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| **Year Group** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Year 1**  **Seasons to be taught through the year.** | **Animals including humans – humans Biology**  1) Identify, name, draw and label the basic parts of the human body.  2) say which part of the body is associated with each sense.  **Key vocabulary**  head, body, eyes, ears, mouth, teeth, senses, sight, smell, spine, taste, thigh, tongue, touch, vertebrae, wrist, backbone, ear lobe, eye socket, elbow, fingers, hearing, hips, joints, nails, neck, ribs  **Working scientifically skills**  Observe closely, using simple equipment.  Identify and classify.  Gather and record data to help in answering questions. | **Materials Chemistry**  1) Distinguish between an object and the material from which it is made  2) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock  3) Describe the simple physical properties of a variety of everyday materials  4) Compare and group together a variety of everyday materials on the basis of their simple physical properties.  **Key vocabulary**  Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through  **Working scientifically skills**  Observe things using simple equipment.  Identify and classify.  Use observations and ideas to suggest answers to questions.  Perform simple tests.  Identify and classify. | **Animals including humans – polar animals Biology**  1) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  2) identify and name a variety of common animals that are carnivores, herbivores and omnivores.  3) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).  **Key vocabulary**  Adventurer, Antarctic, Arctic, Carnivore, Clothes, Cold, Flexible, Habitat, Herbivore, Ice, Iceberg, North Pole, Omnivore, Polar bear, Seal, Sea lion, Snow, South Pole, Waterproof, Weather  **Working scientifically skills**  Ask simple questions and recognise that they can be answered in different ways.  Perform simple tests.  Identify and classify.  Use their observations and ideas to suggest answers to questions. Identify and classify. | **Plants Biology**  1) Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.  2) Identify and describe the basic structure of a variety of common flowering plants, including trees.  **Key Vocabulary**  Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark stalk, bud, Names of trees in the local area, Names of garden and wild flowering plants in the local area.  **Working scientifically**  Observe closely, using simple equipment.  Identify and classify.  Use their observations and ideas to suggest answers to questions.  Ask simple questions and recognise that they can be answered in different ways. Identify and classify. Gather and record data to help in answering questions. | **Animals including humans – Animals – insects. Biology**  1) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  2) identify and name a variety of common animals that are carnivores, herbivores and omnivores.  3) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).  **Key vocabulary**  Abdomen, Antennae, Exoskeleton, Food chain, Habitat, Head, Insect, Invertebrate,  Jointed, Legs, Sections, Thorax,  Vertebrate  **Working scientifically**  Observe closely, using simple equipment.  Identify and classify.  Ask simple questions and recognise that they can be answered in different ways. | **Working scientifically focus.**  1) Asking simple questions and recognising that they can be answered in different ways.  2) observing closely using simple equipment.  3) Performing simple tests  4) Identifying and classifying  5) Using observations and ideas to suggest answers to questions  6) Gathering and recording data to help in answering questions. |
| **Year 2** | **Materials Chemistry**  1) Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.  2) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching  **Key Vocabulary:**  **Materials –** wood, plastic, glass, metal, water, rock, brick, paper, fabric, card, rubber  **Properties** – rough/smooth, flexible/rigid, strong/weak reflective/non-reflective, transparent/translucent/opaque  **Changing Shape** - squashing, bending, twisting and stretching, pushing and pulling  **Working scientifically**  Observing closely using simple equipment. Performing simple tests. Identifying and classifying | **Animals including humans. Biology**  1) Notice that animals, including humans, have offspring which grow into adults  2) Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Key vocabulary:**  Offspring, Reproduction, Growth, Child, Young/Old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), Exercise, Heartbeat, Pulse, Breathing, Hygiene, Germs, Disease, Nutrition, Food types (examples – meat, fish, vegetables, bread, rice, pasta)  **Working scientifically**  Observing closely using simple equipment. Performing simple tests. Identifying and classifying. Using observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions. | **Plants Biology**  1) Observe and describe how seeds and bulbs grow into mature plants  2) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.  **Key vocabulary**  As for year 1 plus - light, shade, sun, warm, cool, water, grow, healthy  **Working scientifically**  1) Asking simple questions and recognising that they can be answered in different ways.  2) observing closely using simple equipment.  3) Performing simple tests  4) Identifying and classifying  5) Using observations and ideas to suggest answers to questions  6) Gathering and recording data to help in answering questions. | **Plants Biology**  1) Observe and describe how seeds and bulbs grow into mature plants  2) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.  **Key vocabulary**  As for year 1 plus - light, shade, sun, warm, cool, water, grow, healthy  **Working scientifically**  1) Asking simple questions and recognising that they can be answered in different ways.  2) observing closely using simple equipment.  