**LKS2 Cycle A**

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| **Animals including humans:**  Pupils should be taught to:   * 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 * construct and interpret a variety of food chains, identifying producers, predators and prey. | **Questions (and different enquiries used to answer them):**  Can I identify and name parts of the human digestive system?  Can I explain the functions of the digestive system?  Can I use scientific evidence to answer questions?  Can identify the types and functions of teeth?  Can I identify similarities and differences related to scientific ideas?  Can I ask scientific questions and choose a scientific enquiry to answer them?  Can I create an enquiry or test?  Can make careful observations, appropriately record my results and use them to develop further investigations?  Can I construct and interpret food chains? | **Tests including comparatives and fair tests:**  Investigate tooth decay by setting up an enquiry or test to understand what causes it- children will do a range of tests fair and comparative and discuss findings and observations to come up with conclusions- Hard-boiled eggs in a variety of different liquids. |
| **Equipment (including thermometers and data loggers):**  A range of liquids – water, milk, orange juice, apple juice, coke, vinegar and children’s suggestions, hard-boiled eggs, containers, measuring jugs. | **Recording and presenting data (scientific language, drawings, labelled diagrams, keys, bar charts, and tables):**  Reporting on findings from enquiries: oral/written explanations  Using results to: draw simple conclusions/make predictions/suggest improvements/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: |
| **Data gathering (systematic careful observation and accurate recording, standard units of measure):**  Children to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. The children make systematic and careful observations and then discuss these with peers. They record their work on tables. |
| **Other links/information:** | |
| **Sound**  Pupils should be taught 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. | **Questions (and different enquiries used to answer them):**  Can I describe and explain sound sources?  Can I explain how different sounds travel?  Can I explore ways to change the pitch of a sound?  Can I investigate ways to absorb sound?  Can I investigate ways to absorb sound?  Can I make a musical instrument to play different sounds? | **Tests including comparatives and fair tests:**  Investigate and explore how sounds change over distance and recognise that vibrations from sounds travel through a medium to the ear - make a string telephone. |
| **Equipment (including thermometers and data loggers):**  Tuning fork, data loggers, string, cups, junk modelling, string, wind and a range of pitched instruments, Different materials to wrap around the boxes when investigating how sound is absorbed (tin foil, bubble wrap, tea towels, sheets of cotton wool,newspapers). | **Recording and presenting data (scientific language, drawings, labelled diagrams, keys, bar charts, and tables):**  Reporting on findings from enquiries: oral/written explanations  Using results to: draw simple conclusions/make predictions/suggest improvements/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: |
| **Data gathering (systematic careful observation and accurate recording, standard units of measure):**  The children make systematic and careful observations and this is often recorded over time. They use a range of equipment for measuring length, time, and capacity. They use standard units for their measurements. |
| **Other links/information:** | |
| **States of matter**  Pupils should be taught 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. | **Questions (and different enquiries used to answer them):**  Can I sort and describe solids, liquids and gases?  Can I investigate gases and explain their properties?  Can I investigate materials as they change state?  Can I explore how water changes state?  Can I investigate how water evaporates?  Can I identify and describe the different stages of the water cycle? | **Tests including comparatives and fair tests:**  Investigate gases and their uses- comparative test and changing/ controlling variables.  Investigate how heating and cooling can change a material’s state- comparative test and changing/ controlling variables.  Investigate how water evaporates- fair test and observation over time. |
| **Equipment (including thermometers and data loggers):**  Water, thermometers, measuring jugs weighing scales, clock, cress seeds, stopwatches, digital scales, beakers, variety of fizzy drinks. | **Recording and presenting data (scientific language, drawings, labelled diagrams, keys, bar charts, and tables):**  Reporting on findings from enquiries: oral/written explanations  Using results to: draw simple conclusions/make predictions/suggest improvements/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: |
| **Data gathering (systematic careful observation and accurate recording, standard units of measure):**  The children make systematic and careful observations and this is often recorded over time. They use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements. |
| **Other links/information:** | |
| **Living things and their habitats**  Pupils should be taught 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. | **Questions (and different enquiries used to answer them):**  Can I group living things in a range of ways?  Can I use a range of methods to sort living things?  Can I generate questions to use in a classification key?  Can I identify vertebrates by observing their similarities and differences?  Can I use a key to identify invertebrates?  Can I use evidence to identify an invertebrate?  Can I create a classification key?  Can I recognise positive and negative changes to the local environment?  Can I describe environmental dangers to endangered species?  Can I record my observations in different ways? | **Tests including comparatives and fair tests:**  Compare environments and how they have changed over time for living things.  Enquire about endangered and extinct species- discuss changes over time to habitat and environment. |
| **Equipment (including thermometers and data loggers):**  Magnifying glasses, clipboards, Items for capturing and carrying invertebrates e.g. paint brushes, plastic spoons, plastic pots with lids, Hand sanitiser | **Recording and presenting data (scientific language, drawings, labelled diagrams, keys, bar charts, and tables):**  Reporting on findings from enquiries: oral/written explanations  Using results to: draw simple conclusions/make predictions/suggest improvements/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: |
| **Data gathering (systematic careful observation and accurate recording, standard units of measure):**  The children make systematic and careful observations of the local habitat. They use a range of equipment in the local area to capture and carry invertebrates. |
| **Other links/information:**  Plan visit to local habitat- woods beside school? | |
| **Electricity**  Pupils should be taught 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. | **Questions (and different enquiries used to answer them):**  Can I explain what electricity is?  Can I explain the role of protons, neutrons and electrons in generating the electric current?  Can I identify electrical appliances and non - electrical appliances?  Can I predict and test complete and incomplete circuits?  Can I identify and sort materials into electrical conductors or insulators?  Can I explain how a switch works and why they are needed?  Can I record and report on an investigation? | **Tests including comparatives and fair tests:**  Test different materials as part of a circuit to see whether or not they conduct electricity- comparative test.  Make and investigate different switches- Comparative test- Children predict, record, observe and discuss conclusions. |
| **Equipment (including thermometers and data loggers):**  Electrical wires with crocodile clips, bulbs, batteries (selection with different voltages) buzzers, motors, switches, single and double battery holders, range of materials to test. | **Recording and presenting data (scientific language, drawings, labelled diagrams, keys, bar charts, and tables):**  Reporting on findings from enquiries: oral/written explanations  Using results to: draw simple conclusions/make predictions/suggest improvements/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: |
| **Data gathering (systematic careful observation and accurate recording, standard units of measure):**  The children make systematic and careful observations and then discuss these with peers.  They record their work on tables. They use standard units for their measurements. |
| **Other links/information:** | |