	Key knowledge progression to be explicitly taught throughout unit of work (and revised constantly through retrieval practice)	Key vocabulary All vocabulary on Crown Planners (to be explicitly taught)	Key skills progression	Assessment outcome
	EYFS – A foundation of scientific skills and knowledge Pupils should be taught to • Ask questions • Talk about what they see using a wide vocabulary • Use talk to help work out problems and organise thinking and activities • To explain how things work and why they might happen • Articulate their ideas and thoughts in well-formed sentences • Use new vocabulary in different contexts • Explore how things work • Explore and talk about different forces they can feel			
	YEAR THREE - Light Pupils should be taught to: • 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 light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows change.	YEAR THREE Natural (adjective) Artificial (adjective) Surface (noun) Reflection (noun) Ultraviolet (adjective) Protection (noun) Lux (noun)	YEAR THREE • I know and can explain and demonstrate how a shadow is formed. • I know and can explain that light is reflected from a surface. • I know how to describe what dark is (the absence of light). • I know and can explain that light is needed in order to see. • I know and can explain the danger of direct sunlight and describe how to keep protected • I know how to explore shadow size and explain.	YEAR THREE

	YEAR THREE – Forces and Magnets Pupils should be taught to • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can 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	YEAR THREE Attract (verb) Repel (verb) Magnetic (adjective) Steel (noun) Iron (noun) Aluminium (noun) Force (noun)	YEAR THREE • I know how to predict whether magnets will attract or repel and give a reason. • I know how to explore and describe how objects move on different surfaces. • I know how to explore and explain how objects attract and repel in relation to objects and other magnets. • I know and can describe how magnets work. • I know how to explain how some forces require contact and some do not, giving examples. • I know how to predict whether objects will be magnetic and carry out an enquiry to test this out. • I know that magnets have two poles and will attract or repel depending on which way the poles are facing.	YEAR THREE

	YEAR FOUR - Sound Pupils should be taught to: • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • 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	YEAR FOUR Vibration (noun) Vibrate (verb) Pitch (noun) Volume (noun) Insulation (noun) Outer / inner / middle ear (nouns) Frequency (verb) Muffle (verb)	YEAR FOUR • I can explore the correlation between pitch and the object producing a sound. • I can describe how sound is made. • I can explain the place of vibration in hearing. • I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it. • I can describe what happens to a sound as it travels away from its source. • I can explain how sound travels from a source to our ears.	YEAR FOUR
	YEAR FOUR – Electricity Pupils should be taught to: • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, 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	YEAR FOUR Battery (noun) Cell (noun) Positive (adjective) Negative (adjective) Buzzer (noun) Component (noun) Conductor (noun) Insulator (noun) Circuit (noun)	YEAR FOUR • I can draw a circuit diagram. • I can predict and test whether a lamp will light within a circuit. • I can identify and name appliances that require electricity to function. • I can describe the difference between a conductor and insulators, giving examples of each. • I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). • I can construct a series circuit.	YEAR FOUR

	not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors.		• I can describe the function of a switch in a circuit.	
	YEAR FIVE – Earth and Space Pupils should be taught to: • 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.	YEAR FIVE Rotate (verb) Rotation (verb) Astronomy (noun) Solar (adjective) Spherical (adjective) Orbit (noun) Hemisphere (noun) Geocentric (adjective) Heliocentric (adjective) Dwarf planet (noun)	YEAR FIVE • I can describe and explain the movement of the Moon relative to the Earth. • I can explain and demonstrate how night and day are created. • I can describe the Sun, Earth and Moon (using the term spherical).	YEAR FIVE
	YEAR FIVE – Forces Pupils should be taught to: • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects 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.	YEAR FIVE Gravity (noun) Air resistance (noun) Water resistance (noun) Friction (noun) Force (noun) Accelerate (verb) Decelerate (verb)	YEAR FIVE • I can identify and explain the effect of air resistance. • I can identify and explain the effect of friction. • I can explain how levers, pulleys and gears allow a smaller force to have a greater effect. • I can identify and explain the effect of water resistance. • I can explain what gravity is and its impact on our lives.	YEAR FIVE

		Mechanism (noun) Pulley (noun)		
	YEAR SIX – Light Pupils should be taught to: • 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.	YEAR SIX Source (noun) Absorb (verb) Opaque (adjective) Translucent (adjective) Reflection (noun) Block (verb) Travel (verb) Direction (noun)	YEAR SIX • I can explain how light travels. • I can explain and demonstrate how we see objects. • I know we see things because light travels in straight lines from light sources to our eyes or from light sources to objects and then to our eyes • I can explain why shadows have the same shape as the object that casts them.	YEAR SIX
	YEAR SIX - Electricity Pupils should be taught to: • 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	YEAR SIX Appliance (noun) Battery (noun) Circuit (noun) Component (noun) Terminal (noun) Conductor (noun)	YEAR SIX • I can draw circuit diagrams using correct symbols. (DT Link) • I can explain how the number & voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer. • I can compare and give reasons for why components work and do not work in a circuit.	YEAR SIX

	• use recognised symbols when representing a simple circuit in a diagram.			