

"The art and science of asking questions is the source of all knowledge." - Thomas Berger

Summer Term – Y6	Spring Term – Y6	Autumn Term – Y6	Y6–Being scientific	Vocabulary – Y6
Explain the mechanism of breathing and how this links to the circulatory system. Identify and name the main parts of the human circulatory system. 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	Recognise that living things have changed over time and that fossils provide information about living 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. 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	Describe how living things are classified according to common observable characteristics including microorganisms, plants and animals. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Use 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	Plan different types of scientific enquiries to answer questions including recognising and controlling variables. Use test results to make predictions and to set up further comparative and fair tests. Take measurements using a range of scientific equipment, record data and results accurately. Report and present findings from enquiries. Use scientific evidence to support or refute ideas or arguments.	classification, observable characteristics, class, genus, species, vertebrates, invertebrates, microorganisms, organism, natural selection, adaptation, fossils, evolution, inherited traits, adaptive traits, DNA, genes, variation, fossilisation, mechanisms, breathing, circulatory system, diet, exercise, drugs, imbalance, absorption, transmission, imaging, ray model, reflection, voltage, components, electrical circuit, switch, bulb, circuit diagram, changes in state, particle model, separating mixtures, filtration, evaporation, distillation, chromatography

Summer Animals including humans
(circulatory system)
Summer 2-Electricity (sustainable Energy)

Spring 1- Evolution and Inheritance
Spring 2- Animals including humans diet, exercise, nutrients)

Autumn 1- Living things and their habitats
Autumn 2- Lights

Autumn Term – Y4/5 B	Spring Term – Y4/5 B	Summer Term – Y4/5 B	Y4/5B–Being scientific	Vocabulary – Y4/5 B
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. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Explain that unsupported objects fall at the same rate because of the force of gravity acting between the Earth and the falling object. 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.	Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporation. Give reasons, based on evidence from comparative and fair tests, for the 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.	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. Describe the changes as humans develop to old age. 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.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. Use test results to make predictions and to set up further comparative and fair tests. Take measurements using a range of scientific equipment, record data and results accurately. Report and present findings from enquiries. Use scientific evidence to support.	rotation, tilt, movement, orbit, axis, spherical, heliocentric, geocentric, hemisphere, season, gravity, moon, planets, solar system, air resistance, water resistance, speed, pulleys, levers, gears, force, effect, friction, accelerate, decelerate dissolving, mixing, change of state, reversible, irreversible, solids, liquids, gas, separate, temperature, comparative and fair tests, evaporation, filtering, sieving, melting, interdependence, organisms, food web, insect pollinated crops, fertilization, producers, photosynthesis, consumers, predators, reproduction, reproductive organs and systems, gestation, fertilisation, foetus, life cycles, mammal, amphibian, bird, fish, reptile

Autumn 1- Earth and Space
Autumn 2- Forces

Spring 1 Properties and changes in materials

Spring 2 Properties and changes in materials

Summer 1- Living things and their Habitats
Summer 2- Animals including Humans

YEAR
4/5
B

Summer Term – Y4/5 A	Spring Term – Y4/5 A	Autumn Term – Y4/5 A	Y4/5A–Being scientific	Vocabulary – Y4/5 A
Identify that animal, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.	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. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Construct and interpret a variety of food chains, identifying producers, predators and prey	Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it Recognise that environments can change and that this can sometimes pose dangers to living things.	Ask relevant questions and use different types of scientific enquiry to answer them 2. Carry out simple practical enquiries, comparative and fair tests. 3. Observe systematically and carefully, where appropriate take measurements using standard units 4. Identify differences, similarities or changes related to simple scientific ideas or processes 5. Gather, record, classify and present data to answer questions. 6. Report on findings of investigations 7. Use scientific evidence to answer questions, draw simple conclusions, make predictions, suggests improvements and raise further questions	component, circuit, prediction, conductor, insulator, cell, vibration, volume, pitch, air, medium, solid, liquid, gas, temperature, evaporation, condensation, water cycle impact, environment, habitat, human impact, deforestation digestive system, digestion, tongue, saliva oesophagus, acid, enzymes, teeth, incisors, canines, molars, function, heart, vessels, blood, classification keys

Summer 1- Animals and Humans (Food chain)

