Logo, company name

Description automatically generated

**Science Overview 2025-2026**

**INTENT**

At Bassingbourn Community Primary School, all children will have the opportunity to learn about the world around them so as to become scientifically literate citizens. All children will have the opportunity to observe, question, investigate and interpret the world around them using a variety of approaches and experiences. Through their learning, children will be able to build their knowledge, skills and understanding, equipping them with the diverse cultural capital required to be successful citizens in the modern world.

**IMPLEMENTATION**

At Bassingbourn, we plan our science based on the Kapow scheme of work, as a whole school approach. The whole school overview ensures that there is progression throughout the school and that children are building upon knowledge learnt in previous years. The units are designed so that pupils develop knowledge, skills and understanding of the world they live in. The science curriculum is designed to provide our children with science capital whichrefers to all the science-related resources, experiences and ideas that a child might have. We recognise that within classes, there is a wide variety of abilities and teachers provide suitable learning opportunities that are matched to the needs of all children. Teaching will be supplemented with trips, visits, assemblies as well as a yearly Science Week which will link the importance of science applied to other disciplines. In the Early Years Foundation Stage (EYFS), science is linked to different learning areas within the EYFS Framework.

**IMPACT**

Science is assessed using end of unit assessment tasks based on the units taught, in addition to teacher assessment and exemplification material. Children’s attainment is recorded and analysed termly in order to track progression and provide intervention where appropriate. Teachers make use of curriculum journeys in order to help children track their own learning progress where children are encouraged to record their experiences and feelings - which they are also encouraged to discuss with their peers. Further information regarding assessment of impact is available in the Assessment Guidance.

**Curriculum Overview**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Aut 1** | **Aut 2** | **Spr 1** | **Spr 2** | **Sum 1** | **Sum 2** |
| **Reception** | **All about me**  Our bodies and keeping them healthy | **Seasons**  Discuss changes in the natural environment | **Seasons**  Discuss changes in the natural environment | **Water**  How do we use water? | **People who help us in the community**  Teeth and tooth health | **Minibeasts**  Identify, classifying and life cycles of minibeasts |
| Be able to name some parts of their body with focus on facial features  Know how to keep their bodies health and safe  Know how to keep our teeth healthy and what can happen to our teeth if we don’t look after them.  Know some of the ways the seasons change throughout the year.  Begin to talk about the idea of water pollution and how we can prevent it/keep ocean animal safe through the sharing of books  Know the names of some sea/ocean creatures.  Begin to understand how we use water and why we need water to survive  Begin to talk about animals that are familiar to them with a focus on minibeast  Be able to identify simple minibeasts and look for them in their environment, know how to safely look at minibeast and ensure no damage is done to them when looking in the local environment.  Begin to develop their knowledge of the plant life cycle and some minibeasts e.g. butterfly, frog. | | | | | |
| Knowledge and skills | To know simple parts of the body.    To know what they can do to keep themselves healthy and safe.    Know that they used to be a baby and that they can do lots of things now they couldn’t do when they were a baby. | Know some of the key features of autumn and identify them in their environment.    Begin to link seasons with celebrations within them. | Know some of the key features of winter and spring and identify them in their environment |  | Know what a dentist is and how they help us to keep our teeth healthy.  Know that a doctor could help us when we are poorly. | To know the names of some common minibeasts.  To know where we might find some common minibeasts.  To know the life cycle of a butterfly  To know the life cycle of a simple flowering plant eg. sunflower. |
| Vocabulary | eyes, nose, mouth, ear, hair, head, arms, legs, feet, toes.    healthy, food, fruit, vegetables, water, drink, sleep, eat, wash, brush, exercise    baby, toddler, child, then, now, grow, younger, older | falling leaves, pinecones, conkers, colder, bonfire night, Christmas, Halloween, |  |  |  |  |
| **Year 1/2**  **Cycle A** | **Plants: Introduction to Plants** | **Forces and Space:**  **Seasonal Changes** | **Living Things: Habitats** | **Animals, including humans: Life cycles and health** | **Plants: Plant growth** | **Making connections: Ocean Protectors** |
