| WORKING SCIENTIFICALLY | SCIENCE | Black is statutory | Non statutory | Plan | Do | Review |
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| EYFS Exp | Year 1 Exp | **Year 2 Expected** | Year 3 Exp | **Year 4 Expected** | Year 5 Exp | **Year 6 Expected** | Year 6 Exceeded |
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| Talk about what they see, using a wide vocabulary. | With help and encouragement I ask simple questions that begin with why, what if, how or when. | Ask simple questions and recognise that they can be answered in different ways | I can ask questions and I recognise that there are different types of enquiry. | Ask relevant questions and use different types of scientific enquiry to answer them | I ask relevant questions (containing scientific knowledge and understanding) and with help I recognise which type of enquiry is best to answer a question. | I ask relevant questions (containing scientific knowledge and understanding).<br><br>I recognise which type of enquiry is best to answer a question. | When given a hypothesis, I can carry out research into the science behind it, and decide and explain which type of enquiry to use.<br><br>I make predictions based on scientific knowledge and |
| Explore how things work. | I make suggestions about how to do things when we plan a simple test. | I decide with help, what to find out, observe or measure. | I make suggestions about what observations and measurements to make and what equipment I need.<br><br>I can set up a simple practical enquiry and I am beginning to understand how to make a test fair. | Set up simple practical enquiries, comparative and fair tests<br>I decide what observations and measurements to make and what equipment to use. | I decide what observations and measurements to make (controlling variables with help where necessary) and what equipment to use to make my measurements and observations. | Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary<br><br>I decide what observations and measurements to make and what equipment to use (giving reasons) to make my measurements and observations. | With help I plan and design enquiries, taking into account some of the other factors (e.g. types of variable), to make observations and to test predictions. |
| Explore the natural world around them making observation and drawing pictures of animals and plants. | With help, I use simple equipment and non-standard units to find things out.<br><br>I observe using my senses. | Perform a simple test<br><br>Observe closely, using simple equipment | I am beginning to make systematic and careful observations.<br>I sometimes use standard units.<br><br>With help I can use information sources provided to find things out. | Use a range of equipment, including thermometers and data loggers.<br><br>Make systematic and careful observations and take accurate measurements using standard units<br><br>I use information sources provided to find things out. | I use a range of equipment independently.<br><br>The series of observations and measurements I take are adequate for the task.<br><br>I use information sources provided to find things out. | Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeated readings where necessary<br><br>I use relevant information sources to find things out<br><br>I identify possible risks to myself and others. | I select and use appropriate techniques (including sampling), apparatus and materials during field and laboratory work, collecting data choosing appropriate ranges, numbers and values for measurements and observations. |
| | | Can identify and classify | | Identify differences similarities or changes related to simple scientific ideas and processes | I identify possible risks to myself and others | | I pay attention to health and safety, I independently recognise a range of familiar risks and take action to control them. |

| WORKING SCIENTIFICALLY | | SCIENCE | | | | | |
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| EYFS/Year 1 Developing | Year 1 Exp | **Year 2 Expected** | Year 3 Exp | **Year 4 Expected** | Year 5 Exp | **Year 6 Expected** | Year 6 Exceeded |
| | With help, I can gather and record data to help me answer my questions. | Gather data and record data to help answer questions<br><br>I record what I have found out using e.g. words or pictures, tables or simple prepared formats. | I gather data and using a pre-prepared table I can record data.<br>I record my findings using a drawing and/or words.<br><br>With help, I can present my data. | Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables<br><br>Gather, record, classify and present data in a variety of ways eg Venn diagrams, simple scatter graphs and keys to help answer questions | I gather and record non-complex results (data and observations) using e.g. tables and scientific diagrams.<br><br>I present the results (data and observations) in a range of formats e.g. bar and line graphs, simple scatter graphs, keys and frequency charts. | Record and present data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs | I select the appropriate method for recording observations for some types of enquiry.<br><br>I present data and observations using appropriate methods e.g. line graphs with correctly selected scales and axes, histograms, bar charts, species distribution maps, scatter graphs – data and information being from primary sources, secondary sources and simulations. |
| | I talk about what happened and/or what I saw. | Use my observations and ideas to suggest answers to my questions | I can talk about what went wrong!<br>I have ideas about what else I would like to find out. | Use their results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions<br><br>Use straightforward scientific evidence to answer questions or to support their findings | I draw conclusions from my data and observations.<br><br>I begin to use basic scientific evidence to support or refute the ideas or arguments for my conclusion. | Use test results to make predictions to set up further comparative and fair tests and suggest how my working methods could be improved, with reasons<br><br>I identify scientific evidence to support or refute the ideas or arguments for my conclusion. | I draw valid conclusions (that are consistent with the evidence I have collected) through applying mathematical concepts where appropriate, interpreting observations and data and identifying patterns e.g. lines of best fit.<br>I can explain what I found out linking this to the prediction and hypothesis made using scientific knowledge and understanding. |
| | I talk about what I did. | I talk about my findings. | I can use my results when I talk about what happened. | Report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions | I look at my results and decide if any observations or measurements are unsuitable.<br>I use what I have found out to suggest improvements to my work giving reasons.<br>I can set up further questions to investigate. | From my data and observations I draw valid conclusions (i.e. consistent with the evidence) including causal relationships.<br><br>I look at my results and decide if any observations or measurements are unsuitable and need to be carried out again.<br><br>I offer simple explanations for differences in results. | I evaluate data showing awareness of potential sources of error, suggesting ways of modifying working methods to improve reliability.<br>I evaluate the reliability of methods and suggest possible improvements.<br>I suggest reasons based on scientific knowledge and understanding for any limitations or inconsistencies in evidence collected using the general pattern of results as a basis for assessing reliability.<br><br>I identify further questions arising from what I found out. |

