

Pg	Year	Separating mixtures of materials			
		the terms soluble, insoluble, solute, solvent, solution			
		the terms filtrate and residue			
		how to take an investigative approach to separate a variety of mixtures			
		that some solids [e.g. salt, sugar] dissolve in water to give solutions but some [e.g. sand, chalk] do not			
		how to separate insoluble solids from liquids by filtering			
		how to recover dissolved solids by evaporating the liquid from the solution			
		that salt solutions should not be dried completely when heated			
		factors affecting the rate of dissolving everyday substances in water, i.e. the temperature of the solvent, particle size of the solute and stirring			
		the concept of fair testing to compare rates of dissolving in water;			
		how to draw and interpret bar charts and line graphs using data from dissolving experiments			
		to use knowledge of solids, liquids and gases to decide how mixtures might be separated			
		Forces and motion			
		different types of force: push, pull, frictional (including air resistance), magnetic, gravitational support (reaction) and upthrust			
		how to measure forces and identify the direction in which they act			
		that the newton (N) is the unit of force;			
		how to use a force meter (newton spring balance) to investigate the force required to do various jobs			
		that objects are pulled downwards because of the gravitational attraction between them and the Earth			
		about friction, including air resistance, as a force that slows moving objects and may prevent objects from starting to move			
		the effect of air resistance on the cyclist;			
		about the concept of friction as a force which opposes the relative movement of surfaces, with reference to everyday situations			
		how to carry out investigations involving friction, e.g. a toy car running over different surfaces			
		how to use arrows to show the direction in which these forces are acting on an object;			
		about the forces of attraction and repulsion between magnets, and about the forces of attraction between magnets and magnetic materials			
		how to classify materials into magnetic and non-magnetic groups			
		that magnetic materials such as iron and steel are attracted to a magnet;			
		how to carry out experiments to discover that a magnet exerts a force on another magnet or any piece of magnetic material which is placed close to it			
		that a magnet has north-seeking and south-seeking poles and why they are so called			
		that a freely suspended bar magnet comes to rest in a north-south direction and acts as a compass			
		that like poles repel and unlike poles attract each other			
		that magnetic effects will pass through some materials			
		how to compare the strength of two or more magnets			

Pg	Year	Light			
		Know that light travels from a source			
		Know that a luminous source gives out light; and some examples			
		Know that we see things only when light from them enters our eyes			
		Know the difference between luminous and illuminated.			
		Know that light travels in straight lines;:			
		Know how to show the direction light is travelling.			
		Know how to draw simple diagrams to show that light rays, travelling in straight lines, enter the eye(s) directly from the luminous object			
		Know what the words transparent and opaque mean.			
		Know how shadows are formed			
		Investigate the effect of some factors that could change the size and shape of a shadow – e.g. different distances between source, object and screen			
		Be able to carry out a fair test to investigate the size of a shadow.			
		Be able to draw a graph to show results.			
		Know that light is reflected from surfaces [e.g. mirrors, polished metals]			
		Know what happens to the direction of light when it hits a mirror.			
		Know why we can see things in mirrors.			
		Know how to use rays to show how we can see things in mirrors.			
		Know how to test surfaces to see if they are good at reflecting light.			
		Know which surfaces are good at reflecting light.			
		Know how to make surfaces reflect light better.			
		Electricity			
		Know which materials conduct electricity.			
		Know why a switch works.			
		Know what some circuit components do.			
		Know why we use symbols to draw circuits.			
		Know the symbols for circuit components.			
		Know how to draw circuit diagrams.			
		Know that electrical devices will only work if they are part of a complete circuit			
		Know and that each part of the circuit must be a conductor of electricity			
		Know the term in series			
		Know how to construct series circuits			
		Know how changing the number or type of components in a series circuit can make bulbs brighter or dimmer			
		Know the relative brightness of bulbs in series circuits using up to 3 bulbs and 3 cells			
		Know that normal brightness describes one bulb lit by one cell. Other circuits can be compared with this.			
		Know the difference between a series and parallel circuit.			
		<i>(Know the relative brightness of bulbs in parallel circuits) extension</i>			
		Know how the length of a wire affects the brightness of bulbs in a circuit.			
		Know how the thickness of a wire affects the brightness of bulbs in a circuit.			
		Know why changing the wire makes a difference.			
		Know how to interpret and draw circuit diagrams where the components are connected in series			
		Know how to recognise a short circuit and be aware of the safety implications			

