KS 1	Emerging (KS1 children …)	Expected (KS1 children can…)	Exceeded (KS1 Children can…)		
LKS 2		Emerging (LKS2 children can…)	Expected (LKS2 children can…)	Exceeding (LKS2 children can…)	
UKS 2			Emerging (UKS2 children can…)	Expected (UKS2 children can…)	Exceeding (UKS2 children know…)
Electricity	Know about similarities and differences in relation to objects - talk about the features of their own explain why some things occur, and talk about changes.	*(explore battery powered toys and carry out a variety of enquires related to these).*	-identify common appliances that run on electricity -construct a simple series electrical circuit identifying and naming the basic parts of a simple electrical circuit, including cells, wires, bulbs, switches and buzzers -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 -recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit -recognise some common conductors and insulators, and associate metals with being good conductors	-associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit -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 use recognised symbols when representing a simple circuit in a diagram	-electric current… -potential difference, measured in volts, battery and bulb rating… -differences in resistance between conducting and insulating components
Forces and Movement	-Know about similarities and differences in relation to objects -They explain why some things occur, and talk about changes.	*(explore things that move including toys that need a push or a pull. Compare how different things move.)*----describe the simple physical properties of a variety of everyday materials *(attracted to a magnet or not-c*ompare and group together a variety of everyday materials on the basis of their simple physical properties	-compare how things move on different surfaces -notice that some forces need contact between two objects but magnetic forces act at a distance -observe how magnets attract or repel each other and attract some materials and not others -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 - describe magnets as having two poles -predict whether two magnets will attract or repel each other, depending on which poles are facing.	-explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object -identify the effect of air resistance, water resistance and friction, that act between moving surfaces -recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	-forces as pushes or pulls, arising from the interaction between two objects -non-contact forces: gravity forces acting at a distance on earth and in space, forces between magnets … -using force arrows in diagrams, adding forces in one dimension, balanced and unbalanced forces -forces: associated with deforming objects; stretching and squashing-springs; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water -forces being needed to cause an object to stop or start moving, or to change their speed or direction of motion -forces measured in newtons
light	Know about similarities and differences in relation to places, objects & materials They talk about the features of their own immediate environment and how environments might vary from one another.	-describe the simple physical properties of a variety of everyday materials *(opaque, translucent, transparent materials)* -compare and group together a variety of everyday materials on the basis of their simple physical properties *(opaque, translucent, transparent material)* -observe and describe weather associated with the seasons and how day length varies. *(explore making shadows)* *(observe and name a variety of sources of light, including electric lights, flames and* ***the Sun****)*	-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 -recognise that shadows are formed when a light source is blocked by a solid object -find patterns in the way that the size of shadows change -recognise that light from the Sun can be dangerous and that there are ways to protect our eyes	-recognise that light appears to travel in straight lines -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 -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 -use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them -describe the movement of the Earth, and other planets relative to the Sun in the solar system -describe the movement of the Moon relative to the Earth -describe the Sun, Earth and Moon as approximately spherical bodies -use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	-use of ray model to explain imaging in mirrors… -colours and the different frequencies of light, white light and prisms (qualitative only) -the Sun as a star, other stars in our galaxy, other galaxies -the seasons and the Earth's tilt, day length at different times of the year, in different hemispheres

	-Know about similarities and differences in relation to places, objects, materials and living things. -talk about the features of their own immediate environment and how environments might vary from one another. explain why some things occur, and talk about changes.	*(explore different ways of making and altering sounds … experiment making sounds of differing volume and pitch)* *(observe and name a variety of sources of sound, noticing that we hear with our ears)*	-identify how sounds are made, associating some of them with something vibrating -recognise that vibrations from sound travel through a medium to the ear -recognise that sounds get fainter as the distance from the sound source increases -find patterns between the pitch of a sound and features of the object that produced it -find patterns between the volume of a sound and the strength of the vibrations that produced it.	*(Enquiry based unit linked to design technology with either children designing sound proofing for a house or ear protectors and designing and making a musical instrument)*	-sound needs a medium to travel, the speed of sound in air, in water, in solids -Sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum -Sound waves are longitudinal