

<u> </u>	MILESTONE 1	MILESTONE 2	MILES
Working scientifically	 Ask simple questions. Observe closely, using simple equipment Perform simple tests. Identify and classify Use observations and ideas to suggest answers to questions. Gather and record data to help in answering questions 	 Ask relevant questions. Set up simple practical enquiries and comparative and fair tests Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers. Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests Identify differences, similarities or changes related to simple, scientific ideas and processes. Use straightforward, scientific evidence to answer questions or to support their findings. 	 Plar variables w Use approp fieldwork a Take measu with increa Record dat scientific d and line gra Report find explanation relationshi Present find presentation Use test re comparativ Use simple scientific e ideas or are
Biology To understand plants	 Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers. Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	 Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	 Relate knowninheritance Relate knowninheritance
To understand animals and humans	 Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense Notice that animals, including humans, have offspring which grow into adults. Investigate and describe the basic needs of animals, including humans, for survival (water, food and air 	 Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. Construct and interpret a variety of food chains, identifying producers, predators and prey. Identify that humans and some animals have skeletons and muscles for support, protection and movement. Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. 	 Identify an system, an and blood. Describe th Recognise on the way Describe w within anir

ESTONE 3
an enquiries, including recognising and controlling
s where necessary.
opriate techniques, apparatus, and materials during
k and laboratory work.
asurements, using a range of scientific equipment,
easing accuracy and precision.
ata and results of increasing complexity using
diagrams and labels, classification keys, tables, bar
graphs, and models.
ndings from enquiries, including oral and written
ions of results, explanations involving causal
hips, and conclusions.
findings in written form, displays and other
tions.
results to make predictions to set up further
tive and fair tests.
ole models to describe scientific ideas, identifying
evidence that has been used to support or refute
arguments.

nowledge of plants to studies of evolution and ce.

nowledge of plants to studies of all living things

and name the main parts of the human circulatory and explain the functions of the heart, blood vessels 1.

the changes as humans develop from birth to old age. e the importance of diet, exercise, drugs and lifestyle ay the human body functions.

ways in which nutrients and water are transported imals, including humans.

To investigate living things To understand evolution and	 Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene Describe and compare the structure of a variety of common animals Explore and compare the differences between things that are living, that are dead and that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their 	 Explore and use classification keys. Recognise that living things can be grouped in a variety of ways. Recognise that environments can change and that this can sometimes pose dangers to specific habitats 	 Describe the amphibian Describe the animals. Describe he according to Give reasons specific characteristics
inheritance	 habitats, including micro-habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food Identify how humans resemble their parents in many features. 	 Identify how plants and animals, including humans, resemble their parents in many features. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Identify how animals and plants are suited to and adapt to their environment in different ways. 	 Recognise but norma parents. Recognise fossils prov the Earth r Identify ho environme evolution.
Chemistry To investigate materials	 Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. [12] Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses. 	 basis of their simple, physical properties. Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). 	 Compare a evidence fr hardness, s response to Solution an solution. Use knowle mixtures mixtures mixtures mixtures mixtures mixtures and Give reason tests, for the metals, wo Demonstrative reversible of Explain that materials, a including claction of action action
Physics To understand movement, forces and magnets	 Notice and describe how things move, using simple comparisons such as faster and slower Compare how different things move. 	 Compare how things move on different surfaces. Compare how things move on different surfaces. Compare how things move on different surfaces. 	 Predict wh depending

- the differences in the life cycles of a mammal, an, an insect and a bird
- the life process of reproduction in some plants and
- how living things are classified into broad groups g to common observable characteristics.
- sons for classifying plants and animals based on characteristics.

se that living things produce offspring of the same kind, nally offspring vary and are not identical to their

e that living things have changed over time and that ovide information about living things that inhabited n millions of years ago.

now animals and plants are adapted to suit their nent in different ways and that adaptation may lead to n.

e and group together everyday materials based on from comparative and fair tests, including their s, solubility, conductivity (electrical and thermal) and e to magnets

and how some materials will dissolve in liquid to form a and describe how to recover a substance from a

wledge of solids, liquids and gases to decide how might be separated, including through filtering, nd evaporating.

sons, based on evidence from comparative and fair the particular uses of everyday materials, including vood and plastic.

rate that dissolving, mixing and changes of state are e changes.

hat some changes result in the formation of new s, and that this kind of change is not usually reversible, g changes associated with burning, oxidisation and the f acid on bicarbonate of soda.

whether two magnets will attract or repel each other, ng on which poles are facing.

		 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. Describe magnets as having two poles 	 Explain that because of the falling of the falling of the falling of the falling of the resistance at the falling of the resistance at the falling of the resistance at the falling of the f
To understand light and seeing	• Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes	 Notice that light is reflected from surfaces. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Recognise that light is needed in order to see things and that dark is the absence of light. Recognise that light from the sun can be dangerous and that there are ways to protect the eyes. Recognise that light from the sun can be dangerous and that there are ways to protect the eyes. 	 not driven Understand mechanica Understand and gears, Understand Understand Use the ide objects are eyes. Use the ide shadows had to produce
To investigate sound and hearing	• Observe and name a variety of sources of sound, noticing that we hear with our ears.		 and to pred light source Explain that sources to
		 Identify how sounds are made, associating some of them with something vibrating. 	With struct
To understand electrical circuits	 Identify common appliances that run on electricity. 	 Recognise that vibrations from sounds travel through a medium to the ear. 	 Find patter object that Find patter of the vibra Recognise to the second se
		 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. 	sound sour
		 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. 	 Use recogn diagram. Associate t with the number of the second secon
		 Recognise some common conductors and insulators and associate metals with being good conductors 	

hat unsupported objects fall towards the Earth of the force of gravity acting between the Earth and g object.

the effect of drag forces, such as air resistance, water e and friction that acts between moving surfaces.

e, in terms of drag forces, why moving objects that are n tend to slow down.

nd that force and motion can be transferred through cal devices such as gears, pulleys, levers and spring

nd that some mechanisms, including levers, pulleys s, allow a smaller force to have a greater effect

nd that light appears to travel in straight lines.

dea that light travels in straight lines to explain that re seen because they give out or reflect light into the

dea that light travels in straight lines to explain why have the same shape as the objects that cast them, redict the size of shadows when the position of the rce changes

hat we see things because light travels from light o our eyes or from objects and then to our eyes. [17] actured activities there is an awareness

erns between the pitch of a sound and features of the at produced it.

erns between the volume of a sound and the strength prations that produced it.

e that sounds get fainter as the distance from the urce increases.

gnised symbols when representing a simple circuit in a

e the brightness of a lamp or the volume of a buzzer number and voltage of cells used in the circuit.

To understand the Earth's movement in space	 Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. 	 Identify common appliances that run on electricity. Construct a simple series circuit identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 	Compare a function, in buzzers an
		 Observe the apparent movement of the Sun during the day. 	
		•	Describe t solar syste Describe t With supp
		•	Describe t bodies. Use the id

e and give reasons for variations in how components , including the brightness of bulbs, the loudness of and the on/off position of switches

the movement of the Earth relative to the Sun in the tem.

e the movement of the Moon relative to the Earth. [23] oport, the movement of the Moon relative to the Earth

the Sun, Earth and Moon as approximately spherical

idea of the Earth's rotation to explain day and night.