**Science Overview**

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|  | Aut 1st | Aut 2nd | Spring 1st | Spring 2nd | | Summer 1st | | Summer 2nd |
| **Year 1** | **Plants**  To know how to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees  Know and identify and describe the basic structure of a variety of common flowering plants, including trees.  **Animals including humans**  Know and identify and name a variety of common animals that are carnivores, herbivores and omnivores. Know how to describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).  Know and name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | | **Everyday Materials**  Know how to distinguish between an object and the material from which it is made  Know how to identify and name a variety of everyday materials, including wood, plastic, glass,  metal, water, and rock  To know the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties. | | | **Seasonal Changes**  Know the changes across the four seasons  Know and describe weather associated with the seasons and how day length varies | | |
| **Year 2** | **Living Things and their habitats**  Know and compare the differences between things that are living, dead, and things that have never been alive.  Know 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  Know and name a variety of plants and animals in their habitats, including microhabitats  Know 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. | | **Plants**  Know and describe how seeds and bulbs grow into mature plants  Know and describe how plants need water, light and a suitable temperature to grow  and stay healthy. | | **Animals, including humans**  Know that animals, including humans, have offspring which grow into adults  Know about and describe the basic needs of animals, including humans, for  survival (water, food and air)  Know the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. | **Uses of everyday materials**  Know and compare the suitability of a variety of everyday materials, including  wood, metal, plastic, glass, brick, rock, paper and cardboard for particular know how the shapes of solid objects made from some materials can be changed  by squashing, bending, twisting and stretching. | | |
|  | **Aut 1st** | **Aut 2nd** | **Spr 1st** | | **Spr 2nd** | **Sum 1st + 2nd** | | |
| **Year 3** | **Plants**  Know the functions of different parts of flowering plants: roots,  stem/trunk, leaves and flowers  Know and 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  Know the way in which water is transported within plants  Know the part that flowers play in the life cycle of flowering plants, including  pollination, seed formation and seed dispersal. | **Animals, including humans**  Know 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  Know that humans and some other animals have skeletons and muscles for  support, protection and movement. | **Rocks**  Know and group together different kinds of rocks on the basis of their appearance  and simple physical properties  Know in simple terms how fossils are formed when things that have lived are  trapped within rock  Recognise that soils are made from rocks and organic matter. | | **Light**  Know that they need light in order to see things and that dark is the absence of  light  Know that light is reflected from surfaces  Know that light from the sun can be dangerous and that there are ways to protect  their eyes  Know that shadows are formed when the light from a light source is blocked by  an opaque object  Know patterns in the way that the size of shadows change. | **Forces and Magnets/Revision**  Know how things move on different surfaces  Know that some forces need contact between two objects, but magnetic forces can  act at a distance  Know how magnets attract or repel each other and attract some materials and not  others  Know and group together a variety of everyday materials on the basis of whether  they are attracted to a magnet, and know some magnetic materials.  Know magnets have two poles  Know whether two magnets will attract or repel each other, depending on which  poles are facing. | | |
| **Year 4**  **Year 5**  **Year 6** | **Aut 1st**  **Living Things and their habitats**  Know that living things can be grouped in a variety of ways  Know and use classification keys to help group, identify and name a variety of living  things in their local and wider environment  Know that environments can change and that this can sometimes pose dangers  to living things.  **Aut 1st**  **Living Things and their Habitats**  Know the differences in the life cycles of a mammal, an amphibian, an insect and  a bird  Know the life process of reproduction in some plants and animals.  **Aut 1st**  **Living Things and their habitats**  Know how living things are classified into broad groups according to common  observable characteristics and based on similarities and differences, including microorganisms,  plants and animals  Know and give reasons for classifying plants and animals based on specific characteristics. | **Aut 2nd**  **Animals, including humans**  Know the simple functions of the basic parts of the digestive system in humans  Know the different types of teeth in humans and their simple functions  Know how to construct and interpret a variety of food chains, identifying producers, predators and  prey.  **Aut 2nd**  **Animals, including humans**  Know the changes as humans develop to old age.  **Aut 2nd**  **Animals, including humans**  Know and name the main parts of the human circulatory system, and describe the  functions of the heart, blood vessels and blood  Know the impact of diet, exercise, drugs and lifestyle on the way their bodies  function  Know the ways in which nutrients and water are transported within animals,  including humans. | **Spr 1st**  **States of Matter**  Know how to group materials together, according to whether they are solids, liquids  or gases  Know 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)  Know the part played by evaporation and condensation in the water cycle and  associate the rate of evaporation with temperature.  **Spr 1st**  **Forces**  Know that unsupported objects fall towards the Earth because of the force of  gravity acting between the Earth and the falling object  Know the effects of air resistance, water resistance and friction, that act between  moving surfaces  Know that some mechanisms, including levers, pulleys and gears, allow a  smaller force to have a greater effect.  **Spr 1st**  **Evolution including inheritance**  Know that living things have changed over time and that fossils provide  information about living things that inhabited the Earth millions of years ago  Know that living things produce offspring of the same kind, but normally offspring  vary and are not identical to their parents  Know how animals and plants are adapted to suit their environment in different  ways and that adaptation may lead to evolution. | | **Spr 2nd**  **Sound**  Know how sounds are made, associating some of them with something vibrating  Recognise that vibrations from sounds travel through a medium to the ear  Know patterns between the pitch of a sound and features of the object that produced it  Know patterns between the volume of a sound and the strength of the vibrations that  produced it  Know that sounds get fainter as the distance from the sound source increases.  **Spr 2nd**  **Earth and Space**  Know the movement of the Earth, and other planets, relative to the Sun in the  solar system  Know the movement of the Moon relative to the Earth  Describe the Sun, Earth and Moon as approximately spherical bodies  Know and use the idea of the Earth’s rotation to explain day and night and the apparent  movement of the sun across the sky.  **Sum 1st**  **Light**  Know 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  Know that we see things because light travels from light sources to our eyes or  from light sources to objects and then to our eyes Know and use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. | | **Sum 1st + 2nd**  **Electricity/Revision**  Know common appliances that run on electricity  Know how to construct a simple series electrical circuit,  Know and naming its basic parts,  including cells, wires, bulbs, switches and buzzers  Know 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  Know that a switch opens and closes a circuit and associate this with whether or  not a lamp lights in a simple series circuit  Know some common conductors and insulators, and associate metals with being  good conductors.  **Sum 1st + 2nd**  **Properties and changes of materials/Revision**  Know how to group together everyday materials on the basis of their properties,  including their hardness, solubility, transparency, conductivity (electrical and  thermal), and response to magnets  Know that some materials will 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  Give reasons, based on evidence from comparative and fair tests, for the particular  uses of everyday materials, including metals, wood and plastic  Know that dissolving, mixing and changes of state are reversible changes  Know 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 soda  **Sum 1st + 2nd**  **Electricity/Revision**  Know and associate the brightness of a lamp or the volume of a buzzer with the number and  voltage of cells used in the circuit Know 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  Know and use recognised symbols when representing a simple circuit in a diagram. | |