



**Topic Title:** Light

**Year Group:** 6

**Academic Year:** 2022/2023

**Science Intent:** To explore the way that light behaves, including light sources, reflection and shadows.

<p><b>Prior Scientific Learning/Linked Topics:</b></p> <ul style="list-style-type: none"> <li>• Recognise that they need light in order to see things and that dark is the absence of light</li> <li>• Notice that light is reflected from surfaces</li> <li>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>• Recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>• Find patterns in the way that the size of shadows change</li> </ul>	<p><b>Literacy Links (including texts/media used):</b></p> <p><b>WRITING TO INFORM:</b> Letter to alien</p>	<p><b>Maths Links:</b></p> <p>Statistics</p>
<p><b>Scientific Knowledge</b></p>	<p><b>Working Scientifically</b></p>	
<ul style="list-style-type: none"> <li>• recognise that light appears to travel in straight lines</li> <li>• 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</li> <li>• explain that we see things because light travels from light sources to our eyes or from light sources to objects and then</li> </ul>	<ul style="list-style-type: none"> <li>• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>• using test results to make predictions to set up further comparative and fair tests</li> <li>• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</li> </ul>	



<p>to our eyes</p> <ul style="list-style-type: none"><li>• use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li></ul>	<ul style="list-style-type: none"><li>• identifying scientific evidence that has been used to support or refute ideas or arguments</li></ul>
<p><b>Content:</b></p> <p><b>Lesson 1:</b></p> <p>Children will demonstrate previous learning by exploring what they already know about light using different resources (torches etc). They will then discuss a concept cartoon to access prior learning.</p> <p><b>Lesson 2:</b></p> <p>Children will 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 using ‘the boy the sun and the dog’ image. Children then demonstrate this themselves by using wool (Problem-solving)</p> <p><b>Lesson 3:</b></p> <p>Shining a light through hosepipe, children will demonstrate that light travels in straight lines. Children will write up their observations (comparative/fair testing).</p> <p><b>Lesson 4:</b></p> <p>Children will make periscopes to demonstrate how mirrors reflect light and help us see (Problem-solving)</p> <p><b>Lesson 5:</b></p> <p>Children will look at what causes a shadow and complete a table of data showing how the length of a shadow changes as the object is moved closer to the light</p>	



source ([pattern seeking](#)).

**Lesson 6:**

Using knowledge of shadows and light, children will create a WWII (cross-curricular) inspired shadow puppet scene ([problem solving](#)).

**Lesson 7:**

Children will write a letter to an alien explaining how us humans see light sources (sun) and non-light sources (moon).

**Key Vocabulary:** At the beginning of each topic, the children have the opportunity to explore, learn and understand the key vocabulary.

Light source, travels, straight, reflect, reflection, cast, direction, block, beam, opaque, translucent, transparent