



Highlighted are the types of enquiry when working scientifically. These include: comparative / fair testing • research • observation over time • pattern seeking • identifying, grouping and classifying • problem solving

Y5/6			Y5/6		
Autumn	Spring	Summer	Autumn	Spring	Summer
Properties and changes of materials Y5 (chemistry) 1.I can compare a group of materials as to whether they are solids, liquids or gases. Identifying, grouping, classifying 2.I can design a test to show investigate which materials are soluble and which are insoluble. Pattern seeking 3.I use knowledge of solids, liquids and gases to decide how mixtures might be separated (filtering, sieving, evaporating) Problem Solving 4.I can investigate reversible and irreversible changes. (everyday uses) Pattern Seeking	Living things and their habitats (biology) Y5 1. I can classify animals based on whether they are a mammal, amphibian, insect, bird or fish. Identifying grouping and classifying. Identifying, grouping, classifying 2. I can describe the differences in the life cycles of animals. Research 3. I can research the work of naturalist David Attenborough or Jane Goodall. Research 4. I can describe the life process of reproduction in some plants. Research	Animals inc humans (biology) Y5 1.I can describe some of the characteristics that occur as humans get older. Identifying, grouping, classifying 2. I can draw a timeline to indicate stages in the growth and development of humans. Pattern seeking 3.I can describe the differences in the life cycles of a mammal, amphibian, an insect and a bird. Identifying, grouping, classifying Research 4. I can research the gestation period of other animals and compare with humans. Research	Animals inc humans (biology) Y6 1.I can name and locate the main structures of the heart and circulatory system. Research Identifying, grouping, classifying 2. I can describe the simple functions of the heart, veins and arteries. I can describe the function of the blood. Identifying, grouping, classifying 3.I can identify food groups. (Food pyramid) Research 4.I can explain how particular food groups may affect my health. Comparative test/ pattern seeking – food labels 5. I can describe the effects of exercise on the body. Comparative/fair testing Pattern seeking 6. I can define the difference between a drug and medicine. Research	Earth and Space (physics) Y5 1. I can sort the planets in order of distance from the Sun. Identifying, grouping, classifying 2.I can describe the movement of the moon relative to the Earth. Research Pattern seeking - (Oreos) 3. I can create a model of the sun, moon and Earth to explain their rotation. Research 4. I can explain why we have day and night on Earth and why the sun appears to move across the sky. Research	Forces (physics) Y5 1.I can describe gravity as a pull, or attractive force. I can explain that gravity pulls objects towards the centre of the Earth, and if they are in the air, it would make object fall. Comparative/fair testing Pattern seeking - (dropping into sand – diameter craters) 2.I can say that friction occurs when two surfaces slide against each other. Research 3.I can identify that friction slows objects down. Pattern seeking Comparative/fair testing - investigation 4.I can explain that air resistance is a type of friction and what happens to produce air resistance. Comparative/fair testing 5.I can suggest ways of increasing or decreasing air resistance. Comparative/fair testing 6.I can say what water resistance is. I can say what water



					<p>resistance does to objects travelling through water. Comparative/fair testing Research</p> <p>7. I can make some suggestions of how to reduce water resistance. Comparative/fair testing</p> <p>8. I can investigate the effect of levers, pulleys and gears. Ans explain how they allow a smaller force to have a greater effect. Comparative/fair testing</p>
Outcome Exploring and comparing the properties of a broad range of materials; explore reversible changes, including evaporating, filtering, sieving, melting and dissolving.	Outcome Observe life-cycle changes in a variety of living things: plants/animals in the local environment; the work of naturalists and animal behaviourists: David Attenborough and Jane Goodall.	Outcome Stages in the growth and development of humans; gestation periods of other animals and comparing them with humans.	Outcome Main body parts and internal organs; the circulatory system; how to keep bodies healthy and how bodies might be damaged; the relationship between diet, exercise, drugs, lifestyle and health.	Outcome The model of the sun and Earth to explain day and night; learn that the sun is a star at the centre of our solar system and that it has 8 planets; understand that a moon is a celestial body that orbits a planet.	Outcome Explore falling objects and raise questions about the effects of air resistance; explore the effects of air resistance by observing how different objects; experience forces that make things begin to move, get faster or slow down; the effects of friction on movement; the effects of levers, pulleys and simple machines on movement.
Vocabulary Condensation, dissolves, evaporation, filtering, gas, insoluble, irreversible, liquid, magnetic, particles, permeable, process, properties, rate,	Vocabulary Anther, bulb, cell, dispersed, dissect, embryo, fertilisation, flower, function, germination, life cycle, mature, metamorphosis, ovary, ovule,	Vocabulary Developmental milestones, ageing process, cognitive development, physical changes, emotional development,	Vocabulary Aorta, arteries, atrium, blood vessels, capillaries, carbon dioxide, circulatory system, deoxygenated, heart, lungs, nutrients, organ, oxygen,	Vocabulary Axis, comet, galaxy, gravity, leap year, meteorite, orbit, planet, shadow, solar system, sphere, spin, star, time zones, universe.	Vocabulary Streamlined, surface, grip, drag, centre, friction, air resistance, thrust, water resistance gravity, gear, pulley, lever



