.
- ❑ Shadows are formed when the light is blocked by a solid object.
- ❑ The sun appears to move across the sky.

Knowledge and skills covered in this topic



- ❑ Children will compare the contributions of Ptolemy, Alhazen and Copernicus to models of the Solar system.
- ❑ Children will describe the movement and shapes of the celestial bodies in our Solar System.
- ❑ Children will describe the movement of the Moon relative to the Earth.
- ❑ Children will explain the causes of day and night and the seasons.
- ❑ Children will devise a sundial to tell the time.
- ❑ Children will describe some uses of satellites and the problems posed by space junk.

British Values



- ❑ Mutual respect



Scientific skills developed in this topic



- ❑ To pose testable questions about the Solar System.
- ❑ To develop a model to represent the Solar System.
- ❑ To design and draw a table.
- ❑ To draw a diagram to explain day and night.
- ❑ To calibrate and use a sundial to measure time.
- ❑ To use temperature data to make predictions about climate change.

Key words



Artificial satellite: A human-made object that orbits a planet.

Axis: An imaginary line the Earth spins around, going from the North Pole to the South Pole.

Calibrate: To adjust a device (like a sundial) so that it measures accurately.

Celestial bodies: Natural objects in space, e.g. planets, moons, stars.

Climate change: A change in the Earth's temperature, weather and rainfall over a long time.

Daytime (daylight): The time when the sun is shining on part of the Earth, making it bright.

Data: Information collected when observing.

Earth: The third planet from the Sun on which humans live.

Elliptical: Shaped like an oval, not a perfect circle.

Face: The flat part of the sundial with the hours marked. The gnomon casts a shadow on it.

First quarter moon: The phase when the Moon appears like half a circle, with the right side illuminated.

Full moon: The phase when the Moon is fully illuminated and looks like a complete circle.

Gnomon: The part of a sundial that sticks up and casts a shadow on the face of the dial to indicate the time.

Gravity: A force that pulls objects towards each other.

Horizon: The line at which the Earth's surface and the sky appear to meet.

Jupiter: The fifth planet from the Sun, which is a gas giant.

Last quarter moon: The phase when the Moon appears like half a circle, with the left side illuminated.

Mars: The fourth planet from the Sun, which is a rocky planet.

Mercury: The closest planet to the Sun, which is a rocky planet.

Midday: 12 p.m. or noon.

Moon: A natural object that orbits a planet.

Natural satellite: A natural object that orbits a planet, like a moon.

Neptune: The eighth planet from the Sun, which is a gaseous planet.

New moon: The phase when none of illuminated part of the Moon is visible.

Night-time: The time when a particular part of the Earth is facing away from the Sun. It is dark.