3) Performing simple tests  4) Identifying and classifying  5) Using observations and ideas to suggest answers to questions  6) Gathering and recording data to help in answering questions. | **Living things and their habitats Biology**  1) Explore and compare the differences between things that are living, dead, and things that have never been alive  2) 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.  3) Identify and name a variety of plants and animals in their habitats, including microhabitats.  4) 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.  **Key vocabulary:**  Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.  **Working scientifically**  observing closely using simple equipment.  Identifying and classifying  Gathering and recording data to help in answering questions. | **Animals including humans – Animals – insects.Year 1 catch up**  1) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  2) identify and name a variety of common animals that are carnivores, herbivores and omnivores.  3) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).  **Key vocabulary**  Abdomen, Antennae, Exoskeleton, Food chain, Habitat, Head, Insect, Invertebrate,  Jointed, Legs, Sections, Thorax,  Vertebrate  **Working scientifically**  Observe closely, using simple equipment.  Identify and classify.  Ask simple questions and recognise that they can be answered in different ways. |
| **Working scientifically skills – KS1**  1) Asking simple questions and recognising that they can be answered in different ways.  2) observing closely using simple equipment.  3) Performing simple tests  4) Identifying and classifying  5) Using observations and ideas to suggest answers to questions  6) Gathering and recording data to help in answering questions. | | | | | | |
| **Year 3** | **Animals including humans Biology**  1) Identify that animals, 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  2) Identify that humans and some other animals have skeletons and muscles for support, protection and movement.  **Key vocabulary:**  Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, skull, ribs, spine, muscles, joints  **Working scientifically**  Gathering, recording, classifying and presenting data in a variety of ways to help in answering question. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. | **Rocks and soils Chemistry**  1) Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties  2) Describe in simple terms how fossils are formed when things that have lived are trapped within rock.  3) Recognise that soils are made from rocks and organic matter.  **Key vocabulary:**  Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. | **Forces and magnets Physics**  1) Compare how things move on different surfaces  2) Notice that some forces need contact between two objects, but magnetic forces can act at a distance  3) Observe how magnets attract or repel each other and attract some materials and not others  4) 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  5) Describe magnets as having two poles  6)Predict whether two magnets will attract or repel each other, depending on which poles are facing.  **Key vocabulary:**  Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole  **Working scientifically2**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  8) Using straightforward scientific evidence to answer questions or to support their findings. | **Plants Biology**  1) Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers  2) 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  3) Investigate the way in which water is transported within plants  4) Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  **Key vocabulary**  Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal – wind dispersal, animal dispersal, water dispersal  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Using straightforward scientific evidence to answer questions or to support their findings. | **Light Physics**  1) Recognise that they need light in order to see things and that dark is the absence of light  2) Notice that light is reflected from surfaces  3) Recognise that light from the sun can be dangerous and that there are ways to protect their eyes  4) Recognise that shadows are formed when the light from a light source is blocked by an opaque object  5) Find patterns in the way that the size of shadows change.  **Key vocabulary:**  Light, Light source, Dark, Absence of light, Transparent, Translucent, Opaque, Shiny, Matt, Surface, Shadow, Reflect, Mirror, Sunlight, Dangerous  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Identifying differences, similarities or changes related to simple scientific ideas and processes  Using straightforward scientific evidence to answer questions or to support their findings. | **Living things and their habitats – year 2 catch up**  1) Explore and compare the differences between things that are living, dead, and things that have never been alive  2) 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.  3) Identify and name a variety of plants and animals in their habitats, including microhabitats.  4) 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.  **Key vocabulary:**  Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.  **Working scientifically**  observing closely using simple equipment.  Identifying and classifying  Gathering and recording data to help in answering questions. |