reversible, solid, soluble, solution, state, temperature, variable	petal, plant, pollen, reproduction, seed, stigma.	puberty, adolescence, life expectancy, gestation period	oxygenated, pulse, respiration, veins, vena cava, ventricle.		
Electricity Y6 (physics) 1.I can link the way components work to the number of cells in the circuit. Pattern seeking Problem solving. 2.I can draw circuit diagrams from circuits I build. Identifying, grouping and classifying. Problem solving 3.I can explain how a switch works. Problem solving 4.I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells in a circuit. Pattern seeking Comparative/fair testing 5.I can compare and give reasons for variations in how components function (brightness of a bulb, loudness of buzzer, on/off position of switches.) Pattern seeking Comparative/fair testing	Evolution and Inheritance Y6 (biology) 1.I can explain why animals adapt to their environment. Research I can give some examples of adaptations and how they benefit the species. Problem solving 2.I can say that species produce offspring that are the same as the parents. Research Identifying, grouping, classifying. I can explain why offspring are different from their parents I can explain why offspring are different from each other. 3. I can say why adaptations can lead to evolution. I can explain natural selection and how it may lead to evolution. Research Problem Solving. 4.I can identify some things that the fossil record can tell us about extinct species. Research	Light Y6 (physics) 1.I can recognise that light travels in straight lines. Research Pattern seeking 2.I can investigate which materials make good reflectors. Comparative/fair testing. 3. I can explain how the eye works. Research 4. I can investigate how shadows change during the day. Observation over time. 5.I can investigate why objects look different in water? Identifying, grouping, classifying. 6. I can explain how mirrors work. Identifying, grouping, classifying.	Properties of materials Y5 (chemistry) 1.I can compare and group material on their properties such as hardness, solubility, transparency, conductivity. Identifying, grouping, classifying 2.I can explain why some materials absorb liquids. Pattern seeking 2.I can classify materials based on whether they are attracted to magnets. Identifying, grouping, classifying 3.I can define the terms conductor and insulator. 4) I can investigate the thermal insulation of different materials. Pattern seeking Observations over time (temp over an hour)	Living things and their habitats Y6 1. I can group micro-organisms according to common observable characteristics. Identifying, grouping, classifying 2. I can group plants according to common observable characteristics. I can explore Frederick Hamilton Davey's work. Identifying, grouping, classifying 4. I can group animals according to common observable characteristics. Identifying, grouping, classifying 5. I can research Carl Linnaeus, a pioneer of classification. Research	Summer 26 Science Days for Y6 – Evolution and Inheritance. Electricity Light
Outcome Building on prior knowledge, construct simple series circuits to	Outcome Find out more about how living things on earth have changed	Outcome Explore the way that light behaves; the idea that light	Outcome Exploring and comparing the properties of materials,	Outcome Explore classification in detail; broad groupings, such as micro-	



answer questions about what happens when they try different components; represent a simple circuit in a diagram using recognised symbols.	over time; idea that characteristics are passed from parents to their offspring; natural selection; genes; mutation in genes; changes over time; Charles Darwin and Alfred Wallace's ideas on evolution.	appears to travel in straight lines; the relationship between light sources, objects and shadows; range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water, and coloured filters.	Investigating which materials would be the most effective for wrapping ice cubes to stop them melting.	organisms, plants and animals; classify animals into commonly found invertebrates and vertebrates; significance of the work of scientists such as Carl Linnaeus	
Vocabulary Appliance, battery, bulb, buzzer, cell, circuit, component, conductor, current, device, electricity, energy, fuel, generate, insulator, mains, motor, power, resistance, resistor, source, switch, voltage, wires.	Vocabulary Inheritance, Variation, Characteristic, Offspring, Parent, Heredity, Evolution, Fossil, Advantage, Extinction.	Vocabulary Angle dark, dim, electricity, emits, light, mirror, opaque, reflects, shadows, source, surface, torch, translucent, transparent.	Vocabulary Conductor, insulator, hardness, transparency, conductivity, magnetic, absorbent, porous, material	Vocabulary Micro-organisms, plant kingdom, animal kingdom, classification, taxonomy, Linnaean Taxonomy, biodiversity,	