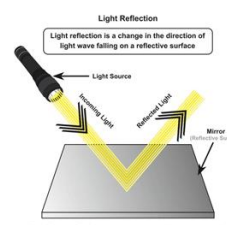
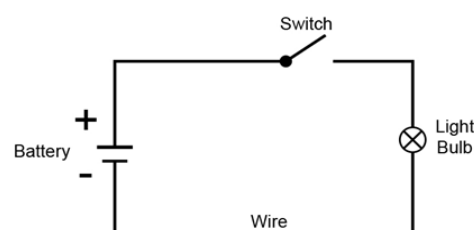


Light & Electricity		Year 6 Summer 2	
	Prior Knowledge	New Knowledge	Future Knowledge
Science	<p>Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows changes. (Y3)</p>	<p>Recognise that light appears to travel in straight lines.</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 eye.</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>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	<p>The similarity and differences between light waves.</p> <p>Light waves travelling through a vacuum and the speed of light.</p> <p>The transmission of light through objects.</p> <p>Use of a ray model.</p> <p>Light transferring energy.</p> <p>Colours and different frequencies of light. (KS3)</p>
	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors. (Y4)</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Current electricity, potential difference and resistance.</p> <p>Static electricity, positive and negative charges and the idea of electric field.</p> <p>Magnetism, magnetic poles, magnetic fields, the magnetic effect of current, and the Earth's magnetism. (KS3)</p>
DT	<p>Use appropriate tools with increasing accuracy.</p> <p>Join materials using appropriate methods Cut accurately and safely to a marked line</p> <p>Join and combe materials with temporary, fixed or moving joinings (Y5 – Bridges)</p> <p>Make structures more stable by giving them a wide base</p> <p>Prototype frame structures</p> <p>Measure and mark accordingly to 1cm</p> <p>Cut slots/internal shapes (if necessary) (Y3 – Greenhouses)</p>	<p>Building – Model of famous buildings from key cities in Europe</p> <p>Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms.</p> <p>Use a hot glue gun with close supervision. Use craft knife cutting mat and safety ruler under one to one supervision if appropriate. Choose an appropriate sheet material for the purpose</p> <p>Identify what does and does not work in the product and suggest improvements.</p> <p>Reflect on their work using design criteria stating how well the design fits the needs of the use</p>	<p>Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.</p> <p>Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. (KS3)</p>

Key Questions	Key Individuals	Key Vocabulary
<p>How do we see objects?</p> <p>How does light travel?</p> <p>What makes a complete circuit?</p> <p>Why may components functions vary in an electrical circuit?</p>	<p><b>Michael Faraday</b> (1791-1867) was an English scientist who contributed to the study of electromagnetism and electrochemistry. It was largely due to his efforts that electricity became practical for use in technology.</p> <p><b>Thomas Edison</b> (1847-1931) has been described as America's greatest inventor. He developed many devices which include the phonograph, the motion picture camera, and early versions of the electric light bulb, which have had a widespread impact on the modern industrialised world.</p> <p><b>Al-Hasan Ibn al-Haytham</b> (965-1040) was a Muslim Arab mathematician, astronomer, and physicist. Referred to as "the father of modern optics", he was the first to explain that vision occurs when light reflects from an object and then passes to one's eyes.</p>	<p><b>Reflection</b> - When light from an object is reflected by a surface, it changes direction. It bounces off the surface at the same angle as it hits it.</p> <p><b>Refraction</b> - When light travels from air through water, glass or anything that lets light through, it gets bent. This bending is called refraction</p> <p><b>Conductor</b> - materials that allow electricity to pass through them easily.</p> <p><b>Insulator</b> - materials that do not allow electricity to pass through them easily.</p> <p><b>Complete circuit</b> - a circuit allows electricity to flow around it; for a circuit to be complete, there must be wires connected to both the positive and negative ends of the power supply.</p>



Curriculum Leaflet

Year 6 Summer 2

Year 6 will be exploring the topic: 'Electricity & Light'. This unit of work will have a specific focus on developing the children's knowledge, skills and understanding in science.

Maths	English	Home
<p><u>Geometry - shape</u></p> <ul style="list-style-type: none"> <li>Recognise, describe and build simple 3-D shapes, including making nets</li> </ul> <p><u>Position &amp; Direction</u></p> <ul style="list-style-type: none"> <li>Describe positions on all four quadrants of a coordinate grid</li> <li>Draw and translate simple shapes on the coordinate plane and reflect them in any axis</li> </ul> <p><u>Consolidation and Problem Solving</u></p> <ul style="list-style-type: none"> <li>Varied short and long projects each designed to consolidate, embed or extend/ enrich prior mathematical learning and concepts</li> </ul>	<p><b>We will be reading:</b> Twelfth Night - William Shakespeare</p> <p><b>Writing focus:</b> <u>Journalistic Writing</u></p> <ul style="list-style-type: none"> <li>Written and adapted to inform the reader; a clear viewpoint is established and maintained.</li> <li>Paragraphs should give structure to the whole article.</li> <li>Focus on expansion of phrases and clauses; succinct quotations, using appropriate voice.</li> </ul> <p><u>Poetic Form (Shakespeare)</u></p> <ul style="list-style-type: none"> <li>Write poems in Shakespearean style.</li> <li>Use of a range of poetic devices as appropriate.</li> <li>Poetry performance and recital using effective intonation, tone, volume and confidence.</li> </ul>	<p>Parents can support in the following ways:</p> <ul style="list-style-type: none"> <li>Borrow and explore books from the library on the light and electricity.</li> <li>Discuss the role safety plays in using social media and other technology.</li> <li>Learn about the impact of the discovery of electricity on life today.</li> <li>Investigate how electricity is used in everyday life, and careers involved in electrical engineering</li> <li>Enjoy a virtual museum visit: <a href="https://www.sparkmuseum.org/virtual-visit/">https://www.sparkmuseum.org/virtual-visit/</a> <a href="https://www.carnamah.com.au/before-electricity">https://www.carnamah.com.au/before-electricity</a></li> <li>Accessing home learning tasks via Google Classroom</li> <li>Helping to learn lines and dances for the end of year production</li> <li>Supporting the development of times tables skills via regular practice on Times Tables Rock Stars.</li> <li>Reading daily at home.</li> <li>Accessing MyMaths for maths homework.</li> </ul>