**Roebuck Academy Science Curriculum Skills coverage 2019 - 2020**

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| **Key Stage / Year Group** | | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **KS1** | **Year 1** | **Trees and plants**  Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees  Identify and describe the basic structure of a variety of common flowering plants, including trees  **Seasonal changes** (autumn)  Observe changes across the 4 seasons | **Everyday materials**  Distinguish between an object and the material from which it is made  Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock  Describe 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**  (day length and spring)  Observe changes across the 4 seasons  Observe and describe weather associated with the seasons and how day length varies | **Human body**  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense | **Seasonal changes**  (summer)  Observe changes across the 4 seasons  Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) | **Animals**  Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  Identify and name a variety of common animals that are carnivores, herbivores and omnivores  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) |
| **Year 2** | **Living things and habitats**  Explore and compare the differences between things that are living, dead, and things that have never been alive  dentify 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  Identify and name a variety of plants and animals in their habitats, including microhabitats.  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. | | **Plants**  Observe and describe how seeds and bulbs grow into mature plants  Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | | **Use of everyday materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.  Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.  **Animals including humans.** | |
| **KS2** | **Year 3** | **Healthy Eating**  **Muscles and bones**  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 that humans and some other animals have skeletons and muscles for support, protection and movement. | | **Magnets**  Compare how things move on different surfaces  Notice that some forces need contact between two objects, but magnetic forces can act at a distance  Observe how magnets attract or repel each other and attract some materials and not others  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  Describe magnets as having two poles  Predict whether two magnets will attract or repel each other, depending on which poles are facing. | **Rocks and soils**  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  Recognise that soils are made from rocks and organic matter. | **Plants**  Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers  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  Investigate the way in which water is transported within plants  Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. | **Light and shadows**  Recognise that they need light in order to see things and that dark is the absence of light  Notice that light is reflected from surfaces  Recognise that light from the sun can be dangerous and that there are ways to protect their eyes  Recognise that shadows are formed when the light from a light source is blocked by an opaque object  Find patterns in the way that the size of shadows change. |
| **Year 4** | **States of Matter**  Compare and group materials together, according to whether they are solids, liquids or gases  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)  Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. | | **Sound**  Identify how sounds are made, associating some of them with something vibrating  Recognise that vibrations from sounds travel through a medium to the ear    Find patterns between the pitch of a sound and features of the object that produced it  Find patterns between the volume of a sound and the strength of the vibrations that produced it  Recognise that sounds get fainter as the distance from the sound source increases. | **Circuits and Conductors**  Identify common appliances that run on electricity  Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers  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  Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit    Recognise some common conductors and insulators, and associate metals with being good conductors. | **Living things and Habitat**s  Recognise that living things can be grouped in a variety of ways  Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment  Recognise that environments can change and that this can sometimes pose dangers to living things. | **Animals incl Humans**  Describe the simple functions of the basic parts of the digestive system in humans  Identify the different types of teeth in humans and their simple functions    Construct and interpret a variety of food chains, identifying producers, predators and prey. |
| **Year 5** | **Forces**  Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object  Identify the effects of air resistance, water resistance and friction, that acts between moving surfaces  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect | | **Earth and space**  Describe the movement of the Earth, and other planets, relative to the Sun  Describe movement of the Moon relative to Earth  Understanding of night and day due to the Earth’s rotation | **Properties and changes of materials**  Compare and group materials based on their properties  Know some will dissolve in a liquid and how to recover this  Use knowledge of solids, liquids and gases to decide how mixtures might be separated  Reversible and irreversible changes  Fair tests | **Living things & their habitats**  Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird  Describe the life processes of reproduction in some plants and animals | **Animals including humans**  Describe the changes as humans develop to old age |
| **Year 6** | **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 | **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  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 | **Living things and their habitats**  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    Give reasons for classifying plants and animals based on specific characteristics. | **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 | **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 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. | **Review** |