

Science | Year 3/4 – Light | Autumn – 2020

1. recognise that they need light in order to see things and that dark is the absence of light
2. notice that light is reflected from surfaces
3. recognise that light from the sun can be dangerous and that there are ways to protect their eyes
4. recognise that shadows are formed when the light from a light source is blocked by an opaque object and find patterns in the way that the size of shadows change

	Assessment guidance	Key learning	Key vocabulary
Light	Shows understanding of a concept using scientific vocabulary correctly	<p>We see objects because our eyes can sense light. Dark is the absence of light. We cannot see anything in complete darkness. Some objects, for example the sun, light bulbs and candles are sources of light. Objects are easier to see if there is more light. Some surfaces reflect light. Objects are easier to see when there is less light if they are reflective. The light from the sun can damage our eyes and therefore we should not look directly at the Sun and can protect our eyes by wearing sunglasses or sunhats in bright light.</p> <p>Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light. The size of the shadow depends on the position of the source, object and surface.</p>	<p>Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight,</p>
	Applying knowledge in familiar related contexts, including a range of enquiries	<p>Explore how different objects are more or less visible in different levels of lighting</p> <p>Explore how objects with different surfaces e.g. shiny vs matt are more or less visible</p> <p>Explore how shadows vary as the distance between a light source, an object or surface is changed</p> <p>Explore shadows which are connected to and disconnected from the object e.g. shadows of clouds and children in the playground</p> <p>Choose suitable materials to make shadow puppets</p> <p>Create artwork using shadows</p>	

Session sequence – Light

Session	Key learning	Activity
1	Sources of light – produce light, not reflect it, without them it would be dark – absence of light	Light sources sorting activity – where would the moon fit?
2	Some surfaces reflect light. Objects are easier to see when there is less light if they are reflective. Explore how objects with different surfaces e.g. shiny vs matt are more or less visible	Investigate which materials reflect light – design a bookbag to be seen
3	Reflective properties of mirrored surfaces – how can this be useful?	Mirror mazes – can you get the light to travel around corners? Where would you need to place the mirrors
4	The light from the sun can damage our eyes and therefore we should not look directly at the Sun.	Sun safety poster
5	Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light.	Investigate best material for making curtains for a baby's bedroom – needs to block the sun.
6	The size of the shadow depends on the position of the source, object and surface.	Shadow puppets – create shadow puppets from black card, how can we make the shadow larger, smaller without changing the puppet? Can you make them change shape?