Science

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| **Scientific Enquiry Underpinning our Science Curriculum** | | | | | | | | | | | | | |
| A picture containing text, clipart  Description automatically generated  Over the course of an academic year, pupils must carry out investigations which involve different types of enquiry:   * **Comparative / fair testing Research** * **Observation over time** * **Pattern seeking** * **Identifying, grouping and classifying** * **Problem solving** | | | | | | | | | | | | | |
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|  | **Autumn** | | | | **Spring** | | | | **Summer** | | | | |
| **EYFS** | In the EYFS the children are encouraged to use their natural curiosity to explore the world around them. They are provided with an enhanced continuous provision to begin to spark their scientific enquiry skills. The children are encouraged to use all their senses in hands-on exploration of natural materials, explore collections of materials with similar and/or different properties and talk about what they see, using a wide vocabulary. During the Spring and Summer months the children plant seeds and care for growing plants. They also have the opportunity to see the life cycle of animals first-hand with nursery watching the transformation of caterpillar – butterfly and in Reception caring for baby chicks. Through every day and planned experiences the children are taught to understand the need to respect and care for the natural environment and all living things, describe what they see, hear and feel whilst outside and to understand the effect of changing seasons on the natural world around them.  By the end of Reception it is expected that children will be able to:   * Explore the natural world around them, making observations and drawing pictures of animals and plants. * 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. * Understand some important processes and changes in the natural world around them such as the changes of the seasons and changing states of matter | | | | | | | | | | | | |
| **Scientific Enquiry Objectives for Year 1 and 2**  Pupils in year 1 and 2 will be taught to use the following practical scientific methods, processes and skills through the teaching of our curriculum:   asking simple questions and recognising that they can be answered in different ways  § observing closely, using simple equipment  performing simple tests  identifying and classifying   using their observations and ideas to suggest answers to questions  gathering and recording data to help in answering questions. | | | | | | | | | | | | | |
| **Year 1** | **Everyday Materials**  **Key concept/Skill:** Everyday Materials  **Know how to:**  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.  **Key questions:**  What are the properties of glass?  How can you test if a material is waterproof?  What properties should the roof of a house possess?  **Key vocabulary:**  Waterproof, rough, hard, soft, smooth | **Seasonal Changes Part 1 – Autumn/Winter**  **Key concept/Skill:** Seasonal Changes  **Know how to:**  Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.  **Key questions:**  What seasonal changes occur in Autumn?  How does the length of a day change from Autumn to Winter?  What clothing would be suitable for Autumn and Winter and why?  **Key vocabulary:**  Season, spring, summer, autumn, winter. Weather, rain, snow, wind, sun, hot, cold  **Links to Prior Learning:**  Children know about similarities and differences in relation to places, objects, materials and living things.  They talk about the features of their own immediate environment and how environments might vary from one another.  They make observations of animals and plants and explain why some things occur and talk about changes. | | | **Animals Including humans**  **Key concept/Skill:** Animals Including Humans  **Know how to:**  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) .Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Key questions:**  What are the needs of a pet?  What are the differences between pets and wild animals?  What are the 5 senses humans use?  **Key vocabulary:**  Pets, wild, animal, tame, food, water, hear, touch, smell, sight, taste, arm, leg, hand, head, neck, foot.    **Cross curricular links:** Computing (Drawing images of pets using paint)  **PE:** Using our bodies to move safely within space and to throw and catch a ball.  **Links to Prior Learning:**  ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants.  Children have observed the growth and change of animals through first-hand experiences (butterflies/chicks) | | **Seasonal Changes Part 2 – Spring  Key concept/Skill:**  Seasonal Changes  **Know how to:**  Observe changes across the four seasons.Observe and describe weather associated with the seasons and how day length varies.  **Key questions:**  What seasonal changes occur in Spring?  How does the length of a day change from Winter to Spring?  What clothing would be suitable for Spring and why?  **Key vocabulary:**   Season, spring, summer, autumn, winter. Weather, rain, snow, wind, sun, hot, cold  **Links to Prior Learning:**  Children know about similarities and differences in relation to places, objects, materials and living things.  They talk about the features of their own immediate environment and how environments might vary from one another.  They make observations of animals and plants and explain why some things occur and talk about changes. | | | | **Plants**  **Key concept/Skill:** Plants  **Know how to:**  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.     **Key questions:**  What are the basic parts of a plant?  What are the basic parts of a tree?  What parts do plants and trees have in common?  **Key vocabulary:**  Plant, tree, seed, flower, stem, trunk, leaves, petal.  **Links to Prior Learning:**  Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. | | **Seasonal Changes Part 3 – Summer**  **Key concept/Skill:** Seasonal Changes  **Know how to:**  Observe changes across the four seasons.Observe and describe weather associated with the seasons and how day length varies.  **Key questions:**  In what order do we experience the four seasons and what are they named?  How does the weather within each season compare?  How does the length of a day change across the seasons?  **Key vocabulary:**  Season, spring, summer, autumn, winter. Weather, rain, snow, wind, sun, hot, cold  **Links to Prior Learning:**  Children know about similarities and differences in relation to places, objects, materials and living things.  They talk about the features of their own immediate environment and how environments might vary from one another.  They make observations of animals and plants and explain why some things occur and talk about changes. |
| **Year 2** | **Uses of Everyday Materials**  **Key concept/Skill:**  Uses of Everyday Materials.  **Know how to:**  Identify and compare the suitability of a variety of everyday materials.  Find out how the shapes of solid objects made from some materials can changed.  **Key questions:**  Which materials are used to make common everyday objects?  How can the shape of a selected material be changed through twisting, bending, squashing and stretching?  What makes materials waterproof or absorbent?  **Key vocabulary:**  Materials, suitability, uses, properties, squashing, bending, twisting, stretching, natural, man-made, Charles McIntosh, waterproof, absorbent  **Cross curricular links:**  **Links to Prior Learning:**  Y1 – 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. | | | | **Animals Including Humans**  **Key concept/Skill:**  Animals including humans  **Know how to:**  Notice that animals, including humans, have offspring which grow into adults.  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.  **Key questions:**  Why do animals produce offspring?  What are the basic needs of a human?  Why is exercise important?  **Key vocabulary:**  Humans, animals, offspring, adults, water, food, air, shelter, oxygen, survival, exercise, food, hygiene.  **Cross curricular links:**  **Links to Prior Learning:**  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) .  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Links to Prior Learning:**  Y1 – Animals including Humans | | | **Plants**  **Key concept/Skill:**  Plants  **Know how to:**  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.  **Key questions:**  What do plants need to grow and stay healthy?  What happens to plants over time?  What are the different parts of a plant?  **Key vocabulary:**  Plant, water, seeds, bulbs, grow, light, temperature, soil, healthy, observation, environment  **Cross curricular links:**  **Links to Prior Learning:**  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.  **Links to Prior Learning:**  Y1 – plants | | | **Living Things and their Habitats**  **Key concept/Skill:**  Living things and their habitats  **Know how to:**  Explore and compare the differences between things that are living, dead, and things that have never been alive.  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.  Identify and name a variety of plants and animals in their habitats, including micro-habitats.  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 foods.  **Key questions:**  What are the differences between things that are living, dead and things that have never been alive?  How do different habitats provide for the basic needs of different animals?  What is a food chain?  **Key vocabulary:**  Living, dead, habitats, basic needs, survival, animals, plants, micro-habitat, food chain, food sources.  **Cross curricular links:**  **Links to Prior Learning:**  Identify and name a variety of common animals that are carnivores, herbivores and omnivores. | | |
| **Scientific Enquiry Objectives for Year 3 and 4**  Pupils in year 3 and 4 will be taught to use the following practical scientific methods, processes and skills through the teaching of our curriculum:   * asking relevant questions and using different types of scientific enquiries to answer them * setting up simple practical enquiries, comparative and fair tests * making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers * gathering, recording, classifying and presenting data in a variety of ways to help in answering questions * recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables * reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions * using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions * identifying differences, similarities or changes related to simple scientific ideas and processes * using straightforward scientific evidence to answer questions or to support their findings. | | | | | | | | | | | | | |
| **Year 3** | **Key concept/Skill:** Light  **Know how to:**  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.  **Key questions:**  What is the difference between light and dark?  Why does light reflect from surfaces?  Why can light sometimes be dangerous and how can we protect ourselves?  How are shadows formed and why do they change size?  **Key vocabulary:**  Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous  **Cross curricular links:**  Maths  **Links to Prior Learning:**  Y1 - Animals, including humans  Y1 – Materials | | **Key concept/Skill:** Rocks  **Know how to:**  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.  **Key questions:**  How do scientists group different types of rocks?  How are fossils formed?  What is soil and how is it formed?  **Key vocabulary:**  Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil  **Cross curricular links:**  History  **Links to Prior Learning:**  Y1 - Everyday materials  Y2 - Uses of everyday materials | | | **Key concept/Skill:** Forces and Magnets  **Know how to:**  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.  **Key questions:**  How do surfaces affect the way objects move on them?  Under what conditions do magnets attract?  What everyday objects do magnets attract and repel and why?  **Key vocabulary:** Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole  **Cross curricular links:**  Maths  **Links to Prior Learning:**  Y2 - Uses of everyday materials | | | | **Key concept/Skill:** Plants  **Know how to:**  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.  **Key questions:**  Which conditions are best for a plant to grow?  How does a plant use it’s environment to survive and grow?  Why are flowers crucial for a plant’s life cycle?  **Key vocabulary:** Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)  **Cross curricular links:** Geography  **Links to Prior Learning:**  Y2 - Plants | | **Key concept/Skill:** Animals inc. Humans    **Know how to:**  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.  **Key questions:**  Why is it important for humans to eat a balanced diet?  Why do humans and most animals need a skeleton to function?  **Key vocabulary:**  Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine  **Cross curricular links:**  DT  **Links to Prior Learning:**  Y1 - Animals, including humans  Y2 - Animals, including humans | |
| **Year 4** | **Key concept/Skill:**  States of matter    **Know how to:**  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.  **Key questions:**  How do we know whether a material is a solid, liquid, or gas?  When might a material change from one state to another?  How does temperature affect the stages of the water cycle?  **Key vocabulary:**  Particle, volume, solid, liquid, gas, melting, freezing, evaporation, water cycle, condensation, dissolving, temperature, precipitation  **Cross Curricular Links:**  Geography – water cycle  **Links to Prior Learning:**  Y2 – materials, Y3 - forces and magnets | | **Key concept/Skill:**  Sound  **Know how to:**  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.    **Key questions:**  How is sound made?  How does sound travel?  What affects the pitch and volume of a sound?  **Key vocabulary:**  Sound, source, vibration, pitch, volume  **Cross Curricular Links:**  **Links to Prior Learning:** Y3/4 states of matter (particles) | **Key concept/Skill:**  Animals, Including Humans  **Know how to:**  Construct and interpret a variety of food chains, identifying producers, predators and prey.  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.  **Key questions:**  Why do humans have more than one type of tooth?  What happens to the food and drink that enters a human’s body?  What is a food chain and how does it work?  **Key vocabulary:**  Incisor, Canine, Pre-molar, Molar, Enamel, Dentin, Gums, Pulp, Predator, Prey, Producer, Oesophagus, Stomach, Large intestine, Small intestine, Rectum, Faeces  **Cross Curricular Links:**  PE – knowledge of body/nutrition  **Links to Prior Learning:**  Y3 – nutrition, skeleton, muscles | | **Key concept/Skill:**  Living Things and Their Habitats  **Know how to:**  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.  **Key questions:**  How do scientists group living things?  How can we separate a group of living things based on their similarities and differences?  What happens to living things when their environment changes?  **Key vocabulary:**  Habitat, Alive, Dead, Micro-habitat, Classification, Wildlife, Vertebrate, Invertebrate, Environment, Observation, Change, Species  **Cross Curricular Links:**  Geography – habitats and climate  **Links to Prior Learning:**  Y2 – living things and their habitats | | | | **Key concept/Skill:**  Electricity  **Know how to:**  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.  **Key questions:**  What is electricity and what is it used for?  How do we recognise conductors and insulators?  How do we build a working circuit, using a lamp and battery?  **Key vocabulary:**  Electricity, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, component  **Cross Curricular Links:**  DT – building a lamp  **Links to Prior Learning:**  Y3 – forces | | | |
| **Scientific Enquiry Objectives for Year 5 and 6**  Pupils in year 5 and 6 will be taught to use the following practical scientific methods, processes and skills through the teaching of our curriculum:   * planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary * taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate * recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs * using test results to make predictions to set up further comparative and fair tests * reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations * identifying scientific evidence that has been used to support or refute ideas or arguments. | | | | | | | | | | | | | |
| **Year 5** | **Forces**  **Key concept/Skill:** Forces  **Know how to:** 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.  **Key questions:**  How does an object’s mass affect its gravitational pull?  How does surface area affect air / water resistance?  How do mechanisms affect the force produced?  **Key Vocabulary:** Push, Pull, Resistance, Gravity, Friction, Forcemeter, Mass, Weight.  **Cross Curricular Links:**  Maths – interpreting data  **Links to Prior Learning:**  Forces and Magnets (year 3) | | **Earth and Space**  **Key concept/Skill:** Earth and Space  **Know how to:** 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.  **Key questions:** How does the Earth move in relation to the other planets and the sun? Why does day and night occur on Earth?  How does the moon move in relation to the Earth?  **Key vocabulary:** Sun, Earth, Moon, Orbit, Solar System, Eclipse, Rotation, Spherical.  **Cross curricular links:** Space texts utilised in shared reading and English. (Spring texts)  **Links to Prior Learning:** Links to light Y3, living things and their habitats Y4, seasonal changes Y1 | **Animals including humans**  **Key concept/Skill:** Animals including humans  **Know how to:** Describe the changes as humans develop to old age.  **Key questions:** How and why do the gestation periods of mammals differ?  What changes occur during a human’s life cycle, including puberty?  During late adulthood, what changes does a human experience?  **Key Vocabulary:** Puberty, adolescent, gestation, childhood, hormone, reproduce  **Cross Curricular Links:**  PSHE Links.  **Links to Prior Learning:**  Animals including humans (year 1 to 4) | | **Living things and their habitats**  **Key concept/Skill:**  Living things and their habitats  **Know how to:** 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.  **Key questions:** What are the differences in the life cycles of a mammal, an amphibian, an insect and a bird?  How do plants reproduce? What are the requirements for reproduction of animals?  **Key vocabulary:** Asexual reproduction, pollination, seed dispersal, invertebrate, vertebrate, offspring, amphibian, reptile, mammal **Cross curricular links:** Links to British values and respecting the environment. **Links to Prior Learning:** Year 3 Plants. Year 4 Animals including humans. Year 4 Living things and their habitats. | | | | | | **Properties and changes in materials**  **Key concept/Skill:**  Properties and changes in materials  **Know how to:** 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.  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.  Demonstrate that dissolving, mixing and changes of state are reversible changes. 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.  **Key questions:**  What properties can be used to group everyday materials?  What are reversible reactions?  How are mixtures consisting of solids, liquids or gases separated?  **Key vocabulary:** Filtering, Soluble, Insoluble, Conductor, Insulator, Transparent, Translucent, Opaque, Dissolving, Reversible, irreversible  **Cross curricular links:** Materials utilised in art sculptures.  **Links to Prior Learning:** Materials year 2. States of Matter year 4. | |
| **Year 6** | **Evolution and Inheritance** (Use of text: Moth by Isabel Thomas)  **Key concept:** Living things have evolved over time.  **Know how to:**  Identify how living things have changed over time.  Understand that living things produce offspring of the same kind.  Understand how animals are adapted to suit their environment.  Explain how adaptation leads to evolution.  **Key questions:**  How have living things changed over time?  Do living things produce offspring of the same kind?  How are animals adapted to suit their environment?  Does adaptation lead to evolution?  **Key vocabulary:** evolution , natural selection, survival, reproduction, offspring, variation, environment.  **Cross curricular links:** English - Catch up unit: Magazine Article  Dinosaur Lady by Linda Skeers  **Links to Prior Learning:**  Y5 – Living Things and Their Habitats – reproduction in plants and animals.  Y4 – Living Things and Their Habitats – recognise that environments can change due to dangers.  Y3 – Rocks - fossils | | **Living Things and Their Habitats**  **Key concept:** Describe how and give reasons for living things being classified.  **Know how to:**  Classify living things.  Classify to order, compare and analyse living things.  Make observations to help use the classification system.  Analyse specific organisms using the 5 kingdoms.  **Key questions:**  How do we classify living things?  How does classification help us to order, compare and analyse living things?  Can I make observations to help me to use a classification system?  How does the 5 Kingdoms help us to analyse specific organisms?  **Key vocabulary:** vertebrate, invertebrate, classification, monera, Protista, fungi.  **Links to Prior Learning:**  Y5 – Lifecycles  Y5 – Living Things and Their Habitats – reproduction in plants and animals.  Y4 – Living Things and Their Habitats – recognise that environments can change due to dangers.  Y4 – Living Things and Their Habitats – food chains | **Animals including humans**  **Key concept/Skill:** Animals including humans **Know how to:**  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.  **Key questions:**  What is the heart’s role within the circulatory system?  What is blood?  How does exercise, nutrients and water benefit our body?  Drugs: friend or foe?  **Key Vocabulary:**  Artery, vein, circulatory, oxygenated, chambers, valve  **Cross Curricular Links:**  PSHCE Links.  **Links to Prior Learning:**  Animals including humans (year 1 to 4) | | | | | | **Light**  **Key concept:** Light travels in straight lines.  **Know how to:**  Explain how light travels.  Explain what colours light is made up from.  Explain how we see.  Explain what refraction and reflection are.  **Key questions:**  How does light travel?  What colours is light made up from?  How do we see?  What is refraction? What is reflection?  **Key vocabulary:** reflect, refract, source, disperse  **Cross curricular links:** DT – building a lighthouse  **Links to Prior Learning:** Y3 Light and Shadows | | **Electricity**  **Key concept:** Electricity  **Know how to:**  Explain what electricity is.  Explain how static electricity is created.  Explain the components needed for an electrical circuit.  Identify similarities and differences between series and parallel circuits.  **Key questions:** What is electricity?  How is static electricity created?  What are the components needed for an electrical circuit?  What are the similarities and differences between series and parallel circuits?  **Key vocabulary:** circuit, component, cell, conductor, insulator, voltage.  **Cross curricular links:** DT – building a lighthouse  **Links to Prior Learning:**  Y4 Electricity | |