

## Earth and Beyond Knowledge Organiser

### Key knowledge

#### Planets

- ✓ There are 8 planets in our Solar System (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune). Pluto is a dwarf planet.
- ✓ They all orbit the Sun, which is a star, and they all have moons.
- ✓ The first four planets are relatively small and rocky, while the four outer planets are gas giants (Jupiter and Saturn) or ice giants (Uranus and Neptune).

#### Orbits

- ✓ The Sun, Earth and Moon are approximately spherical.
- ✓ It takes 24 hours for the Earth to rotate on its axis once.
- ✓ It takes 365 and  $\frac{1}{4}$  days for Earth to orbit the sun.
- ✓ Every four years we have an additional day on Feb 29th – this is called a leap year.
- ✓ It takes 28 days for the moon to orbit Earth.

#### Day and Night

- ✓ The Earth rotates on its axis anticlockwise and makes a complete rotation over 24 hours (a day).
- ✓ This makes it appear as the Sun moves through the sky but the Earth's rotation causes day and night.
- ✓ Different parts of the Earth experience daylight at different times - this means that it is morning, afternoon and night in different places. This is also the reason why we have time zones.

#### Seasons

- ✓ It is the Earth's tilt that causes the seasons.
- ✓ The seasons are the opposite for the Northern and Southern Hemispheres.

### BIG Questions

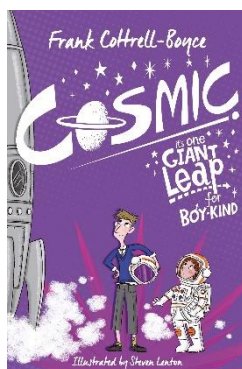
What shape are the Earth, sun and moon?

How does the moon move around Earth?

What causes day and night?

What causes the seasons on Earth?

### Our Text



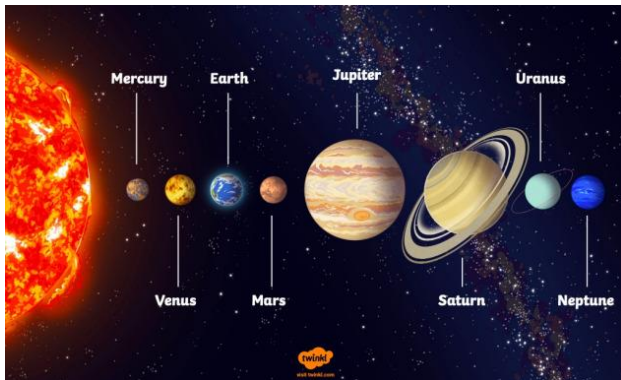
### Key Vocabulary

astronomer	Someone who studies or is an expert in astronomy (space science).
axis	An imaginary line through the middle of something.
celestial bodies	Natural objects in space, such as planets, moons and stars.
equator	An imaginary line around the middle of Earth.
galaxy	An extremely large group of stars and planets. Our galaxy is called the Milky Way.
gravity	The pulling force which causes things to drop to the ground.
moon	A natural object that orbits a planet.
Northern Hemisphere	The section of the Earth that is north of the Equator.
leap year	A year which has 366 days. The extra day is the 29th February. There is a leap year every four years.

### Day and Night



### The Planets



orbit	The path that a planet or other celestial body takes as it moves around a star.
phase	A stage in a cycle or process.
planet	A large, spherical, natural object that orbits around a star..
rotate	To spin e.g. the Earth rotates on its axis
satellite	Any object or body in space that orbits something else, for example the Moon is a satellite of the Earth.
shadow	A dark shape on a surface that is made when something stands between a light and the surface.
solar system	The Sun and all the planets that go around it.
Southern Hemisphere	The section of the Earth that is south of the Equator.
spherical	Shaped like a ball or a globe
star	A giant ball of gas held together by its own gravity.
time zone	One of the areas into which the world is divided where the time is calculated as being a particular number of hours behind or ahead of GMT (Greenwich Mean Time).
universe	The whole of space and all the stars, planets, and other forms of matter and energy in it.

