Year 3	Year 4	Year 5	Year 6	End of Key Stage Expectations
Y3 Animals including humans 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 **Y3 Forces and Magnets**	**Y4 Animals including humans** 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 **Y4 Electricity**	**Y5 Animals including humans** 1. describe the changes as humans develop to old age **Y5 Earth and space** 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 and the	**Y6 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 **Y6 Living things and their habitats**	**Working scientifically** The pupil can, using appropriate scientific language from the national curriculum: • describe and evaluate their own and others' scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources • ask their own questions about the scientific phenomena that they are studying, and select the most appropriate ways to answer these questions, recognising and

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,	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	apparent movement of the sun across the sky **Y5 Forces** 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, water resistance and friction, that act between moving surfaces 3. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect **Y5 Living things and their habitats** 1. describe the differences in the life cycles of a	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 **Y6 Evolution and inheritance** recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	controlling variables where necessary (i.e. observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests, and finding things out using a wide range of secondary sources) • use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate • record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • draw conclusions, explain and evaluate their methods and findings,

depending on which poles are facing **Y3 Rocks** 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 **Working scientifically** Ask relevant questions and using different types of scientific enquiries to answer them.	metals with being good conductors **Y4 Living things and their habitats** 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 **Y4 Sound** 1. identify how sounds are made, associating some of them with something vibrating 2. recognise that vibrations from sounds	mammal, an amphibian, an insect and a bird 2. describe the life process of reproduction in some plants and animals **Y5 Properties and changes of materials** 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. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution 3. use knowledge of solids, liquids and gases to decide how mixtures might be separated,	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 **Y6 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	communicating these in a variety of ways • raise further questions that could be investigated, based on their data and observations. **Science content** The pupil can: • name and describe the functions of the main parts of the digestive [year 4], musculoskeletal [year 3] and circulatory systems [year 6]; and describe and compare different reproductive processes and life cycles in animals [year 5] • describe the effects of diet, exercise, drugs and lifestyle on how the body functions [year 6] • name, locate and describe the functions of the main parts of

Set up simple practical enquiries, comparative and fair tests. Make organised and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including 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, keys, bar charts, and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	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 **Y4 States of Matter** 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	including through filtering, sieving and evaporating 4. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic 5. demonstrate that dissolving, mixing and changes of state are reversible changes 6. 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 **Working scientifically**	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 **Y6 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 use recognised symbols when representing a simple circuit in a diagram	plants, including those involved in reproduction [year 5] and transporting water and nutrients [year 3] use the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or other methods [year 6] • construct and interpret food chains [year 4] • describe the requirements of plants for life and growth [year 3]; and explain how environmental changes may have an impact on living things [year 4] • use the basic ideas of inheritance, variation and adaptation to describe how living things have changed over time and

Use results to draw simple conclusions, make predictions for new values, suggest improvements and ask further questions. Identify differences, similarities or changes related to simple scientific ideas and processes. Use simple scientific evidence to answer questions or to support their findings.	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 **Working scientifically** Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make organised and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including	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, 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.	**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, 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	evolved [year 6]; and describe how fossils are formed [year 3] and provide evidence for evolution [year 6] • group and identify materials [year 5], including rocks [year 3], in different ways according to their properties, based on first-hand observation; and justify the use of different everyday materials for different uses, based on their properties [year 5] • describe the characteristics of different states of matter and group materials on this basis; and describe how materials change state at different temperatures, using this to explain everyday phenomena, including the water cycle [year 4] • identify and

	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, keys, 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, make predictions for new values, suggest improvements and ask further questions. Identify differences, similarities or changes related to simple scientific ideas and processes.	Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found. Identify scientific evidence that has been used to support or refute ideas or arguments.	further comparative and fair tests. Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found. Identify scientific evidence that has been used to support or refute ideas or arguments.	describe what happens when dissolving occurs in everyday situations; and describe how to separate mixtures and solutions into their components [year 5] • identify, with reasons, whether changes in materials are reversible or not [year 5] • use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects [year 6], and the formation [year 3], shape [year 6] and size of shadows [year 3] • use the idea that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard [year 4] •

	Use simple scientific evidence to answer questions or to support their findings.			describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source [year 4] • describe the effects of simple forces that involve contact (air and water resistance, friction) [year 5], that act at a distance (magnetic forces, including those between like and unlike magnetic poles) [year 3], and gravity [year 5] • identify simple mechanisms, including levers, gears and pulleys, that increase the effect of a force [year 5] • use simple apparatus to construct and control a series circuit, and describe

				how the circuit may be affected when changes are made to it; and use recognised symbols to represent simple series circuit diagrams [year 6] • describe the shapes and relative movements of the Sun, Moon, Earth and other planets in the solar system; and explain the apparent movement of the sun across the sky in terms of the Earth's rotation and that this results in day and night [year 5].