| Knowledge | To know:  A variety of common plants and how they differ.  Deciduous trees lose their leaves seasonally but evergreen trees do not.  The basic structure, including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees.  To begin to understand how plants grow and change over time.  Science in action  To know:  About famous scientists throughout history.  About the work of modern-day scientists.  There are spiritual, moral, social and cultural links with Science. | To know:  The name and order of the four seasons: spring, summer, autumn and winter.  That it is unsafe to look directly at the Sun.  The weather associated with the four seasons and how it changes (in the UK).  That day length varies across the four seasons, with fewer daylight hours in the winter and more in the summer.  **Science in action**  To know:  About a range of jobs and careers that use scientific knowledge and methods, e.g. weather reporter. | To know:  Some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition.  The difference between things that are living, dead, and things that have never been alive, using some of the life processes.  A variety of plants and animals and describe some differences.  A variety of habitats, including woodland, ocean, rainforest and coastal.  A habitat is the environment where an animal or plant lives/grows because it provides what they need to survive.  Living things depend upon each other (e.g. for food and shelter).  A food chain can be used to show how animals obtain food from eating either plants and/or other animals. | To know:  That baby, toddler, child, teenager and adult are human life cycle stages.  There are differences in the life cycles of different animals.  Humans grow as they age.  The basic survival needs of animals are air, water and food.  Personal hygiene prevents the spread of germs.  Washing our hands and changing our clothes are ways to keep clean.  Exercise can improve performance and well-being.  The five food groups are carbohydrates, fruits and vegetables, dairy and alternatives, protein and oils and spreads.  Humans require a balanced diet to stay healthy. | To know:  Seeds and bulbs grow into seedlings by producing roots and shoots.  Seedlings grow into mature plants by developing parts such as roots, stems, leaves and flowers.  Seeds need water and warmth to germinate.  Plants need water, light and a suitable temperature for growth and health.  **Science in action**  To know:   A range of jobs and careers that use scientific knowledge and methods.  There are spiritual, moral, social and cultural links with Science. | This unit revises the following key knowledge from the previous Year 1/2 (A) units:  **Introduction to plants**  To know:  A variety of common plants and how they differ.  The basic structure (including leaves, flowers, fruit, roots, bulb, seed, trunk, branches, stem) of a variety of common plants, including flowering plants and trees.  **Seasonal changes**  To know:  The name and order of the four seasons; spring, summer, autumn and winter.  Weather associated with the four seasons and how it changes (in the UK).  That day length varies across the four seasons, with fewer daylight hours in the winter and more in the summer.  **Habitats**  To know:  A variety of plants and animals and describe some differences.  A habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive.  A micro-habitat is a very small habitat (e.g. stones, logs and leaf litter).  Living things depend upon each other (e.g. for food, shelter, etc.).  A variety of habitats, including woodland, ocean, rainforest and coastal.  A food chain can be used to show how animals obtain food from eating either plants and/or other animals.  **Life cycles and health**  To know:  Which offspring comes from which parent animal.  The stages in some animal life cycles.  Animals, including humans, need water, food and air to survive.  **Plant growth**  To know:  Plants need water, light and a suitable temperature for growth and health. |
| Skills | **Posing questions**  Exploring the world around them and raising their own simple questions.  Recognising there are different types of enquiry (ways to answer a question).  Responding to suggestions on how to answer questions.  **Planning**  With support, deciding if suggested observations are suitable.  Ordering a simple method.  **Predicting**  Suggesting what might happen, often justifying it with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Measuring (quantitative data)**  Using non-standard units to measure and compare.  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (diagrams)**  Drawing and labelling simple diagrams.  **Recording (tables)**  Using a prepared table to record results including:  numbers;  simple observations.  **Grouping and classifying**  Grouping based on visible characteristics.  **Analysing and drawing conclusions**  Using their results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. | **Posing questions**  Exploring the world around them and raising their own simple questions.  **Predicting**  Suggesting what might happen, often justifying with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (tables)**  Using a prepared table to record tally frequency.  **Graphing**  Representing data using pictograms.  **Analysing and drawing conclusions**  Using their results to answer simple questions. | **Posing questions**  Exploring the world around them and raising their own simple questions.  Recognising there are different types of enquiry (ways to answer a question).  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (tables)**  Using a prepared table to record results, including simple observations.  **Grouping and classifying**  Grouping based on visible characteristics. | **Posing questions**  Recognising there are different types of enquiry (ways to answer a question).  **Measuring (quantitative data)**  Beginning to use standard units and read simple scales to measure and compare.  Beginning to use simple measuring equipment to make approximate measurements.  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (tables)**  Using a prepared table to record results, including numbers.  **Analysing and drawing conclusions**  Using their results to answer simple questions. | **Posing questions**  Exploring the world around them and raising their own simple questions.  Recognising there are different types of enquiry (ways to answer a question).  Responding to suggestions on how to answer questions.  **Planning**  Beginning to recognise whether a planned test is fair.  With support, deciding if suggested observations are suitable.  **Predicting**  Suggesting what might happen, often justifying it with personal experience.  **Observing**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Measuring (quantitative data)**  Beginning to use standard units and read simple scales to measure and compare.  Beginning to use simple measuring equipment to make approximate measurements.  **Recording (diagrams)**  Drawing and labelling simple diagrams.  **Recording (tables)**  Using a prepared table to record results including:  numbers;  simple observations.  **Analysing and drawing conclusions**  Using their results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. | **Posing questions**  Exploring the world around them and raising their own simple questions.  Recognising there are different types of enquiry (ways to answer a question).  **Planning**  Beginning to recognise whether a planned test is fair.  Ordering a simple method.  **Predicting**  Suggesting what might happen, often justifying with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Recording (tables)**  Using a prepared table to record results, including simple observations and tally frequency.  **Graphing**  Representing data using pictograms.  **Analysing and drawing conclusions**  Using their results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. |
| Vocabulary | bulb  deciduous  diagram  evergreen  flower  fruit  garden plants  group  growth  leaf  measure  observe  roots  seed  stem  trunk  wild plants | deciduous tree  evergreen tree  season  weather | alive  carnivore (Y1)  dead  depend  diet (Y1)  energy  food chain  growth (Y1)  habitat  herbivore (Y1)  life processes  mammal (Y1)  omnivore (Y1)  predator  prey  shelter  sort (Y1) | basic needs  egg  health  hygiene  life cycle  live young  pupa  spawn  survive  teenager  toddler  tadpole | bulb (Y1)  diagram  energy  flower (Y1)  germinate  growth (Y1)  leaf (Y1)  life cycle  measure  nutrient  observe  seed (Y1)  shoot  stem (Y1) | compare  depend  difference  egg  food chain  habitat  invention  life cycle  live young  observe  predict  results  scientist  season  similarity  table  test |
| **Year 1/2**  **Cycle B** | **Animals including humans: Sensitive Bodies** | **Materials: Everyday Materials** | **Animals including humans: Comparing animals** | **Materials: Uses of Everyday materials** | **Living Things: Microhabitats** | **Making Connections: Fairytale Science** |
| Knowledge | To know:  The key parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth).  The five main senses: sight, smell, hearing, taste and touch.  The skin is used for touch, the tongue is used for taste, the nose is used for smell, the eyes are used for sight, and the ears are used for hearing.  **Science in action**  To know:  A range of jobs and careers that use scientific knowledge and methods.  About the work of modern-day scientists.  There are spiritual, moral, social and cultural links with Science. | To know:  Objects are items or things.  A material is what an object is made from.  A variety of everyday materials, including wood, plastic, glass, metal, water and rock.  Property refers to how a material can be described.  Materials can be grouped based on their physical properties. | To know:  A variety of common animals (including fish, amphibians, reptiles, birds and mammals).  The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns, tusks and shell).  A carnivore is an animal that eats other animals and to give some examples.  A herbivore is an animal that eats only plants and to give some examples.  An omnivore is an animal that eats both animals and plants and to give some examples.  **Science in action**  To know:  About famous scientists throughout history. | To know:  Objects are made from materials that suit their uses.  One material can be used for a range of purposes.  Different materials can be used for the same purpose.  A push or pull must be applied to change the shape of a solid object.  Solid objects can be stretched, twisted, bent or stretched.  Different solid objects may take different amounts of force to change shape.  **Science in action**  To know:  A range of jobs and careers that use scientific knowledge and methods.  Science in the news and recent discoveries.  Spiritual, moral, social and cultural links with science. | To know:  A variety of plants and animals and describe some differences.  