**LKS2 Cycle B**

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| **Animals - including humans**  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. | **Questions (and different enquiries used to answer them):**  Can I explain how living things obtain food?  Can I state why animals, including humans, need the right type of nutrients?  Can I sort animals based on their skeletons?  Can I identify and name bones?  Can I identify and explain the three main functions of a skeleton?  Can I explain why we need muscles to move?  Can I set up a simple practical enquiry?  Can I record my findings? | **Tests including comparatives and fair tests:**  Investigate pairs of muscles- Fair test. |
| **Equipment (including thermometers and data loggers):** | **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 make systematic and careful observations and discuss and record their findings and results. |
| **Other links/information:** | |
| **Light and temperature:**  Pupils should be taught 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 byan opaque object  find patterns in the way that the size of shadows change. | **Questions (and different enquiries used to answer them):**  Can I recognise that I need light to see things, and that dark is the absence of light?  Can I investigate which surfaces reflect light?  Can I use a mirror to reflect light and explain how mirrors work?  Can I explain that light from the sun can be dangerous and that there are ways we can protect our eyes?  Can I investigate which materials block light to form shadows?  Can I find patterns when investigating how shadows change size? | **Tests including comparatives and fair tests:**  Investigate which surfaces reflect light through a fair test.  Investigate which materials block light to form shadows through a comparative test. |
| **Equipment (including thermometers and data loggers):**  Mirrors, torches, materials to test such as; paper, different fabrics, bubble wrap, cardboard when investigating reflective surfaces.  Range of different materials to test when investigating shadows- ideas include cotton, cling film, net curtains, voile, upholstery fabric, blackout curtain lining, muslin, tracing paper. | **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 make systematic and careful observations and discuss and record their findings and results.  They will use a range of equipment for measuring. |
| **Other links/information:** | |
| **Forces:**  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. | **Questions (and different enquiries used to answer them):**  Can I identify the forces acting on objects?  Can I investigate how a toy car moves over different surfaces?  Can I sort magnetic and non-magnetic materials?  Can I investigate the strength of magnets?  Can I explore magnetic poles?  Can I observe how magnets attract some materials? | **Tests including comparatives and fair tests:**  Investigate how a toy car moves over different surfaces through fair and comparative tests.  Investigate the strength of magnets through comparative tests. |
| **Equipment (including thermometers and data loggers):**  Steel paper clips, bar magnets,  3 boards covered with different surfaces for investigation how a car moves over different surfaces (Ideas include sandpaper, a towel, tinfoil, lino, carpet, corrugated cardboard or bubble wrap). | **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 make systematic and careful observations and discuss and record their findings and results.  They will use a range of equipment for measuring length. |
| **Other links/information:** | |
| **Rocks:**  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. | **Questions (and different enquiries used to answer them):**  Can I compare different types of rocks?  Can I make systematic and careful observations?  Can I group rocks based on their properties?  Can I explain how fossils are formed?  Can I explain Mary Anning’s contribution to palaeontology?  Can I explain how soil is formed?  Can I observe carefully and systematically?  Can I present my findings using scientific vocabulary? | **Tests including comparatives and fair tests:**  Investigating the permeability of different soils through fair and comparative testing. |
| **Equipment (including thermometers and data loggers):**  Samples of the different types  of soil for soil investigation,  beakers, funnels, coffee filter paper, measuring cylinders,  Fruit and vegetable scraps for soil formation task, compost, small stones, selection of igneous, sedimentary and metamorphic rocks. | **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 make systematic and careful observations and discuss and record their findings and results.  They will use a range of equipment for measuring. |
| **Other links/information:** | |
| **Plants:**  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. | **Questions (and different enquiries used to answer them):**  Can I name the different parts of flowering plants and explain their jobs?  Can I set up an investigation to find out what plants need to grow well?  Can I present the results of my investigation using scientific language?  Can I investigate how water is transported in plants?  Can I record my observations?  Can I name the different parts of a flower and explain their role in pollination and fertilisation?  Can I understand and order the stages of the life cycle of a flowering plant? | **Tests including comparatives and fair tests:**  Investigate what plants need to grow well through fair tests.  Investigate how water is transported in plants through a comparative test. |
| **Equipment (including thermometers and data loggers):**  Flowers with visible stamens, stigma and style - tulips and lilies, bright white flowers such as carnations, chrysanthemums or gerberas with stems of equal length, food colouring, beakers of the same size, small plants (such as cress) in pots. | **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 make systematic and careful observations and discuss and record their findings and results. |
| **Other links/information:** | |