|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Street Lane Primary School Science Progression Map  “Each and every child is special to us. Throughout their learning journey we aim to develop self-belief, confidence, positive well-being and independence in a culture of mutual respect. We want our children to be the best that they can be”. | | | | | | |
| **Working scientifically** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| |  |  |  |  | | --- | --- | --- | --- | | Answer ‘how’ and ‘why’ questions about my experiences and in response to stories or events.   |  | | --- | | Make observations of animals and plants and explain why some things occur, and talk about changes. |  |  | | --- | | I can talk about the features of my own immediate environment and how environments might vary from one another. | | I know about similarities and differences in relation to places, objects, materials and living things. | | | I can ask simple scientific questions.  I can use simple equipment to make observations.  I can carry out simple tests.  I can identify and classify things.  I can suggest what I have found out.  I can use simple data to answer questions | | I can ask relevant scientific questions.  I can use observations and knowledge to answer scientific questions.  I can set up a simple enquiry to explore a scientific question.  I can set up a test to compare two things.  I can set up a fair test and explain why it is fair.  I can make careful and accurate observations, including the use of standard units.  I can use equipment, including thermometers and data loggers to make measurements.  I can gather, record, classify and present data in different ways to answer scientific questions.  I can use diagrams, keys, bar charts and tables; using scientific language.  I can use findings to report in different ways, including oral and written explanations, presentation.  I can draw conclusions and suggest improvements.  I can make a prediction with a reason.  I can identify differences, similarities and changes related to an enquiry. | | I can plan different types of scientific enquiry.  I can control variables in an enquiry.  I can measure accurately and precisely using a range of equipment.  I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  I can use the outcome of test results to make predictions and set up a further comparative fair test.  I can report findings from enquiries in a range of ways.  I can explain a conclusion from an enquiry.  I can explain causal relationships in an enquiry.  I can relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.  I can read, spell and pronounce scientific vocabulary accurately. | |
| **Plants** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| |  | | --- | | I can make observations of animals and plants and explain why some things occur, and talk about changes.  I know about similarities and differences in relation to places, objects, materials and living things. | | I can name a variety of common wild and garden plants.  I can name the petals, stem, leaf and root of a plant.  I can name the roots, trunk, branches and leaves of a tree. | I can describe how seeds and bulbs grow into plants.  I can describe what plants need in order to grow and stay healthy (water, light & suitable temperature). | I can describe the function of different parts of flowing plants and trees.  I can explore and describe the needs of different plants for survival.  I can explore and describe how water is transported within plants.  I can describe the plant life cycle, especially the importance of flowers. | No content | No content | No content |
| **Animals, including humans** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| I can make observations of animals and plants and explain why some things occur, and talk about changes.  I know about similarities and differences in relation to places, objects, materials and living things. | I can name a variety of animals including fish, amphibians, reptiles birds and mammals.  I can classify and name animals by what they eat (carnivore, herbivore and omnivore).  I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).  I can sort living and non-living things.  I can name the parts of the human body that I can see.  I can link the correct part of the human body to each sense. | I can explain the basic stages in a life cycle for animals, including humans.  I can describe what animals and humans need to survive.  I can describe why exercise, a balanced diet and good hygiene are important for humans. | I can explain the importance of a nutritious, balanced diet.  I can explain how nutrients, water and oxygen are transported within animals and humans.  I can describe and explain the skeletal system of a human.  I can describe and explain the muscular system of a human.  I can describe the purpose of the skeleton in humans and animals. | I can identify and name the parts of the human digestive system.  I can describe the functions of the organs in the human digestive system.  I can identify and describe the different types of teeth in humans.  I can describe the functions of different human teeth.  I can use food chains to identify producers, predators and prey.  I can construct food chains to identify producers, predators and prey. | I can create a timeline to indicate stages of growth in humans. | I can identify and name the main parts of the human circulatory system.  I can describe the function of the heart, blood vessels and blood.  I can discuss the impact of diet, exercise, drugs and life style on health.  I can describe the ways in which nutrients and water are transported in animals, including humans. |
