

Preston Primary School Knowledge Organiser



Topic: Science- Light

Term: Autumn 2

Year: Unit 3






Duration: 7 Weeks

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

	<ul style="list-style-type: none"> Light from the sun can be incredibly damaging to human eyesight. We can take measures to prevent damage to our eyes e.g., by wearing sunglasses, avoiding looking at the sun. Light is reflected onto objects from a light source. Shadows are formed when a solid object blocks a light source. Shadows can change shape and size. To identify that there are patterns to how shadows change shape and size through experimentation.
	<ul style="list-style-type: none"> A fair test must have only one changing variable (you are only changing one thing). Children will learn to pose scientific questions and plan experiments to find the answer. Children will plan and carry out experiments to identify what causes shadows to change shape and size.

Our Key Vocabulary:

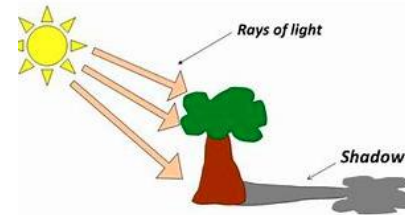
Word	Meaning
Dark, dull, bright, very bright	These words are simple comparisons used to describe the quality and amount of light.
Brighter, duller, darker	Comparative vocabulary used to describe the degrees of light visible.
brightest, dulllest, and darkest opaque translucent, transparent	Vocabulary used to order the quantity of light being emitted from a source. Opaque materials let no light pass through them, translucent materials allow some light to pass through them and transparent materials are see-through and allow light to pass through them so objects behind can be seen clearly.
Shadow	A dark area or shape produced by a body coming between light and a surface. An absence of light.
Reflect	When light is thrown back or bounces off a material without being absorbed.
See	To look at or to be able to clearly perceive the world around you, using light and the sense of vision.

Steps in learning	
	<p>To recognise that darkness is the absence of light. To pose questions relating to darkness. To be able to record simple drawings of their observations.</p>
 	<p>To recognise that light reflects from surfaces. To observe light reflecting from surfaces. To understand that light from the sun can be dangerous to our eyesight.</p>
	<p>To be able to pose a question and then plan and conduct a fair test. To understand that shadows are formed when a solid object blocks a light source.</p>
	<p>To be able to pose a follow up question and then adapt their fair test. To understand that shadows change shape depending on the location of the object and the light source. To be able to draw conclusions from their testing.</p>

What I already know:

In Key Stage One, children have learnt that light is one of the key elements that plants need to grow.

In Unit 4, children will use knowledge of light to learn that it travels in a straight line, and this impacts how the human eye is able to see. Children will learn that light travels from light sources to our eyes or objects and then our eyes. It is the way that light travels that enables us to see.

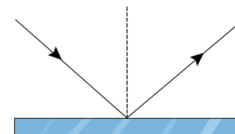


This image shows how light hits an object and a shadow forms where the light cannot pass through the object.

Opaque materials let no light pass through them, translucent materials allow some light to pass through them and transparent materials are see-through and allow light to pass through them so objects behind can be seen clearly.



reflection – the return of light from a material or surface



shiny – a surface that reflects most light



dull – a surface that does not reflect much light



Website links:

[Light and shadows - BBC Bitesize](#)