

# Ashtree Primary School and Nursery Unit Progression Plan for Science

## Light and Sound

Year Group	Unit	Key Knowledge	Key Vocabulary
Nursery	Light and Sound	<p>Development Matters 2020 – 3 and 4 year olds</p> <p><b><u>Understanding the World</u></b></p> <ul style="list-style-type: none"> <li>Explore how things work.</li> <li>Talk about the differences in materials and changes they notice.</li> </ul> <p><b><u>Expressive Arts and Design</u></b></p> <ul style="list-style-type: none"> <li>Use drawing to represent ideas like movement or loud noises.</li> <li>Listen with increased attention to sounds.</li> <li>Respond to what they have heard, expressing their thoughts and feelings.</li> </ul>	<p><b><u>Model and encourage children to use vocabulary such as:</u></b> light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror, sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments</p> <p><b><u>Expose children to supplementary vocabulary such as:</u></b> musician, notes, vibrate, vibration, pitch, rhythm, pulse, volume, light source, reflective, non-reflective, dim, dimmer, dimmest</p>
Reception	Light and Sound	<p><b><u>Development Matters 2020 – Reception</u></b></p> <p><b><u>Understanding the World</u></b></p> <ul style="list-style-type: none"> <li>Describe what they see, hear and feel whilst outside.</li> </ul>	<p><b><u>Model and encourage children to use vocabulary such as:</u></b> Sun, sunny, light, shadow, shady, clouds, torch, see-through, non-see through, source, light source, sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar</p> <p><b><u>Expose children to supplementary vocabulary such as:</u></b> casting a shadow, pale, dark, transparent, opaque, source, crescendo, vibration, pitch</p>
Year 1		Not covered in these year groups	
Year 2			
Year 3	Light	<ul style="list-style-type: none"> <li>name several light sources, including the sun, describe and compare some light sources, recognise that light travels from a source – light, travels, light source, torch, lamp</li> <li>state that light sources are seen when light from them enters the eyes, recognise that they cannot see in the dark, explain that places are dark because there is no light and a light source is needed to help us see in such places – light, travels, light source, torch, lamp, daytime, night-time</li> <li>state that reflections can be seen in shiny surfaces, demonstrate light travelling using a torch and record light bouncing off a mirror</li> <li>explain that they cannot see shiny objects in the dark because there are no light sources</li> <li>recognise that when light is blocked, a shadow is formed, recognise that shadows are similar in shape to the objects forming them, explain that shadows are formed when light from a source is blocked</li> <li>make observations of changes in shadows, state that even transparent objects block some light and form shadows, describe the difference in shadows cast by opaque, translucent, and transparent</li> </ul>	<p>Shadow, light, flames, opaque, block, direction, light, travels, shortest, longest, highest, torch, shape, similar, transparent, translucent, light source, sun, object daytime, night-time, reflect, shine, shiny, absorb, reflective surface, surface, mirror, sundial, block, lamp</p>
Year 4	Sound and Vibrations	<ul style="list-style-type: none"> <li>recognise and describe many sounds and sound sources and state that they hear sounds through their ears.</li> <li>recognise that when sounds are generated by objects, something moves or vibrates and identify what is vibrating in a range of musical instruments</li> <li>describe how sounds are generated by specific objects and suggest ways of producing sounds.</li> <li>distinguish between pitch and volume (loudness) and describe differences in pitch and volume</li> <li>know that altering vibrations alters the pitch or volume and explore how to vary the pitch and volume of sounds from a variety of objects or instruments</li> <li>suggest how to change the loudness of the sounds produced by a range of musical instruments</li> <li>describe what they observe when they move further away from a source of sound</li> </ul>	<p>Sound, pitch, volume, vibrations, medium, insulation, travel, instrument</p>
Year 5		Not covered in this year group	
Year 6	Light	<ul style="list-style-type: none"> <li>explore how light travels using torches and periscopes, describe reflection as light ‘bouncing off’ objects</li> <li>understand that in order to be seen, all non-luminous objects must reflect light</li> <li>diagrammatically represent light from sources and bouncing off reflective surface using arrows, draw diagrams to illustrate how light is travelling from the source to the eye</li> <li>describe a variety of ways of changing the size of the shadow produced by an object</li> <li>describe the relationship between the size of a shadow and the distance between the light source and an object</li> <li>diagrammatically represent the formation of shadows using arrow convention</li> </ul>	<p>Reflection, transparent, translucent, opaque, periscope, luminous, non-luminous, absorb, direction</p>