

## Goonhavern Primary School- Science

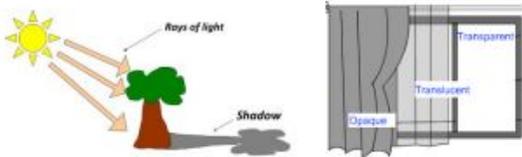
**TOPIC: Light**

**YEAR: 3**

**STRAND: Physics**

What should I know already?	What will I know by the end of the unit?	
<ul style="list-style-type: none"> <li>● Certain things produce light, usually by burning (e.g. the Sun) or electricity (e.g. street lights)</li> <li>● Shiny materials do not make light but do reflect it.</li> <li>● Shadows are caused when certain materials block light.</li> </ul>	<p>What is a light source?</p>	<ul style="list-style-type: none"> <li>● A light source is something that emits light by burning, electricity or chemical reactions.</li> <li>● Burning light sources include the Sun, flames from a fire and stars.</li> <li>● We must never look directly at the Sun as the light produced is very bright and can be harmful to our eyes. This is why we wear sunglasses.</li> <li>● Electric lights include lamps, car headlights and street lights.</li> <li>● Lights that are caused by chemical reactions are much less common. This happens when different chemicals react and light is a product of that reaction. Examples can include glow sticks and fireflies.</li> </ul>
	<p>Why do we need light?</p>	<ul style="list-style-type: none"> <li>● We need light so that we are able to see in the dark.</li> <li>● This is because the dark is the absence of light. The Sun and stars always give us light but we can only see the stars when it is dark. At night time we cannot see the Sun's light as the Earth turns and our part of the Earth is not lit up by the Sun at night.</li> <li>● When we are driving, we need car headlights or street lights to help us.</li> <li>● If we are walking or out in the dark, we would need torches to help us see. You should not look directly into the torch as this is dangerous.</li> </ul>
	<p>What are not sources of light?</p>	<ul style="list-style-type: none"> <li>● The Moon is not a source of light even though we can see it in the dark.</li> <li>● This is because the Sun's light reflects on the surface of the Moon making it appear as though the Moon emits light.</li> <li>● Shiny things are not light sources - they appear to be sources of light as they are bright.</li> </ul>
	<p>How does light travel?</p>	<p>Light travels in straight lines. When light is blocked by an opaque object, a dark shadow is formed.</p>

Vocabulary	
Angle	The direction from which you look at something.
Chemical reactions	A process that involves changes in the structure of something.
Emit	Produce and discharge (something, especially gas or radiation).
Reflects	Sent back from the surface and not pass through it.
Shadows	A dark shape on a surface that is made when something stands between a light and the surface.
Source	Where something comes from.
Translucent	Some light passes through it.

Image/diagram that helps me to articulate my knowledge/ understanding	Investigate!
<p>How are <b>shadows</b> formed?</p>  <p>The diagram illustrates how shadows are formed. On the left, a sun emits rays of light that hit a tree, creating a shadow on the ground. On the right, light rays pass through a window with curtains, showing different levels of light transmission: 'Opaque' (where light is blocked), 'Translucent' (where some light passes through), and 'Transparent' (where all light passes through).</p>	<ul style="list-style-type: none"> <li>• The brightness of torches - can you put torches in order from brightest to dimmest? What would make it a fair test?</li> <li>• Why do lights seem brighter in the dark?</li> <li>• Explore which objects form shadows when light is shone on them.</li> <li>• How can you change the size and shape of shadows by using the same object?</li> <li>• What happens when light is reflected from different surfaces? What happens when light is reflected from a mirror? What happens when the angle of the mirror (or light source changes?)</li> </ul>

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<b>TOPIC:</b>	<b>YEAR:</b>	<b>STRAND:</b>

Q1	Start of Unit	End of Unit	Q3	Start of Unit	End of Unit

