

**Year 3 – Science: Light**

<p>This term, we will learn to:</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 and objects into our eyes</li> <li>• recognise the difference between opaque, translucent and transparent objects</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 a solid object</li> <li>• recognise how the position and shape of a shadow can vary depending on the position of the light source.</li> </ul>	<p>Prior learning:</p> <p><b>Materials in Year 1:</b> &gt; Describing materials- shiny/ dull, opaque/ transparent</p> <p><b>Seasonal changes in Year 1:</b> &gt; Observe and describe how day length varies</p> <p><b>Plants in Year 2:</b> &gt; Find out how plants need water, light and suitable temperatures to grow</p>	<p>Following on:</p> <p><b>Earth and Space in Year 5:</b> &gt; Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p> <p><b>Light in Year 6:</b> &gt; Recognise that light appears to travel in straight lines &gt; 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 &gt; Use the idea that light travels in straight lines to explain why shadows have the same shape as objects that cast them</p>
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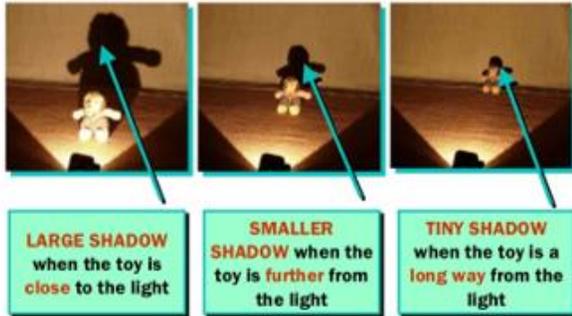
<b>Key facts</b>	<b>Key Vocabulary</b>	<b>Definition</b>
Light is a type of energy that makes it possible for us to see the world around us.	<b>Light source</b>	A light source is an object that can emit its own light.
Light comes from different sources called light sources; our main natural light source is the sun. Other sources include fire, stars and man-made light sources such as light-bulbs and torches.	<b>Opaque</b>	An object is opaque if light cannot pass through it.
Shadows are created when an opaque object blocks the light source. Shadows change depending on the distance the object is from the light source and the position of the light source.	<b>Transparent</b>	An object is transparent if you can see through it.
Reflection is when light hits the surface of an object and then that light travels to our eyes so we can see. Objects such as tables and chair reflect an image of the object itself so we can see it.	<b>Translucent</b>	If an object is translucent, some light can pass through it.
Too much unprotected exposure to the sun's ultraviolet (UV) rays can cause skin damage and eye damage.	<b>Reflection</b>	When light bounces off a surface or object.
Darkness is the absence of light.	<b>Shadow</b>	A dark shape that appears when something stands between a light and a surface.
If the surface of an object is smooth, nearly all the light will be reflected from it in a uniform manner. If the surface of an object is bumpy, light reflects from the surface and scatters in different directions.	<b>Matte/dull</b>	Objects that are not shiny.

Opaque objects do not let light pass through it, whereas transparent objects let nearly all light pass through them, and translucent objects let some light pass through them.

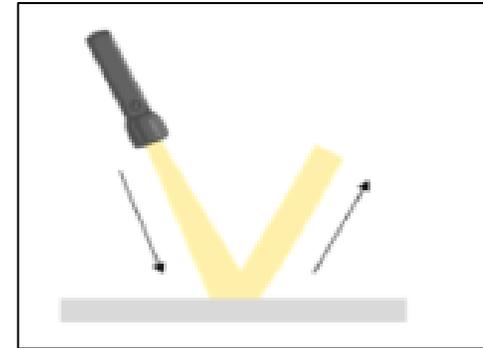
*Shiny*

Objects that reflect light that do not emit their own.

### Shadows



### Light reflecting from a surface



### Disciplinary Knowledge: As a Scientist I will...

- Suggest how to find things out
- Use pictures, diagrams, writing and tables to find information
- Begin to realise that scientific ideas are based on evidence
- Measure using given equipment
- Recognise the need to collect data to answer questions
- Record our observations in writing and in pictures
- Begin to offer explanations for what we observe
- Communicate in a scientific way what we have found out
- Suggest improvements in our work
- Evaluate our findings