Physics

	EYFS	Milestone 1	Milestone 2	Milestone 3
Light and seeing	1. Explore how things work. 2. Describe what they see, hear, and feel whilst outside.	1. Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes.	1. Recognise that light is required 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 your eyes. 4. Recognise that shadows are formed when the light from a light source is blocked by a solid object. 5. Find patterns in the way that the size of a shadow changes.	1. Understand that light appears to travel in straight lines. 2. 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. 3. 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. 4. 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.
Electrical circuits	1. Explore how things work.	1. Identify common appliances that run on electricity. 2. Construct a simple series electrical circuit	1. Identify common appliances that run on electricity (battery & mains) 2. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 3. 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. 4. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. 5. Recognise some common conductors and insulators, and associate metals with being good conductors.	1. Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 2. 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. 3. Use recognised symbols when representing a simple circuit in a diagram.

Sound and hearing	1. *Explore how things work.* 2. *Use all their senses in hands-on exploration of natural materials.* 3. *Describe what they see, hear, and feel whilst outside.*	1. *Observe and name a variety of sources of sound, noticing that we hear with our ears.*	1. *Identify how sounds are made, associating some of them with something vibrating.* 2. *Recognise that vibrations from sounds travel through a medium to the ear.*	1. *Find patterns between the pitch of a sound and features of the object that produced it.* 2. *Find patterns between the volume of a sound and the strength of the vibrations that produced it.* 3. *Recognise that sounds get fainter as the distance from the sound source increases.*
Earths movement in space	1. *Explore how things work.* 2. *Understand the effect of changing seasons on the natural world around them.* 3. *Understand some important processes and changes in the natural world around them, including the seasons.*	1. *Observe the apparent movement of the Sun during the day.* 2. *Observe changes across the four seasons.* 3. *Observe and describe weather associated with the seasons and how day length varies.*		1. *Describe the movement of the Earth relative to the Sun in the solar system.* 2. *Describe the movement of the Moon relative to the Earth.* 3. *Describe the Sun, Earth and Moon as approximately spherical bodies.* 4. *Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.*
Movement, forces and magnets	1. *Explore and talk about different forces they can feel.* 2. *Explore how things work.*	1. *Notice and describe how things move, using simple comparisons such as faster and slower.* 2. *Compare how different things move.*	1. *Compare how things move on different surfaces.* 2. *Notice that some forces need contact between two objects, but magnetic forces can act at a distance.* 3. *Observe how magnets attract or repel each other and attract some materials and not others.* 4. *Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.* 5. *Describe magnets as having two poles.* 6. *Predict whether two magnets will attract or repel each other, depending on which poles are facing.*	1. *Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.* 2. *Identify the effect of drag forces such as air resistance, water resistance and friction that act between moving surfaces.* 3. *Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.* 4. *Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.* 5. *Understand that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.*