SCIENCE

Year 3

SCIENTIFIC ENQUIRY IN ALL TOPICS

Plants
- functions of different parts of flowering plants
- requirements of plants for life and growth
- water transportation within plants
- life cycle of flowering plants

Animals including humans
- nutrition and diet in animals including humans
- skeletons and muscles for support

Rocks
- grouping different kinds of rocks
- how fossils are formed
- recognise that soils are made from rocks and organic matter.

Light
- 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

Year 4

SCIENTIFIC ENQUIRY IN ALL TOPICS

Living things and their habitat
- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- changing environment and impact on living things

Animals including humans
- human digestive system
- types and functions of human teeth
- food chains, identifying producers, predators and prey.

States of matter
- grouping solids, liquids and gases
- changing state
- evaporation and condensation in the water cycle and the rate of evaporation vs temperature.

Sound
- identify how sounds are made/ vibration

Year 5

SCIENTIFIC ENQUIRY IN ALL TOPICS

Living things and their habitat
- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- describe the life process of reproduction in some plants and animals.

Animals including humans
- describe the changes as humans develop to old age.

Properties and changes of materials
- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

Year 6

SCIENTIFIC ENQUIRY IN ALL TOPICS

Living things and their habitat
- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- give reasons for classifying plants and animals based on specific characteristics.

Animals including humans
- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans.

Evolution and Inheritance
- recognise that living things have changed over time and that fossils provide information about living

• 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 • find patterns in the way that the size of shadows change. **Forces and Magnets** • 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 • grouping magnetic and non-magnetic materials • describe magnetic attraction	• recognise that vibrations from sounds travel through a medium to the ear • pitch and objects • volume and strength of vibrations • volume and distance **Electricity** • appliances that run on electricity • simple series electrical circuit, identifying parts • 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 • recognise some common conductors and insulators, and associate metals with being good conductors.	• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. **Earths and Space** • 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. **Forces** • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Light** • 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. **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

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