Alverton School Science Knowledge Organiser Years 5 and 6 -EARTH AND SPACE

What we already know:
There are 4 seasons and the weather changes over the seasons.
Shadows are caused by an object being blocked by a light source.
Shadows change shape during the day depending on where the sun is in the sky.

Key Vocabulary	
Asteroid	A rock that orbits the Sun in a belt between Mars and Jupiter.
Axis	An imaginary line through the centre of the Earth.
Comet	A bright object with a long tail that travels around the Sun.
Meteorite	A rock from Outer Space which has landed on Earth
Solar System	The Sun and everything that orbits it
Gravity	The force which pulls objects towards the centre of the Earth.
Planet	A body in Space which orbits the Sum. It is large enough to have its own gravity
Moon	A body that orbits a planet.
Orbit	The curved path taken by an object in Space as it travels around another body.
Universe	The whole of Space
Star	A large fixed ball of burning gas.
Sun	The star in our Solar System
Shadow	A dark patch made when light is blocked.

Core Knowledge

How does the Moon move around the Earth?
The Moon orbits the Earth anticlockwise and takes approximately 28 days, we call this the lunar month. The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon. The Moon has different phases depending on where it is in its orbit.
Waxing occurs after a new moon and before a full moon, as more of the moon is illuminated.
There is gravity on the moon. However it is a much lesser force than the gravity on earth.

What causes tides on Earth?
Tides are caused by the gravity of the Moon, and to a lesser extent the gravity of the Sun. As the Moon orbits the Earth, its position in relation to the Sun changes. When they are in line, we get Spring tides. When they are at right angles to each other, we get Neap tides.

What causes day and night?
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The Earth rotates on its axis anti-clockwise 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.
As the Earth rotates, shadows that are formed change in size and orientation

What causes seasons on Earth
Earth's tilted axis causes the seasons. Throughout the year, different parts of Earth receive the Sun's most direct rays. So, when the North Pole tilts toward the Sun, it is summer in the Northern Hemisphere. And when the South Pole tilts toward the Sun, it is winter in the Northern Hemisphere.

What are the planets in our Solar System

There are 8 planets in our solar system. They are all very different in terms of composition, appearance, day length, year length, number of moons etc.