HONESTY ENTHUSIASM AMBITION RESPECT TOGETHERNESS

PHYSICS	EYFS	Year 1	Year 2	Year 3 Year 4	Year 5 Year 6
FORCES	**Understanding the World**		**SPRING 1A - Pushes and Pulls**	**SPRING 1 A - Magnets**	**AUTUMN 1 B - Forces that oppose motion**
Vocabulary				Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass	Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys, force, push, pull, opposing, streamline, brake, mechanism, lever, cog, machine, pulley
	Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them - understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding		Know that pushing and pulling can make things move faster or slower. Know that pushing and pulling can make things move or stop Understand that things can move in different ways Explain that larger masses take bigger pushes and pulls to move or stop them Explain that pushing and pulling can change the shape of things Understand that bigger pushes and pulls have bigger effects	Compare how things move on different surfaces. Know how a simple pulley works and use making lifting an object simpler. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract and repel each other and attract some materials and not others. Compare and group together a variety of everyday materials based on 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 and the impact of gravity on our lives. Identify the effects of air resistance, water resistance and friction, which act between moving surfaces. Recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.

	across domains. This vocabulary will support later reading comprehension.				
LIGHT				**AUTUMN 1 A** **Light**	**AUTUMN 1 A** **How Light Behaves**
Vocabulary				Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent	light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent. Reflect Absorb Emitted Scattered Refraction
				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 a solid object. Find patterns in the way that the sizes of shadows change.	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. Know how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.
ELECTRICITY				**AUTUMN 2B** **Making electrical circuits work**	**AUTUMN 2A** **Controlling electrical circuits**
Vocabulary				Electricity, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, component.	Electricity, neutrons, protons, electrons, nucleus, atom, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, conductor.

				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 a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes the circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Know the difference between a conductor and an insulator, giving examples of each. Safety when using electricity.	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.
EARTH AND SPACE		**Autumn 1 Seasons**	**Autumn 1 Seasons**		**SPRING 1 A Space and gravity**
Vocabulary	Summer, Winter, Autumn, Spring, day, daytime, wind, rain, sleet, hail, fog, cold, sun, hot.	Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature	Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature Habitat, diet, adapt, hibernate, environment, conditions, evergreen deciduous		Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation, waxing, waning, crescent, gibbous. Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, planets, solar system, day, night, rotate, orbit, axis, spherical, geocentric, heliocentric.
	Name the four seasons Name different types of weather Make observations	There are four seasons, Spring, summer, autumn and winter Each season is about	Seasons affect our animals and plants Animals and plants have adapted ways of surviving the		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

	about the weather Describe the weather	three months long In Spring, young animals like lambs and chicks are born, the flowers bloom and the weather starts to become warmer. In autumn, the leaves fall off the trees and the amount of time we have in the day becomes less. Winter has the shortest amount of time during the day and the weather is at its coldest. In summer the trees are full of green leaves and the weather is at its warmest.	changing seasons These include hibernating, storing food, fattening up, migration, loss of leaves Trees can be either evergreen or deciduous. Evergreen trees keep their green leaves all year round. Deciduous trees lose their leaves every autumn.			Describe the Sun, Earth and Moon as approximately spherical bodies Describe the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
SOUND					**AUTUMN 1 B** **Sound**	
Vocabulary					Amplitude, volume, quiet, loud, ear, pitch, high, low, particles, instruments, wave.	
					Know how sound is made associating some of them with vibrating. Know what happens to a sound as it travels from its source to our ears. Know the correlation between the volume of a sound and the strength of the vibrations that produced it.	

				Know how sound travels from a source to our ears. Know the correlation between pitch and the object producing a sound.	