

# Preston Primary School Knowledge Organiser

Topic: Science

Term: Spring 1

Year: 5/6

Duration: 6 Lessons

The Powerful Knowledge we will take away from this Learning Enquiry (what I will be learning):



- I can recognise that light appears to travel in straight lines.
- I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.
- I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.
- I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects

What I already know:

- In Unit 3, I learnt to recognise that people need light in order to see things and that dark is the absence of light and that light is reflected from surfaces. I also learnt to recognise how shadows are formed and to find patterns in the way that the sizes of shadows change.

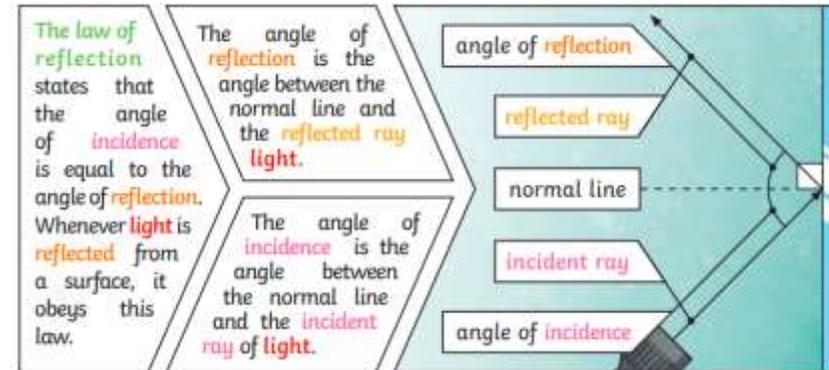
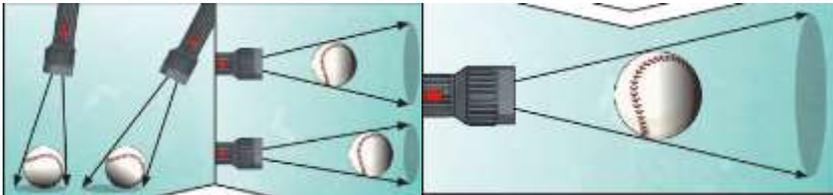
Our Key Vocabulary:

Word	Meaning
Light	A form of energy that travels in a wave from a source.
Light source	An object that makes its own light.
Incident ray	Reflection is when light bounces off a surface, changing the direction of a ray of light.
Reflected ray	A ray of light that has bounced back after hitting a surface.
The law of reflection	The law states that the angle of the incident ray is equal to the angle of the reflected ray.
Refraction	This is when light bends as it passes from one medium to another. E.g., Light bends when it moves from air into water.
Visible spectrum	Light that is visible to the human eye. It is made up of a colour spectrum.
Shadow	An area of darkness where light has been blocked.
Transparent	Describes objects that let light travel through them easily, meaning you can see through the object.
Translucent	Describes objects that let some light through but scatters the light so we can't see through them properly.
Opaque	Describes objects that do not let any light pass through them.

## Shadows

The Earth rotates one complete turn every 24 hours to give us day and night. Daytime occurs when the side of the Earth is facing the sun and night occurs when the side of the Earth is facing away from the sun. When Britain faces the Sun, it is daytime in Britain, but the other side of the world is in darkness. So, in Australia it is the middle of the night.

Shadows can also be elongated or shortened depending on the angle of the light source. A shadow is also larger when the object is closer to the light source. This is because it blocks more of the light.



Light travels as a wave. But unlike waves of water or sound waves, it does not need a medium to travel through. This means light can travel through a vacuum - a completely airless space.



## Useful Links:

**What is light?** - <https://www.bbc.co.uk/bitesize/topics/z3nnb9q/articles/zpvnf82>

**How does the eye detect light?** - <https://www.bbc.co.uk/bitesize/topics/z3nnb9q/articles/zrs62v4>

**What is reflection?** - <https://www.bbc.co.uk/bitesize/topics/z3nnb9q/articles/zy34r2p>

**Lights and shadows** - <https://www.bbc.co.uk/bitesize/topics/z3nnb9q/articles/z9wm7yc>