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| **Science** |
| **Term 1.1****Animals: Digestion and Food** |
| Vocabulary | Knowledge | Objectives |
| AbsorbDigestPredatorPreyProducerSaliva | Label key organs found in the digestive system and describe each of their functions. Describe the functions of the four different types of adult, human teeth, using key vocabulary. Know that good dental care involves brushing their teeth twice a day with toothpaste and a soft toothbrush. Produce a food chain that begins with a plant and has arrows that move up the food chain. Define a producer, predator and prey and identify examples in food chains. Describe digestion, teeth and diets when talking about the observed poo clues. Write a letter that uses a range of scientific vocabulary from the unit. Evaluate a strength or weakness of the digestive system model. Describe an example of evidence that can be used to study teeth. Identify some of the variables that need to be kept the same, predict an outcome and identify limitations to the experiment. Recall that scientific research needs repeated results before use in society. Identify trends in a predator-prey graph. Draw a results table that has space for observations about different poo samples. | I can describe the function of the human digestive system. Working scientifically: I can evaluate a model.I can recognise the different types of human teeth and their roles in eating. Science in action:I can describe real observation methods and evidence collected. To explain how to care for our teeth. Working scientifically: I can an enquiry by considering which variables should be changed, measured and controlled. Science in action: I can determine why scientists need to work collaboratively and evaluate experiments.I can recognise that differences in teeth relate to an animal’s diet. Working scientifically: I can classify animals based on their diet.I can recognise producers, predators and prey in food chains. Working scientifically: I can analyse trends in line graphs and form conclusions using scientific knowledge.I can recognise that animal poo can give us clues about digestion, teeth and diet. Working scientifically: I can construct a results table for recording observations. |
| **Term 1.2****Electricity: Electricity and circuits** |
| Vocabulary | Knowledge | Objectives |
| ComponentInsulatorConductorCellCircuitMains powered | Recall a range of electrical appliances and classify them as mains or battery-powered. Explain why something is either mains or battery-powered. Explain how to test if a circuit works and identify when simple electric circuits will work. Identify symbols for open and closed switches. Predict whether a circuit will work based on whether the switch is open or closed and explain that it works by breaking and completing a circuit. Give examples of how switches are useful. Describe that a material is a good electrical conductor when it is added to an electric circuit and the bulb lights. Describe that a material is a good electrical insulator when it is added to an electric circuit and the bulb does not light. Recall that metals, for example, are good electrical conductors and plastics, for example, are good electrical insulators. Describe that the more bulbs added to a series circuit, the dimmer the bulbs will be. Explain that the bulbs will be dimmer when more are added to a circuit, as less energy is transferred to each of them. Describe precautions for working safely with electricity | I can recognise how electrical appliances are powered. Working scientifically: To record and classify qualitative data.I can construct an electrical circuit. Working scientifically: I can draw a scientific diagram.I can explain the use of switches in a circuit.I can explain the use of materials as electrical conductors or insulators. Working scientifically: I can write a method.I cna investigate what affects bulb brightness. Working scientifically: I can pose questions and plan ways to test them.I can explain how to be safe around electricity. Science in action: I can explore how scientific advances inform safety advice. |
| **Term 2.1****Materials: States of matter** |
| Vocabulary | Knowledge | Objectives |
| SolidLiquidGasCondensing EvaporatingPrecipitation  | Identify solids, liquids and gases using their properties. Describe melting, freezing, condensing and evaporating. Describe the different stages of the water cycle. Describe how temperature affects the rate of evaporation and therefore the water cycle. Ask relevant questions. Use results to draw simple conclusions.Use thermometers to take accurate measurements. Make predictions for new values. Record findings using labelled diagrams. Research using more than one source. | I can identify solids using their properties. Working scientifically; I can ask relevant questions about the properties of solids.I can identify liquids and gases using their properties. Working scientifically I can use results to draw simple conclusions about the properties of liquids.I can describe melting and freezing. Working scientifically I can use thermometers to take accurate measurements before and after melting.I can describe condensing and evaporating. Working scientifically I can make predictions for new values about evaporation rates.I can describe the different stages of the water cycle. Working scientifically I can record the stages of the water cycle using a labelled diagram.I can describe how temperature affects evaporation rates and the water cycle. Working scientifically I can research climate change and the water cycle. |
| **Term 2.2****Energy: Sound and vibrations** |
| Vocabulary  | Knowledge | Objectives |
| VibrationPitchFrequencyDecibelsProtectorsInsulators  | Describe how sounds are made. Describe how sounds are heard through different mediums. Explain the relationship between vibration strength and volume. Describe the relationship between volume and distance. Describe pitch and how to change it. Explain how insulating materials can be used to muffle sound. To observe closely how different instruments create a sound. Research how whales and dolphins communicate underwater. Present results using a bar chart. Suggest which variables to measure and for how long. Design simple results tables. Identify when results or observations do not match predictions. | I can describe how sounds are made. Working scientifically: I can observe closely how different instruments create a sound.I can describe how sounds are heard through different mediums. Working scientifically: I can research how whales and dolphins communicate underwater.I can describe the relationship between vibration strength and volume. Working scientifically: I can present results using a bar chart.I can describe the relationship between volume and distance. Working scientifically: I can suggest which variables to measure and for how long.I can describe pitch and how to change it. Working scientifically: I can design simple results tables.I can explain how insulating materials can be used to muffle sound. Working scientifically: I can identify when results or observations do not match predictions. |
| **Term 3.1****Animals: Classifications and changing habitats** |
| Vocabulary | Knowledge | Objectives |
| Classification keyCharacteristicsInvertebratesVertebratesTaxonomistsConservations | Group animals in various ways, including vertebrates (mammals, birds, reptiles, amphibians, fish) and invertebrates. Group plants in various ways, including flowering and non-flowering plants. Recognise and describe different habitats and their inhabitants. Recognise the impact humans can have on habitats. Recognise the impact of natural disasters on habitats.Record data in different ways. Apply and create classification keys. Make careful observations. Make and use classification keys. Present information in different ways. Research using an information sheet. | I can group animals in various ways. Working scientifically I can record data in different ways.I can group plants in various ways. Working scientifically I can apply and create classification keys.I can make careful observations. I can make and use classification keys.I can recognise and describe different habitats and their inhabitants. Working scientifically I can gather, record, classify and present data.I can recognise the impact humans can have on habitats. Working scientifically I can research using an information sheet.I can recognise the impact of natural disasters on habitats. |
| **Term 3.2****Making Connections: How does the flow of liquids compare?** |
| This unit pulls objectives and knowledge from across this academic year for the children to apply in an experiment. |