| SCIENCE | | | Black is statutory | Non statutory | | | |
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| **Plants** | | | | | | | |
| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| Plant seeds care for growing plants. | Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees | Observe and describe how seeds and bulbs grow into mature plants. Through discussions, written diaries and images. | Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal<br><br>Investigate the way in which water is transported within plants | | | | |
| Understand the key features of the life cycle of a plant. | Identify and describe the basic structure of a variety of common flowering plants, including trees | | Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers | | | | |
| | Discover that plants need water, light and food to stay healthy | Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy | 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 | | | | |
| **Seasonal Changes** | | | | | | | |
| Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them. **Understand some important processes and changes in the natural world around them, including the seasons and** changing states of matter. | Observe changes across the four seasons and name the seasons confidently.<br><br>Observe and describe weather associated with the seasons and how day length varies | | | | | | |

| Living Things and their habitats | | | | | | | |
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| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| Understand the key features of the life cycle of a animals. | | Explore and compare differences between living, dead and things that have never been alive | | Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment | Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird | 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 | Explain why classification is important |
| | | 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 | | Recognise that environments can change and that this can sometimes pose dangers to living things | Describe the life processes and reproduction in some plants and animals | Give reasons for classifying plants and animals based on specific characteristics | Readily group animals into reptiles, fish, birds, mammals and amphibians |
| Begin to understand the need to respect and care for the natural environment and all living things. | | Identify and name a variety of plants and animals in their habitats including micro habitats | | Recognise that things can be grouped in a variety of ways | Talk with knowledge about birth, reproduction and death | Group into vertebrates and invertebrates | |
| | | Describe how animals obtain food from plants and other animals using the idea of a simple food chain, and identify and name different sources of food | | Begin to name and group into producer/consumer predator/prey herbivore/carnivore /omnivore | Explore well known naturalists eg Jane Goodall David Attenborough | | |
| | | Describe some life processes common to plants/animals/ humans | | | Give reasons for classifying plants and animals based on their specific characteristics | | |

| Animals Including Humans Evolution and Inheritance | | | | | | | |
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| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| Recognise some environments that are different to the one in which they live. | Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals and sort them | | | | | Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago | Explain that some living things adapt to survive in extreme conditions |
| Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. | Identify and name a variety of common animals that are carnivores, herbivores and omnivores | | | Construct and interpret a variety of food chains, identifying producers, predators and prey | | Recognise that living things produce offspring and normally offspring are not identical to parents, understand that this is evolution | Analyse the advantages/disadvantages of specific adaptations Eg 2 feet not 4 |
| | Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) | Find out about 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 amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat | Identify and name living plants and animals in the local and wider environment using classification keys they have designed | | Identify how animals and plants are adapted to suit their environment and adaptation may lead to evolution. Compare animals and plants in different habitats and how they have adapted. | Begin to understand what is meant by DNA |
| | Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense | Identify animals (and humans) need correct nutrition and they get nutrition from what they eat. | | Describe the simple functions of the basic parts of the digestive system in humans | | Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood | Explore the work of medical pioneers Eg William Harvey Galen |
| | Describe how to live a healthy lifestyle through exercise and healthy eating | Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene | Identify that humans and some animals have skeletons and muscles for support, protection and movement | Identify the different types of teeth in humans and their simple functions.<br><br>Compare teeth of herbivores and carnivores | | Recognise the impact of diet, exercise, drugs and lifestyle on their bodies function<br><br>Name and locate major organs in the human body in a diagram | Compare the human organ system to other animals |
| | | Notice that animals, including humans, have offspring which grow into adults | | Describe the changes to the human body as humans develop to old age | Describe the changes as humans develop to old age, in a timeline<br><br>(Explain puberty) | Describe the ways in which nutrients and water are transported within animals, including humans | Make a diagram of the human body and explain how the different parts work and depend on one another |

