

Expectations for our Year 1 Scientists By the end of Year 1 our young scientists are developing into gatherers and demonstrating age appropriate scientific knowledge and scientific. 1. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). 2. Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 3. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. 4. Compare and group together a variety of everyday materials on the basis of their simple physical properties 5. Observe and describe weather associated with the seasons and how day length varies	Expectations for our Year 2 Scientists By the end of Year 2 our young scientists are secure gatherers and demonstrate age appropriate scientific knowledge and scientific working. 1. 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. 2. 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 3. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 4. 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.
Expectations for our Year 3 Scientists By the end of Year 3 our young scientists are developing into explainers and demonstrating age appropriate scientific knowledge and scientific working. 1. 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 2. 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	Expectations for our Year 4 Scientists By the end of Year 4 our young scientists are secure explainers demonstrating age appropriate scientific knowledge and scientific working. 1. 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. 2. 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

Identify that humans and some other animals have skeletons and muscles for support, protection and movement 3. 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. 4. 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 shadows are formed when the light from a light source is blocked by an opaque object. 5. 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 2 poles. Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	Construct and interpret a variety of food chains, identifying producers, predators and prey. 3. 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. 4. 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. 5. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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
Expectations for our Year 5 Scientists By the end of Year 5 our young scientists are developing into evaluators and demonstrating age appropriate scientific knowledge and scientific working by achieving all objectives in the following units of enquiry: 1. Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals 2. Describe the changes as humans develop to old age 3. 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. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	Expectations for our Year 6 Scientists By the end of Year 6 our young scientists have become secure evaluators demonstrating age appropriate scientific knowledge and scientific working by achieving all objectives in the following units of enquiry: 1. 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 2. 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.

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 4. Describe the movement of the 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 approximately 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. 5. Explain that 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 act between moving surfaces. Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.	3. 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. 4. 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 and explains why shadows have the same shape as the objects that cast them. 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 5. 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
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