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| National Curriculum Subject Content**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 **1**- give reasons for classifying plants and animals based on specific characteristics. **2****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 **3**-recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function **4**- describe the ways in which nutrients and water are transported within animals, including humans. **5****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 **6**- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents **7**- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **8****Electricity** - associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit **9**- 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 **10**- use recognised symbols when representing a simple circuit in a diagram. **11** | **Working Scientifically** During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: - planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary **1**- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate **2**- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs **3**- using test results to make predictions to set up further comparative and fair tests **4**- 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 **5**- identifying scientific evidence that has been used to support or refute ideas or arguments. **6** |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Year 6** | **Revision of Y5 to check understanding and knowledge** **Living things and their habitats 1 2**- 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 (including sexual and asexual)\_Explore the work of well-known naturalists and animal behaviourists such as David Attenborough-Observe their local environment and draw conclusions about life-cycles | **Living things and their habitats 1 2**- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences- Give reasons for classifying plants and animals based on specific characteristics- Explain why classification is important- Independently group animals into broad groupings then explain how and why they can be subdivided- Find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification | **Evolution and inheritance 6 7 8**- 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- Give reasons why offspring are not normally identical to each other or to their parents- Explain the process of evolution and describe the evidence for this- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution- Talk about the work of Charles Darwin, Mary Anning and Alfred Wallace- Appreciate that variation in offspring over time can make an animal more or less able to survive in particular environments- Analyse the advantages and disadvantages of specific adaptations of a variety of animals, e.g. being on two feet rather than four feet | **Electricity 9 10 11**- Identify and name the parts of an electric series circuit and explain why they will / will not work- Describe how the brightness of a lamp or volume of a buzzer is linked to the voltage of cells in a circuit- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, the on/off position of switches- Use recognised symbols when representing a simple circuit in a diagram- Design and make a useful circuit e.g. traffic lights, burglar alarm etc.- Explain the necessary precautions for working safely with electricity- Systematically identify the effect of changing one component at a time in a circuit- Explain the effect of changing the voltage of a battery | **Animals including humans 3 4 5**- Identify and name the main parts of the human circulatory system- 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 and transported within animals, including humans- Make a diagram of the human body and explain how different parts work and depend on one another- Name and locate the major human organs | **Revision of KS2 Science to assess knowledge and understanding** |
|  | **Working Scientifically; 1, 2, 3, 4, 5, 6**- Recall and use specific scientific vocabulary accurately (year group key vocabulary) - Plan different types of scientific enquiries to answer questions, include recognise and control variables where necessary- Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why- Take measurements, use a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs- Use test results to make predictions to set up further comparative and fair tests- Report and present findings from enquiries, include conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations- Identify scientific evidence that has been used to support or refute ideas or arguments.- Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas | **Working Scientifically; 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| **Possible Investigations** | * learn about Carl Linnaeus 6
* use a dichotomous key to identify British trees 6

Investigate: the popularity of trees using tree classification key within school grounds 1 2 3 4 5 6 | * research palaeontologist Mary Anning
* create family trees from hybrid species e.g. labradoodle

Investigate: adaptations that different plants have (e.g. dandelion, cactus and Venus fly trap) 1 3 5 6 | * create a circuit to control traffic lights 1 2 5 6

Investigate: how the brightness of a bulb in a circuit can change 1 2 3 4 5 6 | * explore the impact of smoking and alcohol on the bodies functions 1 2

Investigate: the impact of exercise on heart rate 1 2 3 4 5 6Investigate: the most popular forms of exercise in their class 1 3 4 5 |