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| Year 6 National Curriculum Objectives | | | | | |
| Autumn Term | | Spring Term | | Summer Term | |
| **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 micro- organisms, plants and animals.    ▪ give reasons for classifying plants and animals based on specific characteristics.  **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 & 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. | | **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.  **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. | |
| Year 6 Key Skills | | | | | |
| **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 micro-organisms, plants and animals.  Give reasons for classifying plants and animals based on specific characteristics.  Living things can be grouped into microorganisms, plants and animals.  Vertebrates can be grouped as fish, amphibians, reptiles, birds and mammals.  Invertebrates can be grouped as snails and slugs, worms, spiders and insects.  Plants can be grouped as flowering plants (incl. trees and grasses) and non-flowering plants (such as ferns and mosses).  **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 (in the long term and short term).  Describe the ways in which nutrients and water are transported within animals, including humans.  The heart is a major organ and is made of muscle.  The heart pumps blood around the body through vessels and this can be felt as a pulse.  The heart pumps blood through the lungs in order to obtain a supply of oxygen.  Blood carries oxygen/essential materials to different parts of the body.  During exercise muscles need more oxygen so the heart beats faster and our breathing and pulse rates increase.  Animals are alive; they move, feed, grow, use their senses, reproduce, breathe/respire and excrete.  An adequate, varied and balanced diet is needed to help us grow and repair our bodies (proteins), provide us with energy (fats and carbohydrates) and maintain good health (vitamins and minerals).  Tobacco, alcohol and other 'drugs' can be harmful.  All medicines are drugs, not all drugs are medicines. | | **Evolution & 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. | | **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 the light that travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form).  Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.  **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 (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram.  Use/interpret circuit diagrams to construct a variety of more complex circuits predicting whether they will 'work'. | |
| Year 6 Working Scientifically | | | | | |
| **Living Things and their Habitats**  **Record, Research, Report**  Using classification systems and keys.  Identifying some animals and plants in the immediate environment.  Researching unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.  **Animals, Including Humans**  **Research, Measure, Record, Report**  Exploring the work of scientists.  Scientific research about the relationship between diet, exercise, drugs, lifestyle and health.  Observing/Measuring changes to breathing, heart beat and or pulse rates after exercise. | | **Evolution & Inheritance**  **Plan, Record, Evidence, Report**  Observing and raising questions about local animals and how they are adapted to the environment.  Comparing how some living things adapt to survive in extreme conditions, e.g. cactuses, penguins and camels.  Analysing the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers. | | **Light** **Plan, Measure, Record, Report, Test**  Deciding [observe/explore] where to place rear-view mirrors on cars.  Designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works.  Investigating the relationship between light sources, objects and shadows by using shadow puppets.  Extend their experience [explore and observe] of light by looking at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).  **Electricity**  **Plan, Measure, Test, Record, Report**  Systematically identifying the effect of changing one [thing] component at a time in a circuit.  Designing and making a set of traffic lights, a burglar alarm or some other useful circuit. | |
| Year 6 Curriculum Enrichment Opportunities | | | | | |
| Heart Dissection - Lathom | |  | |  | |
| Year 6 Vocabulary | | | | | |
| **Living Things and their Habitats**  microorganisms  characteristics  classification  invertebrate  vertebrate | **Animals, Including Humans**  circulatory system  blood vessels  drugs  heart  veins  artery  oxygen  respire  excrete  breathe  pulse  organs | **Evolution & Inheritance**  fossils  offspring  adaption  evolution  identical  inhabited |  | **Light**  light source  phenomena  shadow  reflection | **Electricity**  voltage  components  push  variation  predict |