

**Welbourn C of E Primary School**

‘Believe, Excite, Succeed, Together’

Year 2/3 Science Long Term Plan

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| Cycle A | Autumn | | Spring | | Summer | |
| Science POS | ***Scientific knowledge:*** *It is vitally important that children develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. This allows children to avoid misconceptions and access higher-order content.*  ***Working scientifically****: Developing skills checking on pupils’ ability to, amongst other things, carry out research, ask questions and carry out tests.*  ***Working scientifically methods:*** *These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.* | | ***Scientific knowledge:*** *It is vitally important that children develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. This allows children to avoid misconceptions and access higher-order content.*  ***Working scientifically****: Developing skills checking on pupils’ ability to, amongst other things, carry out research, ask questions and carry out tests.*  ***Working scientifically methods:*** *These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.* | | ***Scientific knowledge:*** *It is vitally important that children develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. This allows children to avoid misconceptions and access higher-order content.*  ***Working scientifically****: Developing skills checking on pupils’ ability to, amongst other things, carry out research, ask questions and carry out tests.*  ***Working scientifically methods:*** *These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.* | |
| Key objectives | Chemistry | Physics | Biology | Biology | Biology | Biology |
| Topic | Rocks and soils  (yr3) | Forces and magnets  (yr3) | Animals including humans  (yr2) | Animals including humans  (yr3) | Plants  (yr2) | Plants  (yr3) |
| Science knowledge | To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.  To know how soil is made from rocks and organic matter.  To describe in simple terms how fossils are formed when things that have lived are trapped within rock.  To know about and explain the difference between sedimentary, metamorphic, and igneous rock. | To know about, compare and describe how things move on different surfaces.  To know that some forces need contact between two objects, but magnetic forces can act at a distance.  To know about and explain how magnets attract or repel each other and attract some materials and not others.  To 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.  To know that magnets have two poles.  To predict whether two magnets will attract or repel each other, depending on which poles are facing. | To explore and compare the differences between things that are living, dead, and things that have never been alive.  To know and identify that most living things live in habitats to which they are suited.  To know and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.  To know and identify a variety of plants and animals in their habitats, including micro-habitats.  To know how animals obtain their food from plants and other animals,  To know how to create a simple food chain, and identify and name different sources of food | To know and 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.  To know about the importance of a nutritious, balanced diet.  To know how nutrients, water and oxygen are transported within animals and humans.  To know that humans and some other animals have skeletons and muscles for support, protection, and movement. | To know and describe how seeds and bulbs grow into mature plants.  To observe how a plant grows from a seed/bulb.  To know that plants need water, light and a suitable temperature to grow and stay healthy. | To know, identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.  To 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.  To investigate the way in which water is transported within plants.  To know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  To know how to set up a fair test and do so when finding out about how seeds grow best. |
| Working scientifically skills | To set up simple practical enquiries, comparative and fair tests  To make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment  To record findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables  To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  To identify differences, similarities or changes related to simple scientific ideas and processes.  To use straightforward scientific evidence to answer questions or to support their findings. | To set up simple practical enquiries, comparative and fair tests  To make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment  To record findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables  To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  To identify differences, similarities or changes related to simple scientific ideas and processes.  To use straightforward scientific evidence to answer questions or to support their findings. | To observe closely, using simple equipment.  To perform simple tests.  To identify and classify.  To use observations and ideas to suggest answers to questions | To set up simple practical, comparative enquiries.  To make systematic and careful observations and, where appropriate, take accurate measurements using standard units.  To gather, record, classify and present data in a variety of ways to help in answering questions.  To record findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables  To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  To use results to draw simple conclusions.  using straightforward scientific evidence to answer questions or to support their findings | To observe closely, using simple equipment.  To perform simple tests.  To identify and classify.  To use observations and ideas to suggest answers to questions. | To set up simple practical enquiries, comparative and fair tests  To make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers  To gather, record, classify and present data in a variety of ways to help in answering questions.  To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables  To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  To identify differences, similarities or changes related to simple scientific ideas and processes.  To use straightforward scientific evidence to answer questions or to support their findings. |
| Working scientifically methods | Observing changes over different periods of time,  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources. | Observing changes over different periods of time  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources | Observing changes over different periods of time  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources | Observing changes over different periods of time,  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources | Observing changes over different periods of time,  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources | Observing changes over different periods of time,  Noticing patterns  Grouping and classifying things  Carrying out comparative and fair tests  Finding things out using a wide range of secondary sources |
| Working scientifically ongoing | **Year 2**  Begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.  Be curious and ask questions.  **Year 3**  Ask their own relevant questions about what they observe and using different types of scientific enquiries to answer them.  Draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. | | | | | |
| Key vocabulary | Granite  Marble  Chalk  Sand  Clay  Quarry  Pebbles  Sedimentary  Igneous  Metamorphic  Absorbent  Texture  Permeable  Non-permeable  Permeability  Particles  Landscape  Volcano  Magnifying glass | Force  Push  Pull  Friction  Surface  Magnetic  Magnet  Magnetic field  Pole  North  South  Attract  Repel  Compass  Strength  Iron  Steel  Contact  Non-contact  Horseshoe  Button  Bar | Mammals  Birds  Reptiles  Amphibians  Egg  Spawn  Pregnancy  Chick  Hatchling  Tadpole  Baby  Toddler  Lungs  Gills  Food chain  Pupae  Exercise  Reproduce  Survival  Prey  Habitat | Nutrition  Nutrients  Carbohydrates  Protein  Fats  Fibre  Vitamins  Minerals  Skeleton  Bones  Joints  Endoskeleton  Exoskeleton  Hydrostatic skeleton  Vertebrate  Invertebrate  Contract  Relax  Muscles  Ball and socket joint  Hinge joint  Gliding joint | wild plants  garden plants  deciduous  evergreen  trunk  branches  leaf  root  leaves  bud  flowers  blossom  petals  stem  fruit  vegetables  bulb  seed  water  light  suitable  temperature  reproduction | Pollen  Life cycle  Dispersal  Pollination  Fertilisation  Germination  Ovary  Ovule  Sepal  Stamen  Anther  Filament  Stigma  Style  Anchor  Nutrients  Absorb |