| **Year 4** | **States of matter Chemistry**  1) Compare and group materials together, according to whether they are solids, liquids or gases  2) Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)  3) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.  **Key vocabulary**  Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Using straightforward scientific evidence to answer questions or to support their findings. | **Animals including humans Biology**  1) Describe the simple functions of the basic parts of the digestive system in humans  2) Identify the different types of teeth in humans and their simple functions.  3) Construct and interpret a variety of food chains, identifying producers, predators and prey.  **Key vocabulary**  Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using straightforward scientific evidence to answer questions or to support their findings. | **Sound Physics**  1) Identify how sounds are made, associating some of them with something vibrating  2) Recognise that vibrations from sounds travel through a medium to the ear  3) Find patterns between the pitch of a sound and features of the object that produced it  4) Find patterns between the volume of a sound and the strength of the vibrations that produced it.  5) Recognise that sounds get fainter as the distance from the sound source increases.  **Key Vocabulary**  sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation.  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Identifying differences, similarities or changes related to simple scientific ideas and processes  Using straightforward scientific evidence to answer questions or to support their findings. | **Electricity Physics**  1) Identify common appliances that run on electricity  2) Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers  3) 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  4) Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit  5) Recognise some common conductors and insulators, and associate metals with being good conductors.  **Key Vocabulary**  Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Identifying differences, similarities or changes related to simple scientific ideas and processes  Using straightforward scientific evidence to answer questions or to support their findings. | **Living things and their habitats Biology**  1) Recognise that living things can be grouped in a variety of ways  2) Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment  3) Recognise that environments can change and that this can sometimes pose dangers to living things  **Key vocabulary**  Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. | **Light – year 3 catch up.**  1) Recognise that they need light in order to see things and that dark is the absence of light  2) Notice that light is reflected from surfaces  3) Recognise that light from the sun can be dangerous and that there are ways to protect their eyes  4) Recognise that shadows are formed when the light from a light source is blocked by an opaque object  5) Find patterns in the way that the size of shadows change.  **Key vocabulary:**  Light, Light source, Dark, Absence of light, Transparent, Translucent, Opaque, Shiny, Matt, Surface, Shadow, Reflect, Mirror, Sunlight, Dangerous  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Identifying differences, similarities or changes related to simple scientific ideas and processes  Using straightforward scientific evidence to answer questions or to support their findings. |
| **Working scientifically LKS2**  1) Asking relevant questions and using different types of scientific enquiries to answer them  2) Setting up simple practical enquiries, comparative and fair tests  3) Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  4) Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  5) Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  6) Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  7) Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  8) Identifying differences, similarities or changes related to simple scientific ideas and processes  9) Using straightforward scientific evidence to answer questions or to support their findings. | | | | | | |
| **Year 5** | **Space Physics**  1) Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.  2) Describe the movement of the Moon relative to the Earth.  3) Describe the Sun, Earth and Moon as approximately spherical bodies.  4) Use the idea of the Earth’s rotation to explain day and night.  5) Use the idea of the Earth’s rotation to explain the apparent movement of the Sun across the sky.  **Key vocabulary**  Earth, Sun, Moon, Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune  Spherical, Solar system, rotates, star, orbits, planets, axis  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Use test results to make predictions to set up further comparative and fair tests.  Report & present findings from enquiries, inc conclusions, causal relationships & explanations of & degree of trust in results, in oral & written forms such as displays & other presentations.  Identify scientific evidence that has been used to support or refute ideas or arguments. | **Properties and changes of materials Chemistry**  1) 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.  2) Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.  3) Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.  4) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.  5) Demonstrate that dissolving, mixing and changes of state are reversible changes.  6) Explain that some changes result in the formation of new materials, & that this kind of change is not usually reversible, inc changes associated with burning & the action of acid on bicarbonate of soda.  **Key vocabulary**  Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material.  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Use test results to make predictions to set up further comparative and fair tests.  Report & present findings from enquiries, inc conclusions, causal relationships & explanations of & degree of trust in results, in oral & written forms such as displays & other presentations.  Identify scientific evidence that has been used to support or refute ideas or arguments. | **Animals including humans Biology**  1) Describe the changes as humans develop to old age.  **Key vocabulary**  Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Use test results to make predictions to set up further comparative and fair tests.  Report & present findings from enquiries, inc conclusions, causal relationships & explanations of & degree of trust in results, in oral & written forms such as displays & other presentations.  Identify scientific evidence that has been used to support or refute ideas or arguments. | **Living things and their habitats Biology**  1) Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.  2) Describe the life process of reproduction in some plants and animals.  **Key vocabulary**  Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings  **Working scientifically**  Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Use test results to make predictions to set up further comparative and fair tests.  Identify scientific evidence that has been used to support or refute ideas or arguments.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Identify scientific evidence that has been used to support or refute ideas or arguments. | **Forces Physics**  1) Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.  2) Identify the effects of air resistance and water resistance that act between moving surfaces.  3) Identify the effects of friction, that act between moving surfaces.  4) Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  **Key vocabulary**  Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Use test results to make predictions to set up further comparative and fair tests. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. | **Sound year 4 catch up.**  1) Identify how sounds are made, associating some of them with something vibrating  2) Recognise that vibrations from sounds travel through a medium to the ear  3) Find patterns between the pitch of a sound and features of the object that produced it  4) Find patterns between the volume of a sound and the strength of the vibrations that produced it.  5) Recognise that sounds get fainter as the distance from the sound source increases.  **Key Vocabulary**  sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation  **Working scientifically**  Asking relevant questions and using different types of scientific enquiries to answer them  Setting up simple practical enquiries, comparative and fair tests  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Identifying differences, similarities or changes related to simple scientific ideas and processes  Using straightforward scientific evidence to answer questions or to support their findings. |
| **Year 6** | **Evolution and inheritance Biology**  1) Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago  2) Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents  3) Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.  **Key vocabulary**  Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils  **Working scientifically**  Identify scientific evidence that has been used to support or refute ideas or arguments.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. | **Electricity Physics**  1) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function  2) Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood  3) Describe the ways in which nutrients and water are transported within animals, including humans.  **Key vocabulary**  Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle  **Working scientifically**  Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Ask simple questions and recognise that they can be answered in different ways | **Light Physics**  1) Recognise that light appears to travel in straight lines  2) 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  3) 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  4) Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.  5) Use the idea of the Earth’s rotation to explain the apparent movement of the Sun across the sky.  **Key vocabulary:**  Straight lines, Light rays.  (Y3 vocabulary - Light, Light source, Dark, Absence of light, Transparent, Translucent, Opaque, Shiny, Matt, Surface, Shadow, Reflect, Mirror, Sunlight, Dangerous)  **Working scientifically**  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. | **Animals including humans Biology**  1) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function  2) Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood  3) Describe the ways in which nutrients and water are transported within animals, including humans.  **Key vocabulary**  Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests. Identify scientific evidence that has been used to support or refute ideas or arguments. | **Living things and their habitats Biology**  1) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals  2) Give reasons for classifying plants and animals based on specific characteristics.  Key vocabulary:  Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering and non-flowering.  **Working scientifically**  Identify scientific evidence that has been used to support or refute ideas or arguments. | **Year 5 catch up - Properties and changes of materials Chemistry**  1) 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.  2) Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.  3) Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.  4) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.  5) Demonstrate that dissolving, mixing and changes of state are reversible changes.  6) Explain that some changes result in the formation of new materials, & that this kind of change is not usually reversible, inc changes associated with burning & the action of acid on bicarbonate of soda.  **Key vocabulary**  Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material.  **Working scientifically**  Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Use test results to make predictions to set up further comparative and fair tests.  Report & present findings from enquiries, inc conclusions, causal relationships & explanations of & degree of trust in results, in oral & written forms such as displays & other presentations.  Identify scientific evidence that has been used to support or refute ideas or arguments. |
| **Working scientifically UKS2**  1) Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  2) Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  3) Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  4) Use test results to make predictions to set up further comparative and fair tests.  5) Report & present findings from enquiries, inc conclusions, causal relationships & explanations of & degree of trust in results, in oral & written forms such as displays & other presentations.  6) Identify scientific evidence that has been used to support or refute ideas or arguments. | | | | | | |