| Forces and Magnets | | | | | | | |
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| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| Explore how things work.<br><br>Explore and talk about different forces they can feel. | | | Notice that some forces need contact between two objects, but magnetic forces can act at a distance<br><br>Observe how magnets attract or repel each other and attract some materials and not others<br>Explain that a magnet only attracts metal.<br>Use scientific vocabulary (attract and repel)<br><br>Compare how things move on different surfaces, explain the role of friction<br><br>Describe a magnet as having two poles.<br><br>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing<br><br>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<br><br>Explain speed and direction of moving objects | | Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect<br><br>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object<br><br>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces<br>(Explore how surface area and air resistance changes how an object falls) | | |

| Rocks | | | | | | | |
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| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| | | | Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties | | | | |
| | | | Describe in simple terms how fossils are formed when things that have lived are trapped within rock<br><br>Recognise that soils are made up of rocks and organic matter<br><br>Describe and explain the difference between sedimentary and igneous rocks considering the way they were formed<br><br>Explain how rocks can be useful | | | | |

| Everyday Materials Y1 and their Uses Y2 States of Matter Y4 Properties and Changes of Materials Y5 | | | | | | | |
|---|---|---|---|---|---|---|---|
| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| Use all their senses in hands on exploration of natural materials. Explore collections of materials with similar and/or different properties.<br><br>Talk about the differences between materials and changes they notice.<br><br>**Understand some important processes and changes in the natural world around them, including** the seasons and **changing states of matter**. | Distinguish between an object and the material it is made from<br><br>Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock | Identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses | Compare different materials and explain why different materials are chosen to make objects<br>Classify materials into solids, liquids and gases | Compare and group materials together, according to whether they are solids, liquids or gases explain how groupings may change based on state of matter | 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 | | |
| | Describe the simple physical properties of everyday materials using appropriate language (hard, soft, bendy, stiff, clear) | Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching<br><br>Compare how different materials can change shape | Begin to understand how materials change state (chocolate can be melted to become a liquid) | Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature | Demonstrate that dissolving, mixing and changes of state are reversible changes | | |
| | Compare and group together a variety of everyday materials on the basis of their simple physical properties<br><br>Explain why a specific material might be useful for a specific job | | | Observe that some materials change state when they are heated or cooled (not only solid to liquid) and measure or research the temperature at which this happens in degrees Celsius (°C) | Explain some changes result in formation of new materials and this is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda | | |
| | | | | Measure the temperature at which different materials change state | Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. | | |
| | | | | | Know some materials 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 | | |

| Light Sound | | | | | | | |
|---|---|---|---|---|---|---|---|
| EYFS/Year 1 Developing | Year 1 Expected (Non statutory until Light-y3 Sound- y4) | Year 2 Expected (Non statutory until Light-y3 Sound- y4) | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| | | | Recognise that light is needed in order to see things and that dark is the absence of light | | | Recognise that light appears to travel in straight lines | Can use the ray model to explain the size of shadows |
| | | | Notice that light is reflected from surfaces for us to see | | | 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 | |
| | | | Recognise that light from the sun can be dangerous and that there are ways to protect their eyes | Observe and name a variety of sources of sound, commenting that we use our ears to hear | | 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 | |
| | | | Recognise and explain how shadows are formed when the light from a light source is blocked by a opaque object | Identify how sounds are made, associating some of them with something vibrating | | Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them | |
| | | | Find patterns in the way that the size of shadows change through experiments throughout the day | Recognise that vibrations from sounds travel through a medium to the ear | | | |
| | | | Name a variety of light sources (electric lights, flames, sun) | Find the pattern between the pitch of sound and features of the object which produces it | | Explain how different colours can be created | |
| | | | Compare sources of light (brightest ,dullest,lighter) | Find the pattern between volume of a sound and strength of vibrations produced it | | Explain the changes linked to light | |
| | | | Explain the difference between opaque, translucent and transparent | Recognise that sounds get fainter as the distance from the sound source increases, thinking about the sound waves | | Use/explain how simple optical instruments work (telescope, binocs, mirror) | |

| Electricity | | | | | | | |
|---|---|---|---|---|---|---|---|
| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| | | | | Identify common appliances which run on electricity | | Use recognised symbols when representing a simple circuit in a diagram | Make their own traffic light system |
| | | | | Construct a simple series electrical circuit identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers | | Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit | Explain the dangers of short circuits |
| | | | | 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 | | 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 | Explain what a fuse is |
| | | | | Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit<br><br>Recognise common conductors and insulators, and associate metals with being good conductors | | | |

| Earth and Space | | | | | | | |
|---|---|---|---|---|---|---|---|
| EYFS/Year 1 Developing | Year 1 Expected | Year 2 Expected | Year 3 Expected | Year 4 Expected | Year 5 Expected | Year 6 Expected | Year 6 Exceeded |
| | | | | | Describe the movement of 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 relatively 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 | | |
| | | | | | Explain how the seasons and associated weather are created | | |
| | | | | | Explain how the planets are linked to the stars | | |