



Science Unit Planner Year: 6 Title: Light and sight

<b>Unit Overview</b>	This unit will describe what a natural and artificial light source is, how light travels through various materials and how the ray model of light allows us to see things. Children will be able to explain how each part of the eye works and how it enables us to see, how shadows are formed, how and why a rainbow occurs and how to make a periscope.	
<b>Prior Learning/ Links</b>	EY – children will have played with mirrors and used torches in different scenarios. They will have talked about light and dark. KS2 – Children learned about light and dark in Y3, looking at shadows and how light travels.	
<b>Unit Title:</b>	<b>Substantive Knowledge</b>	<b>Disciplinary Knowledge</b>
<b>Key Questions:</b>  Why can't you see something that is around a corner but you can hear it?  What would be the best material to make a sun shelter from?	<ul style="list-style-type: none"> <li>• Know that light sources are objects from which light is emitted. These can be natural light (the sun, fires, fireflies), or man made light – light bulbs, TV, phones.</li> <li>• The Ray model of light is represented as a ray that travels in a straight path, the direction of which can be changed only by placing an obstruction in the path.</li> <li>• When light rays are cast, they can be absorbed, they can pass through an object, or can be reflected.</li> <li>• We are able to see because light is coming from an object to our eyes, or light is reflecting off an object and into our eyes.</li> <li>• Shadows are formed when an opaque object is placed in the pathway of a light source.</li> <li>• Shadows are formed because light travels in a straight line and cannot bend around the object in its path, so the shadow has the same shape as the object.</li> <li>• Light can pass through some materials, these are transparent.</li> <li>• Some light can pass through materials, these are translucent.</li> <li>• Light cannot pass through some materials, these are opaque. When an object is opaque and light cannot pass through, a shadow is formed.</li> <li>• Children can explain how to observe and make notes carefully. They can also explain where we can find information from, including on - line, books and through investigating.</li> </ul>	<b>Questioning and Planning</b> Plan different types of enquiries, exploring what may work well and why. To plan tests involving the control of variables – stating why this is important in conducting a fair test.  <b>Observation and Measurement</b> Take accurate measurements and observations, repeating readings in order to achieve accuracy.  <b>Recording and Presenting</b> Use written explanations Draw and present diagrams and explain their meaning Present graphs and describe the results clearly  <b>Analysing and Evaluating</b> Discuss the degree of trust in results. Describe the causal relationships in the findings.
<b>Vocabulary</b>	<b>Trips/ Visits/Useful Websites/ Resources</b>	<b>Key Misconceptions:</b>
<b>Substantive:</b> translucent transparent	<a href="#">Year 6: Light   STEM</a>	Sight is purely an active human process 'I am looking at something, which is why I can see it' or that eyes give out a form of light to enable us to see



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<p>opaque shadow rays lens refraction absorption</p> <p><b>Disciplinary:</b></p>	<p><a href="#">Light - Year 5-6 / P6-7 Science Collection - Home Learning with BBC Bitesize - BBC Bitesize</a></p> <p><a href="#">Unit - Oak National Academy (thenational.academy)</a></p>	<p>Reflective surfaces emit light Only shiny surfaces or water reflect light Opaque objects do not reflect light and opaque surfaces give out colour or 'darkness' The moon and mirrors reflect light – they do not give off light.</p>
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