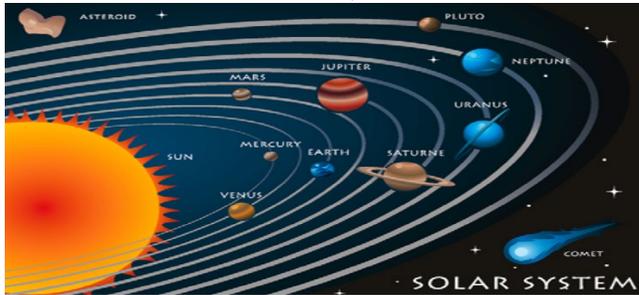




# Earth and Space - Science Knowledge Organiser

I know there are 8 planets in our Solar System. I know that our solar system is part of the Milky Way. I know the order of the planets from the sun.



- Mercury
- Venus
- Earth
- Mars
- Jupiter
- Saturn
- Uranus
- Neptune

I know what the sun is and can talk about this:



The sun is a star. It is a ball of burning gas.

It is at the centre of the Solar System. All the planets orbit the sun. It is a source of light and heat.

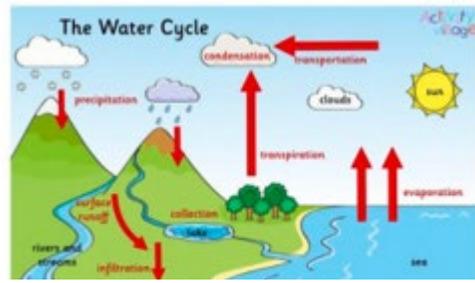
I know that the Earth is the only planet known to sustain life. I can talk about how night and day are created on Earth.



Earth is the planet we live on.

It is the right temperature and has the right amount of air and water for living things.

I can talk about the Water Cycle:



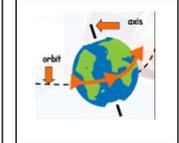
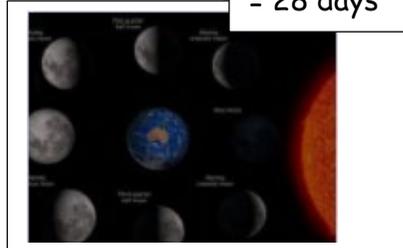
|               |  |
|---------------|--|
| Evaporation   | When the heat from the sun warms the water, the liquid turns into a vapour (gas) and rises because it is lighter.  |
| Condensation  | The water vapour is lifted into the sky. As you go higher, the air gets colder and cools down the gas. This causes the particles to condense (come together) and form microscopic droplets of water.   |
| Precipitation | As soon as the water droplets reach a certain size, their weight is too great to stay in the air and they fall down to the ground. This is called precipitation. If the air is very cold, the water falls as ice or sleet. Otherwise it falls as rain.   |
| Collection    | Wherever the water lands, this is called the 'collection' stage of the water cycle. Rain and snow may return to the Earth as rivers or lakes, on the ground or on houses and roads, where it soaks down towards the rivers. Eventually, most of this water flows into the seas. The water cycle can now start again! |

I can talk about the phases of the moon.



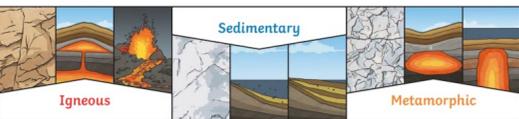
We only see the part of the moon that the sun is lighting up.

Our moon appears to change shape. We call this the phases of the moon. Full cycle = 28 days



Like all planets, Earth orbits the sun.

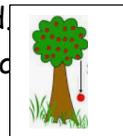
The Earth rotates on its axis. It takes 24 hours for the Earth to rotate. When our part of the Earth is facing the sun it is day. When it is facing away from the sun it is night.



I know there are three types of naturally occurring rock. **Igneous Rock** formed from magma or lava. **Sedimentary Rock** formed by layers of sediment being pressed down hard and sticking together. **Metamorphic Rock** started as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.

I know what gravity is and can talk about it:

Gravity is an invisible force that pulls objects towards each other. Earth's gravity is what keeps us on the ground. It is what makes things fall to the ground.



I know what a moon is.



A moon is a natural satellite that orbits a planet

Some planets have no moons, some have lots. Earth has one moon.



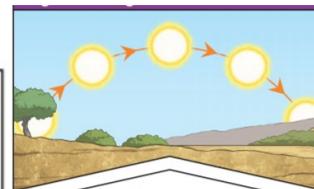
# Earth and Space - Science Knowledge Organiser

- I know the earth has a core, inner core, mantle and crust.
- I know there are three main categories of rock - Igneous, Sedimentary and Metamorphic rock.
- I know what part evaporation and condensation play in the water cycle.
- I know that our sun is a star and that it appears to move across the sky, but it is actually the earth that is moving.
- I know what causes night and day to happen.
- I know that our solar system is part of the Milky Way and when I look up at night I can see planets, stars, galaxy and nebulae.
- I know the names of the planets in our solar system and can name them in order from the sun.
- I know that the moon is a natural satellite that orbits around a planet.
- I know that earth has one moon but some planets have more and some don't have any.
- I know that it takes our moon around 28 days to orbit the earth.
- I know that gravity is an invisible force that pulls objects together.

| Key Vocabulary   |  |
|------------------|--|
| igneous rock     | Rock that has been formed from magma or lava   |
| sedimentary rock | Rock that has been formed by layers of sediment being pressed down hard and sticking together. You can see the layers of sediment in the rock.         |
| metamorphic rock | Started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.   |
| magma            | Molten rock that remains underground.  |
| lava             | Molten rock that comes out of the ground.  |
| sediment         | Natural solid material that is moved and dropped off in a new place by water or wind e.g. sand.  |
| evaporation      | When a liquid changes into a gas (water vapour)  |
| condensation     | When a gas (or water vapour) changes into a liquid.  |
| sun              | A huge star which earth and the other planets in our solar system orbit around.  |
| star             | A giant ball of gas held together by its own gravity.  |
| moon             | A natural satellite which orbits a planet.   |
| planet           | A large natural object that is sphere shaped (or nearly sphere shaped) and orbits a star.  |
| satellite        | Any object in space that orbits something else. A satellite can be natural (e.g. moon) or manmade.   |
| orbit            | To move in a regular, curved path around another object.   |
| rotate           | To spin  |
| axis             | An imaginary line that an object rotates around. E.g. the earth's axis (imaginary line) runs through the centre from the North Pole to the South Pole. |



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.



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.