A habitat is the environment where an animal or plant lives/grows because it provides what they need to survive.  A microhabitat is a very small habitat (e.g. under stones, logs and leaf litter).  That living things depend upon each other (e.g. for food or shelter). | This unit revises the following key knowledge from the previous Year 1/2 (B) units:  **Animals, including humans**  To know:  A variety of common animals (including fish, amphibians, reptiles, birds and mammals).  The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns/tusks and shell).  The five main senses: sight, smell, hearing, taste and touch.  Skin is used for touch, the tongue is used for taste, the nose is used for smell, the eyes are used for sight and the ears are used for hearing.  **Living things and their habitats**  To know:  A habitat is the environment where an animal or plant lives/grows because it provides what they need to survive.  A micro-habitat is a very small habitat (e.g. stones, logs and leaf litter).  **Everyday materials**  To know:  A variety of everyday materials, including wood, plastic, glass, metal, water and rock.  Property refers to how a material can be described.  The physical properties of a variety of everyday materials.  Why objects are made from particular materials and to give examples of their suitability.  One material can be used for a range of purposes (and to give examples).  That different materials can be used for the same purpose (and to give examples).  Why certain materials are unsuitable for particular objects. |
| Skills | **Posing questions**  Recognising there are different types of enquiry (ways to answer a question).  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Measuring (quantitative data)**  Using non-standard units to measure and compare.  **Recording (diagrams)**  Drawing and labelling simple diagrams.  **Recording (tables)**  Using a prepared table to record results, including numbers and simple observations.  **Grouping and classifying**  Grouping based on visible characteristics.  **Analysing and drawing conclusions**  Using their results to answer simple questions. | **Posing questions**  Responding to suggestions on how to answer questions.  **Planning**  Beginning to recognise whether a planned test is fair.  With support, deciding if suggested observations are suitable.  **Predicting**  Suggesting what might happen, often justifying with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Recording (tables)**  Using a prepared table to record results including simple observations.  **Grouping and classifying**  Grouping based on visible characteristics.  **Analysing and drawing conclusions**  Using their results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. | **Posing questions**  Recognising there are different types of enquiry (ways to answer a question).  Responding to suggestions on how to answer questions.  **Planning**  Deciding if suggested observations are suitable, with support.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (diagrams)**  Drawing and labelling simple diagrams.  **Grouping and classifying**  Grouping based on visible characteristics.  **Graphing**  Representing data using pictograms and block charts.  **Analysing and drawing conclusions**  Using their results to answer simple questions. | **Posing questions**  Recognising there are different types of enquiry (ways to answer a question).  **Measuring (quantitative)**  Using non-standard units to measure and compare.  **Recording (tables)**  Using a prepared table to record results, including numbers.  **Grouping and classifying**  Grouping based on visible characteristics.  **Graphing**  Representing data using pictograms and block graphs.  **Analysing and drawing conclusions**  Using their results to answer simple questions. | **Posing questions**  Exploring the world around them and raising their own simple questions.  Recognising that there are different types of enquiry (ways to answer a question).  Responding to suggestions on how to answer questions.  **Planning**  With support, deciding if suggested observations are suitable.  Ordering a simple method.  **Predicting**  Suggesting what might happen, often justifying with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed  **Researching**  Gathering specific information from one simplified, specified source.  **Recording (tables)**  Recording results using simple observations and tally frequency.  **Classification keys**  Organising questions to create a simple classification key.  **Analysing and drawing conclusions**  Using results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. | **Planning**  Beginning to recognise whether a planned test is fair.  With support, deciding if suggested observations are suitable.  **Predicting**  Suggesting what might happen, often justifying with personal experience.  **Observing (qualitative data)**  Using their senses to describe, in simple terms, what they notice or what has changed.  **Measuring (quantitative data)**  Beginning to use standard units and read simple scales to measure and compare.  Beginning to use simple measuring equipment to make approximate measurements.  **Recording (tables)**  Using a prepared table to record results, including:  numbers;  simple observations.  **Grouping and classifying**  Grouping based on visible characteristics.  **Analysing and drawing conclusions**  Using their results to answer simple questions.  Beginning to recognise when results or observations do not match their predictions. |