| **Living things and their habitats & evolution** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| I can talk about the features of my own immediate environment and how environments might vary from one another. | No content | I can identify things that are living, dead and never lived.  I can describe how a specific habitat provides for the basic needs of things living there (plants and animals).  I can identify and name plants and animals in a range of habitats.  I can match living things to their habitat.  I can describe how animals find their food.  I can name some different sources of food for animals.  I can explain a simple food chain. | No content | I can group living things in different ways.  I can use classification keys to group, identify and name living things.  I can create classification keys to group, identify and name living things (for others to use).  I can describe how changes to an environment could endanger living things. | I can describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.  I can describe the differences between different life cycles.  I can describe the process of reproduction in plants.  I can describe the process of reproduction in animals. | I can classify living things into broad groups according to observable characteristics and based on similarities & differences.  **Evolution & inheritance**  I can describe how the earth and living things have changed over time.  I can explain how fossils can be used to find out about the past.  I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).  I can explain how animals and plants are adapted to suit their environment.  I can link adaptation over time to evolution.  I can explain evolution. |
| **Materials** | | | | | | |  |  |  |  | I can describe how living things have been classified. |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| I know about similarities and differences in relation to places, objects, materials and living things. | I can distinguish between an object and the material it is made from.  I can explain the materials that an object is made from.  I can name wood, plastic, glass, metal, water and rock.  I can describe the properties of everyday materials.  I can group objects based on the materials they are made from. | I can identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.  I can suggest why a material might or might not be used for a specific job.  I can explore how shapes can be changed by squashing, bending, twisting and stretching. | **Rocks**  I can compare and group rocks based on their appearance and physical properties, giving a reason.  I can describe how fossils are formed.  I can describe how soil is made.  I can describe and explain the difference between sedimentary and igneous rock. | **States of matter**  I can group materials based on their state of matter (solid, liquid, gas).  I can describe how some materials can change state.  I can explore how materials change state.  I can measure the temperature at which materials change state.  I can describe the water cycle.  I can explain the part played by evaporation and condensation in the water cycle. | I can compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).  I can describe how a material dissolves to form a solution; explaining the process of dissolving.  I can describe and show how to recover a substance from a solution.  I can describe how some materials can be separated.  I can demonstrate how materials can be separated (e.g. through filtering, sieving and evaporating).  I know and can demonstrate that some changes are reversible and some are not.  I can explain how some changes result in the formation of a new material and that this is usually irreversible.  I can discuss reversible and irreversible changes.  I can give evidenced reasons why materials should be used for specific purposes. | No content |
| **Light and sound** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| No content | No content | No content | Light  I can describe what dark is (the absence of light).  I can explain that light is needed in order to see.  I can explain that light is reflected from a surface.  I can explain and demonstrate how a shadow is formed.  I can explore shadow size and explain.  I can explain the danger of direct sunlight and describe how to keep protected. | Sound  I can describe how sound is made.  I can explain how sound travels from a source to our ears.  I can explain the place of vibration in hearing.  I can explore the correlation between pitch and the object producing a sound.  I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it.  I can describe what happens to a sound as it travels away from its source. | Earth and space  I can describe and explain the movement of the Earth and other planets relative to the Sun.  I can describe and explain the movement of the Moon relative to the Earth.  I can explain and demonstrate how night and day are created.  I can describe the Sun, Earth and Moon (using the term spherical). | Light  I can explain how light travels.  I can explain and demonstrate how we see objects.  I can explain why shadows have the same shape as the object that casts them.  I can explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc. |
| **Forecs and electricity (physics)** | | | | | | |
| **EYFS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| No content | **Seasonal changes**  I can observe and comment on changes in the seasons.  I can name the seasons and suggest the type of weather in each season. | No content | Forces and magnets  I can explore and describe how objects move on different surfaces.  I can explain how some forces require contact and some do not, giving examples.  I can explore and explain how objects attract and repel in relation to objects and other magnets.  I can predict whether objects will be magnetic and carry out an enquiry to test this out.  I can describe how magnets work.  I can predict whether magnets will attract or repel and give a reason. | Electricity  I can identify and name appliances that require electricity to function.  I can construct a series circuit.  I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).  I can draw a circuit diagram.  I can predict and test whether a lamp will light within a circuit.  I can describe the function of a switch in a circuit.  I can describe the difference between a conductor and insulators; giving examples of each. | Forces  I can explain what gravity is and its impact on our lives.  I can identify and explain the effect of air resistance.  I can identify and explain the effect of water resistance.  I can identify and explain the effect of friction.  I can explain how levers, pulleys and gears allow a smaller force to have a greater effect. | Electricity  I can explain how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.  I can compare and give reasons for why components work and do not work in a circuit.  I can draw circuit diagrams using the correct symbols. |