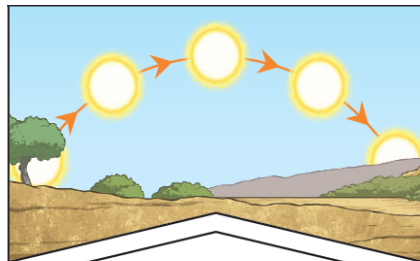
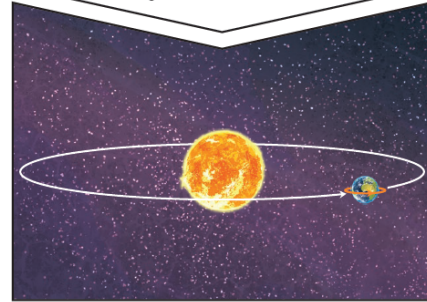
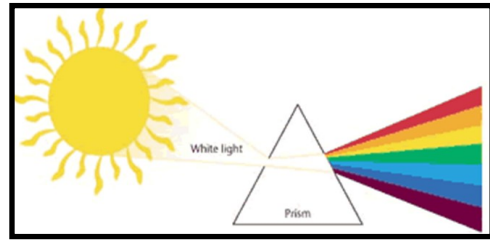
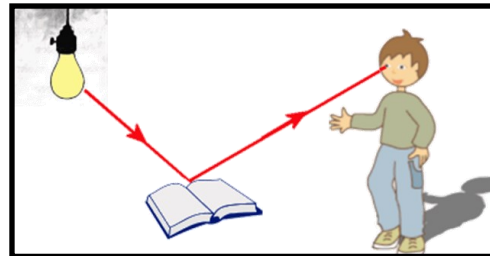
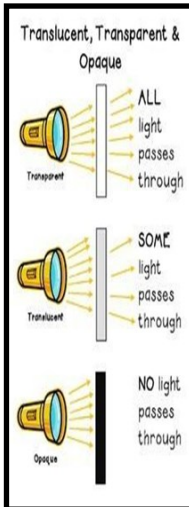
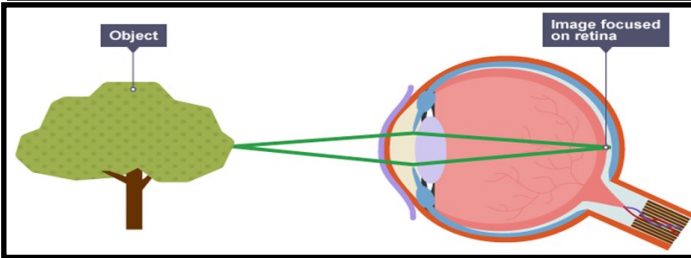


Class 4 - Knowledge Organiser

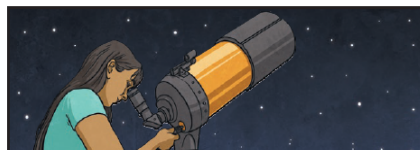
Autumn 2—Science around us...

Space and why our shadows change shape

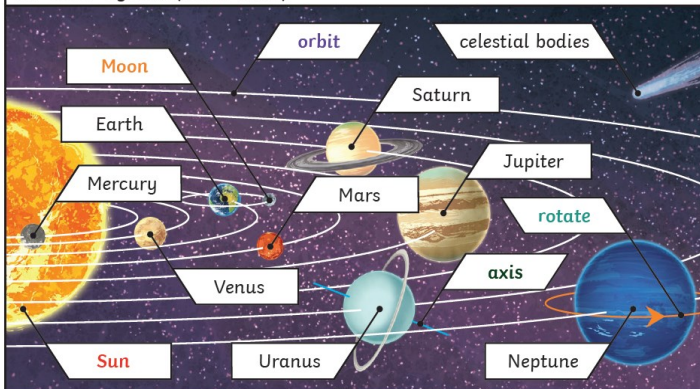
Earth **rotates** (spins) on its **axis**. It does a full **rotation** once in every 24 hours. At the same time that Earth is **rotating**, it is also **orbiting** (revolving) around the **Sun**. It takes a little more than 365 days to **orbit** the **Sun**. Daytime occurs when the side of Earth is facing towards the **Sun**. Night occurs when the side of Earth is facing away from the **Sun**.



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.



Our Solar System (not to scale)



Key Vocabulary

Asteroid—a rock that orbits the Sun in a belt between Mars and Jupiter

Eyes – Globular organs of sight in the head of humans and vertebrate animals

Filter – Pass through a device to remove unwanted material (liquid, gas, light or sound)

Galaxy -an extremely large group of stars and planets. Our galaxy is called the Milky Way.

Light – The natural agent that stimulates sight and makes things visible

Light source – Something that provides light, whether it be a natural or artificial source of light (e.g. the sun, a torch)

Rainbow – An arch of colours visible in the sky, caused by the refraction and dispersion of the sun's light by rain or other water droplets in the atmosphere

Reflection – The throwing back by a body or surface of light, heat or sound without absorbing it

Refraction – The bending of light as it passes from one substance to another with the bending caused by the difference in density between two substances

Shadow – A dark area or shape produced by a body coming between rays of light and a surface

Solar System—the Sun and all the planets that go round it

Spectrum – A band of colours, as seen in rainbows, produced by separation of the components of light by their different degrees of refraction

Investigate!

- Compare the time of day at different places on Earth.
- Construct shadow clocks and sundials.
- Keep a Moon diary over the course of a month - what do you notice?

Class 4 - Autumn 2 — Space and why do our shadows change shape?

KWL

Which of these causes day and night?	Start	End
The Sun moves across the sky.		
The Earth rotates on its axis		
The Earth orbits the Sun.		
The Moon comes out at night.		

The seasons are caused by...	Start	End
the weather		
the Moon		
the Earth's rotation on its axis		
the Earth's tilt as it orbits		

How long does it take the Earth to orbit the Sun?	Start	End
365 and a quarter days		
24 hours		
28 days		
7 days		

Shadows can also be elongated or shortened depending on the _____ of the light source	Start	End
angle		
shape		
power		
size		

_____ is when light bounces off a surface, changing the direction of a ray of light.	Start	End
bouncing		
light		
reflection		
refraction		

The colours of the spectrum are...	Start	End
Red, green, yellow		
White, red, orange, yellow, blue, indigo and violet		
red, orange, yellow, green, blue, indigo and violet		

The Sun's _____ keeps the planets orbiting it	Start	End
gravitational pull (gravity)		
spherical shape		
burning gas		

Write the order of the planets from the distance of the Sun (with the closest planet being number 1).	Start	End
Venus		
Mars		
Mercury		
Jupiter		
Uranus		
Saturn		
Neptune		
Earth		

Questions I have at the start:

Answered?

YES NO