| Vocabulary | compare  group  hearing  pattern  sense(s)  sight  smell  taste  touch | absorbent  fabric  glass  group  material  metal  object  plastic  rock  tough  waterproof  wood | amphibian  bird  carnivore  compare  diet  difference  fish  group  herbivore  mammal  observe  omnivore  reptile  scientist  similarity | elastic  fabric (Y1)  flexible  glass (Y1)  material (Y1)  metal (Y1)  object (Y1)  plastic (Y1)  property  rock (Y1)  suitable  wood (Y1) | food chain  microhabitat  minibeast  research  results  test | absorbent  amphibian  bird  compare  difference  fish  group  hearing  mammal  material  measure  object  observe  predict  property  research  reptile  sight  similarity  smell  suitable |
| **Year 3** | **Animals -**  Movement and nutrition | **Forces and space -**Forces and magnets | **Materials -**  Rocks and soils | **Energy -**  Light and shadows | **Plants -**  Plant reproduction | **Making connections -**  Does hand span affect grip strength? |
| Knowledge | Animals can be grouped based on the presence of a skeleton.    The skeleton in humans and some animals is used for movement, protection and support.    The muscular system in humans and some animals works with the skeleton for movement.    The main bones in the body.    Animals, including humans, need the right types and amount of nutrition.    Humans cannot make their own food; therefore, they eat to get the nutrition needed.    There are nutrient groups (carbohydrates, protein, fats, fibre, vitamins, minerals and water) with their own functions in the body.    A balanced diet should include all nutrient groups.    Animals have different diets.  There are famous scientists throughout history.    There are a range of jobs and careers that use scientific knowledge and methods.    Scientific work is taking place with modern-day scientists.    There are science events in the news and recent discoveries.    There are methods and equipment used by scientists throughout history that have led to modern methods.    Scientific knowledge has changed over time, leading to the current understanding of Science.    There is current scientific research taking place with aims for the future. | Examples of contact and non-contact forces.    Some forces are a result of contact between two surfaces but some forces can act at a distance (e.g. magnetism).    Magnets have a north and south pole.    Some examples of magnetic materials, including iron and nickel, and how they react to a magnet and each other.    Some different examples of magnets, including bar, horseshoe, button and ring.    Some uses of magnets.    Friction is a contact force that acts between two surfaces to slow an object down.    Magnetism is a non-contact force that affects objects containing magnetic metal.    The opposite poles of a magnet attract one another and like poles repel one another.    Rougher surfaces have more friction between them than smoother surfaces.    The strength of different magnets may vary. | That rocks can be grouped based on their appearance or properties (e.g. colour, texture, hardness and permeability).    That rocks may contain grains, crystals or fossils.    That grains and crystals appear differently and can be used to classify rocks.    That soils are made from rocks and dead matter.    The relationship between the properties of rocks and their uses.    That fossils can form from the remains of living things.    That rocks can change over time (e.g. erosion and weathering). | Light travels from a source (e.g. the Sun, light bulbs and torches).    Light is needed to see things and that dark is the absence of light.    Light from the Sun can be dangerous and how to protect their eyes.    All materials reflect light.    Shadows form when the light from a light source is blocked by an opaque object.    Shadows change as a result of changing the position of the light source and changing the distances between the light source, object and surface.    Shadows change position and length throughout the day as the Sun changes position in the sky.  Famous scientists throughout history.    A range of jobs and careers use scientific knowledge and methods.    There are spiritual, moral, social and cultural links with Science.    Methods and equipment used by scientists throughout history and how these have led to modern methods.    Scientific knowledge has changed over time, leading to the current understanding of Science.    Collaboration and peer reviewing are essential for effective scientific progress. | The functions of the basic parts of a plant and the relationship between structure and function.    Water is transported within a plant from the root, through the stem, to the leaves.    Plants need water, light, air, nutrients and a suitable temperature for growth and health.    The needs for growth and health vary from plant to plant.    The life cycle of a plant from seed to mature plant.    Flowers are the reproductive organs of a plant.    Pollination is the transfer of pollen to the female (part of the) flower.    The process of seed formation is the growth of a seed after pollination.    Different methods of seed dispersal and the benefits of each. | This unit revises the following key knowledge from the previous Year 3 units. |