Spring 1- Electricity
Spring 2- Habitats

Autumn 1- Sound
Summer 2- State of Matter

Autumn Term – Y3	Spring Term – Y3	Summer Term – Y3	Y3-Being scientific	Vocabulary – Y3
Identify that animal, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Explore the how the shapes of materials can be changed by the application of force. Describe the effect of applying a greater or lesser force to object (i.e. pushing/pulling harder) Recognise that light is reflected from surfaces, Describe the features associated with season change.	Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that light is reflected from surfaces. Recognise that light travels in straight lines and explain the effect of the position of an object in relation to a light source on its shadow. Explain that objects are seen because they give out or reflect light into the eye.	Describe the life cycle and process of reproduction in plants. Explain the specific nutritional needs of plants, animals and humans. Explain how different plants' needs vary. Identify and describe the role of skeletons and the circulatory system in animals	Ask relevant questions and use different types of scientific enquiry to answer them 2. Carry out simple practical enquiries, comparative and fair tests. 3. Observe systematically and carefully, where appropriate take measurements using standard units 4. Identify differences, similarities or changes related to simple scientific ideas or processes	movement, surfaces, friction, attract, repel, poles, gravity, air resistance, water resistance, magnetic poles, north, south, physical properties, soil, rock, organic matter, fossils, sedimentary, grains, crystals, circulatory system, nutritional needs, nutrients, carbohydrates, protein, fats, fibre, water, vitamins, minerals, skeleton, bones, joints endoskeleton, exoskeleton, hydrostatic skeleton, vertebrate, invertebrate, contract, relax, muscles, ball joint socket, joint hinge, joint gliding, air, light, water, soil, room, straight lines, light source, shadow, reflect, surface, blocked, solid, artificial, natural, life cycle, reproduction, germination, pollen, fertilization, ngillation, dispersal, ovary, spores

Autumn 1- Animals including Humans (Nutrition)
Autumn 2 Forces and Magnets

Spring 1- Rocks
Spring 2 Light

Summer 1- Plants
Summer 2- Animals including Humans
(Skeleton and muscles)

YEAR
3

Summer Term – Y2	Spring Term – Y2	Autumn Term – Y2	Y2 –Being scientific	Vocabulary – Y2
- Construct and interpret food chains, identifying predators, producers and prey Recognise and describe how living things differ to non-living things, and how they change as they grow (including plants and animals).	Compare the suitability of materials for purposes 2. Explore the how the shapes of materials can be changed by the application of force	Identify what living things needs to survive and flourish (i.e. food, water, exercise etc.) Identify and name a variety of plants and animals and their habitats Observe and describe how seeds grow into mature plants.	Ask simple questions and recognise that these can be answered in different ways Observe closely using simple equipment. Carry out simple tests Identify and classify. Gather and record data to help answer simple questions. Use observations and ideas to suggest answers to questions	force, greater, lesser, reflect, surface, light, food, water, temperature, survive, flourish, leaf, root, leaves, bud, flowers, blossom, petals, stem, deciduous, evergreen, trunk, branches, germination, reproduction

Summer 1- Animals including Humans
Summer 2- Plants

Spring 1 and Spring 2- Materials

Autumn 1- Plants (Biology)
Autumn 2-Living things and their habitats (Biology)

Autumn Term – Y1	Spring Term – Y1	Summer Term – Y1	Y1 –Being scientific	Vocabulary – Y1
Identify, name, draw and label parts of the body the human bod and say which part of the body is associated with each sense. - Distinguish between objects and the materials they are made from, identify and name everyday materials, describe and compare properties of materials and group them	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify, group and classify animals Observe changes across the four seasons	Conduct an experiment by planting a bean seed inside and then planting it outside Compare two animals from the same or different groups. Classify animals using a range of features. Identify animals by matching them to named images.	Ask simple questions and recognise that these can be answered in different ways 2. Observe closely using simple equipment 3. Carry out simple tests 4. Identify and classify 5. Gather and record data to help answer simple questions 6. Use observations and ideas to suggest answers to questions	eyes, light blind ears stretch, mammal amphibian reptile carnivore, fish, reptile, compare, rough, stretch, bendy, Winter summer autumn leaves, evergreen deciduous plastic metal fabric glass shiny dull

Autumn 1- The human body (Biology)
Autumn 2- Materials (Chemistry)

Spring 1- Animals (Biology)
Spring 2- Sustainability
Caring for the planet/ planting in spring

Summer 1- Plants (Biology)
Summer 2- plants in summer
Sustainability (Growing and cooking)

Summer Term - YR	Spring Term - YR	Autumn Term - YR	YR –Being scientific	Vocabulary – YR	
Matter- experience, explore and describe a range of common materials	Energy- Explore the effects of simple forces- (push, pull, magnet) through continuous provision	Life Identify and name common plants and animals, talk about change	Explore , describe and question the world around them.	Identify, name explore, define Skill: I can observe plants, describe, change, similarities, differences, attract, plastic, paper, metal, wood, rough, smooth, bumpy, shiny, winter, summer, autumn, spring	

ELG- Explore the natural world around them , making observations and drawing pictures of animals and plants, know each similarities and differences between the natural world around them and contrasting environment drawing on their experiences and what has been read in class: understand some important processes and changes in the natural world around them, including the seasons and changing state of matter.

YEAR R