

Objective	Milestone Indicators	Basic Activities	Advanced Activities	Deep Activities	Resources
To understand light and seeing.	<p>Milestone 3</p> <p>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.</p>	<p>On Worksheet 2A, children to draw the arrows onto the diagram showing the direction the light travels (i.e. from the light to the eye and not the other way around). Children to then answer the true or false questions.</p>	<p>On Worksheet 2C, children to label the diagram of the eye using books, the internet, etc, to find the information. Children then use their research to help them describe what each part of the eye does.</p>	<p>Provide children with books, access to the internet, etc, and ask them to find out more about how eyes work and how we see things through light entering the eye.</p> <p>Provide children with Challenge Cards and ask them to choose the one they think most reflects their preferred learning style (drawing a labelled diagram, writing an information booklet, creating a mind map or writing a song or poem).</p> <p>Children to complete their challenge using the information they have found out.</p>	<p>Slides Worksheet 2A/2C Books, access to internet, etc Challenge Cards</p>

<p>To understand light and seeing.</p>	<p>Milestone 3</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.</p>	<p>On Worksheet 5A, children to plan their experiment to find out what happens to the size of a shadow when an object is move further away from the light source. Children to carry out their experiment and record the results on the worksheet.</p>	<p>Children to plan their experiment to find out what happens to the size of a shadow when an object is moved further away from the light source. Children to then carry out their experiment and record the results. Children to then plot the results on a bar graph using squared paper and explain in their own words what the results show.</p>	<p>Ask children to think of their own question they would like to investigate (e.g. what happens when the object is moved further away from the screen/wall? What happens when the object is moved further away from the torch? What effect does the angle of the light beam have on the shadow?). Children to plan their experiment. Children to carry out their experiment and then present their results in the way they feel best demonstrates what they have found out (e.g. through diagrams, written explanations, charts and graphs, etc).</p>	<p>Slides Worksheet 5A Torches Opaque objects</p>
--	--	---	--	--	---

<p>To understand light and seeing.</p>	<p>Milestone 3</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.</p>	<p>Provide children with Worksheet 3A, a torch, a piece of white paper and a mirror. Children to place the torch on the piece of paper facing the mirror. Give them some time to investigate what happens to the beam of light shining at the mirror when the mirror is moved to a different angle and then draw the light beams on the worksheet.</p>	<p>Provide children with Worksheet 3B, a torch, a piece of white paper and a mirror. Children to place the torch on the piece of paper facing the mirror. Give them some time to investigate what happens to the beam of light shining at the mirror when the mirror is moved to a different angle and then complete the challenges on the worksheet to direct a light beam to the goals.</p>	<p>Challenge children to make a periscope using mirrors. Provide children with cardboard tubes, two mirrors, masking tape, a protractor and scissors. Give them some time to think about how they could construct their periscopes and how mirrors behave before working in pairs to construct their periscopes. When they have finished, challenge children to see if they can use their periscopes to see over a wall, under a table and around a corner. Give children some time to present their findings to the rest of the class. Does your periscope work? How did you construct it? Could you make any adjustments?</p>	<p>Slides Worksheet 6A Scenario Cards</p>
--	---	--	---	---	---