Science Knowledge Organiser—Light

Curriculum Objectives

By the end of this unit, your child will be able to:

- Recognise that light travels in straight lines.
- Describe how light enables us to see.
- Understand reflection as light bouncing off a surface.
- Identify some effects of refraction.
- Recognise that angles of incidence and reflection are equal.
- Explain how light is refracted as it travels through glass or water.
- Explore colours using light.
- Recognise that Isaac Newton discovered information about light and colour.
- Explain that objects block light to form shadows.
- Understand how and why shadows seem to move.

Key knowledge

We need light to be able to see things. Light waves travel out from sources of light in straight lines. These lines are often called rays or beams of light.

Light from the sun travels in a straight line and hits the dog. The light ray is then reflected off the dog and travels in a straight line into the person's eye, enabling her to see the dog.



reflects light	t
reflects light light source	l
Key facts	
A prism is a solid 3D shape with flat sides. The two ends are an equal shape and size. A trans- parent prism separates out visible light into all the colours of the spectrum. Light travels as a wave, but unlike waves of water or sound waves, it does not need a medium to travel through.	:
A shadow is always the same shape as the object that casts it. This is be- cause when an opaque ob- ject is in the path of the light, it will block the light rays that hit it.	

.ight A form of energy that travels in a wave from a source. light source An object that makes its own light. Reflection Reflection is when light bounces off a surface, changing the direction of the ray of light. 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. Incident ray A ray of light that hits a surface. Reflected ray A ray of light that has bounced back after hitting a surface. Describes objects that let light travel **Fransparent** through them easily. Describes objects that let some light **Franslucent** through, but scatters the light. Describes objects that do not let any light Opaque pass through them.

Key Vocabulary/Terminology