| Skills | Using standard units to measure and compare.  Using measuring equipment with increasing accuracy.  Reading scales with unmarked intervals between numbers.  Gathering specific information from a variety of sources.  Using a prepared table to record results including more detailed observations.  Grouping based on visible characteristics and measurable properties.  Writing a conclusion to summarise findings using simple scientific vocabulary.  Beginning to identify new questions that would further the enquiry. | Beginning to select from options which variables will be changed, measured and controlled.    Suggesting what observations to make and how long to make them for.    Planning a simple method, verbally and in writing.  Gathering specific information from a variety of sources.  Beginning to draw more scientific diagrams by labelling with more scientific vocabulary and using arrows.    Representing data using bar charts.  Writing a conclusion to summarise findings using simple scientific vocabulary.    Beginning to suggest how one variable may have affected another.    Beginning to quote results as evidence of relationships.  Exploring the uses of friction and magnets in everyday life and industry. | Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.  Gathering specific information from a source.  Beginning to draw more scientific diagrams by:  Drawing in 2D to produce simple line diagrams.  Labelling with more scientific vocabulary.  Grouping based on visible characteristics and measurable properties.  Representing data using bar charts.  Beginning to suggest how one variable may have affected another.  Beginning to quote results as evidence of relationships.  Beginning to use identified patterns to predict new values or trends. | Beginning to raise further questions during the enquiry process.    Considering what makes a testable question.    Beginning to recognise that there are different types of enquiry and that they are suitable for different questions.    Beginning to make suggestions about how different questions could be answered.  Making predictions about what they think will happen by using scientific knowledge and/or personal experience to explain their prediction.  Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.  Using standard units to measure and compare.    Using measuring equipment with increasing accuracy.    Reading scales with unmarked intervals between numbers.  Using a prepared table to record results including more detailed observations.    Using tables with more than two columns.    Identifying and adding headings to tables.    Beginning to design simple results tables.  Grouping based on visible characteristics and measurable properties.  Reading the value of bars with greater accuracy.  Writing a conclusion to summarise findings using simple scientific vocabulary.    Beginning to suggest how one variable may have affected another.    Beginning to quote results as evidence of relationships.    Identifying data that does not fit a pattern (anomalous data).    Recognising when results or observations do not match their predictions.    Beginning to use identified patterns to predict new values or trends.  Beginning to identify steps in the method that need changing and suggest improvements.    Beginning to identify which variables were difficult to control and suggesting how to better control them.    Beginning to identify new questions that would further the enquiry. | Beginning to raise further questions during the enquiry process.    Considering what makes a testable question.    Beginning to recognise that there are different types of enquiry and that they are suitable for different questions.    Beginning to make suggestions about how different questions could be answered.  Beginning to suggest what observations to make and how long to make them for.    Making predictions about what they think will happen by using scientific knowledge and/or personal experience to explain their prediction.  Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.  Using standard units to measure and compare.    Using measuring equipment with increasing accuracy.    Reading scales with unmarked intervals between numbers.  Using a prepared table to record results including more detailed observations.    Using tables with more than two columns.    Identifying and adding headings to tables.    Beginning to design simple results tables.  Grouping based on visible characteristics and measurable properties.  Reading the value of bars with greater accuracy.  Writing a conclusion to summarise findings using simple scientific vocabulary.    Beginning to suggest how one variable may have affected another.    Beginning to quote results as evidence of relationships.    Identifying data that does not fit a pattern (anomalous data).    Recognising when results or observations do not match their predictions.    Beginning to use identified patterns to predict new values or trends.  Beginning to identify steps in the method that need changing and suggest improvements.    Beginning to identify which variables were difficult to control and suggesting how to better control them. | This unit revisits the working scientifically skills covered in Year 3, including:  Posing questions.    Planning.    Predicting.    Observing.    Measuring.    Recording.    Graphing.    Analysing and drawing conclusions.    Evaluating. |
| Vocabulary | balanced diet  bone  carbohydrate  conclusion  fat  fibre  invertebrate  joint  measure (Y1)  mineral  movement  muscle  nutrient  protection  protein  record  research (Y2)  skeleton  support  vertebrate  vitamin | attract  bar chart  conclusion  contact force  diagram (Y1)  force  friction  investigation  magnet  magnetic material  magnetism  method  non-contact force  north pole  plan (Y1)  results (Y2)  record  repel  south pole  variable | bar chart  conclusion  crystal  diagram (Y1)  fossil  grain  group (Y1)  hard  hardness  observe (Y1)  predict (Y2)  record  research (Y2)  rock  sediment  sedimentary rock  sedimentation  soft  soil | bar chart  cast (a shadow)  conclusion  group (Y1)  investigation  light source  luminous  non-luminous  observe (Y1)  opaque  measure (Y1)  patten (Y1)  predict (Y2)  record  reflect  reflection  reflective (shiny)  results table  shadow  the Sun  translucent  transparent  trustworthy  variable | bar chart  conclusion  female  flower (Y1)  flowering plant  fruit (Y1)  male  pattern (Y2)  pollen  pollination  predict (Y2)  record  reproduction  results table  seed (Y1)  seed dispersal  transport  variable | bar chart  bone  carbohydrate  conclusion  evaluate  fat  flower  fruit  friction  grip strength  joint  light source  material  muscle  nutrition  opaque  predict  property  protein  seed  shadow  trustworthy  variable |
| **Year 4** | **Animals -**  Digestion and food | **Energy -**  Electricity and circuits | **Materials -**  States of matter | **Energy -**  Sound and vibration | **Living things -**  Classification and changing habitats | **Making connections -**  How does the flow of liquids compare? |
| Knowledge | The main organs of the human digestive system are the mouth, teeth, tongue, oesophagus, stomach, small and large intestines and have different functions.    The different types of human teeth are incisors, canines, premolars and molars and have different functions.    Teeth can be damaged by sugary and acidic food, for example.    It is important to brush your teeth twice a day, make good food choices and visit the dentist regularly.    The teeth of carnivores and herbivores are different for a reason.    Predators hunt for their food and prey are the animals being hunted.    Producers make their own food.    Food chains begin with a producer, followed by consumers and arrows to show the energy passed on.  Famous scientists throughout history.    There are a range of jobs and careers that use scientific knowledge and methods.    There is work taking place by modern-day scientists.    There are spiritual, moral, social and cultural links with science.    There are different methods and equipment used by scientists throughout history and these have led to modern methods.    Scientific knowledge has changed over time, leading to the current understanding of science. | That all electrical appliances need a power source, including batteries or mains electricity.    That an electrical circuit needs a complete path for the electrical charge to flow through.    The main components in a series circuit.    The precautions for working safely with electricity.  That some materials allow electric charge to pass through them quickly and these are known as electrical conductors (e.g. metals).    That some materials do not allow electrical charge to pass through them easily and these are known as electrical insulators (e.g wood and plastic).    That metals are used for cables and wires because they are good conductors of electricity.    That plastic is used to cover cables and wires because it is a good insulator.    That an open switch breaks a series circuit so the components will be off.    That a closed switch completes a series circuit so the components will be on.    The relationship between bulb brightness and the number of bulbs in a circuit. | All substances around us can exist as solids, liquids and gases.  A property of a solid is that it keeps its shape unless a force is applied to it.  A property of a liquid is that it can flow freely and take on the shape of a container.  A property of a gas is that it does not have a fixed shape and can escape from an unsealed container.  Heating causes solids to turn into liquids (melting) and liquids to turn into gases (evaporating).  Cooling causes gases to turn into liquids (condensing) and liquids to turn into solids (freezing).  Water can exist as a solid, a liquid or a gas.  The melting point of water is zero degrees Celsius and the boiling point of water is 100 degrees Celsius.  Water flows around the world in a continuous process called the water cycle.  In the water cycle, evaporation is when bodies of water are heated and turn into water vapour.  In the water cycle, condensation is the process of water vapour cooling to form water droplets in clouds, which can result in precipitation.    The rate of evaporation increases as the temperature rises. | Sound is a result of vibrations.    Vibrations from sounds travel through mediums to the ear.    An insulating material reduces the amount of vibrations that pass through it and this can be used to protect the ears from damaging sounds.    Different materials provide different amounts of insulation against sound.    A variety of ways to change the pitch or volume of a sound.    Quicker vibrations cause higher-pitched sounds and slower vibrations cause lower-pitched sounds.    Stronger vibrations cause louder sounds and weaker vibrations cause quieter sounds.    Sounds get fainter as the distance from the sound source increases. | Living things can be grouped in different ways.    A classification key can be used to group and identify plants and animals.    Vertebrates are animals that have a backbone and invertebrates are animals that do not have a backbone.    Plants can be grouped into flowering or non-flowering varieties.    Flowering plants include grasses and non-flowering plants include ferns and mosses.    There are five main vertebrate groups: birds, mammals, reptiles, amphibians and fish.    Invertebrate groups include snails, slugs, worms, spiders and insects.    Habitats can change throughout the year, which can be dangerous for living things.    Humans can have both a positive and negative impact on the environment. | This unit revises the key knowledge from the previous Year 4 units |
| Skills | Beginning to select from options which variables will be changed, measured and controlled.  Beginning to design simple results tables.  Grouping based on visible characteristics and measurable properties.  Beginning to suggest how one variable may have affected another.  Beginning to use identified patterns to predict new values or trends.  Beginning to identify steps in the method that need changing and suggest improvements.  Beginning to identify which variables were difficult to control and suggesting how to better control them.  Commenting on the degree of trust by reflecting on the quality of results (accurate measurements and maintaining control variables). | Considering what makes a testable question.    Beginning to recognise that there are different types of enquiry and that they are suitable for different questions.    Beginning to make suggestions about how different questions could be answered.  Planning a simple method, verbally and in writing.    Beginning to write a simple method in numbered steps.    Selecting and beginning to decide what simple equipment might be used to aid observations and measurements.  Making predictions about what they think will happen by predicting a trend by considering how the changing variable will affect the measured variable.  Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.  Beginning to draw scientific diagrams that are in 2D and simple line diagrams.    Using a prepared table to record results including more detailed observations.    Using tables with more than two columns.    Identifying and adding headings to tables.    Beginning to design simple results tables.  Grouping based on visible characteristics and measurable properties.  Writing a conclusion to summarise findings using simple scientific vocabulary.    Beginning to suggest how one variable may have affected another.    Beginning to use identified patterns to predict new values or trends. | Considering what makes a testable question.  Using standard units to measure and compare.  Using measuring equipment with increasing accuracy.  Drawing in 2D to produce simple line diagrams.  Labelling diagrams with more scientific vocabulary.  Gathering specific information from a variety of sources.  Beginning to use identified patterns to predict new values or trends.  Writing a conclusion to summarise findings using simple scientific vocabulary. | To suggest what observations to make and how long to make them for.  To observe closely how different instruments create a sound.  To research how cetaceans communicate underwater.  To present results using a bar chart.  To design simple results tables.  To identify when results or observations do not match predictions. | Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.  Recording data in Carroll and Venn diagrams.  Using a prepared table to record results, including more detailed observations.  Using tables with more than two columns.  Grouping based on visible characteristics and measurable properties.  Populating a pre-prepared branching and number key.  Choosing appropriate questions for classification keys.  Gathering specific information from a variety of sources. | This unit revisits the working scientifically skills covered in Year 4, including:  Posing questions.    Planning.    Predicting.    Observing.    Measuring.    Recording.    Graphing.    Analysing and drawing conclusions.    Evaluating. |
| Vocabulary | absorb  canine  carnivore  digest  faeces  food chain  herbivore  incisor  large intestine  molar  mouth  oesophagus  omnivore  predator  premolar  prey  producer  saliva  small intestine  stomach | ammeter  appliance  battery  bulb  buzzer  cell  circuit  component  electrical conductor  electrical insulator  electricity  hazard  mains  material  motor  power source  precaution  property  safety  series circuit  switch  wire | boiling point  climate change  compress  condensation  condensing  condensing point  drought  evaporating  evaporation rate  flood  force  freezing  freezing point  gas  gaseous  liquid  matter  melting  melting point  precipitation  rate  solid  state  steam  temperature  thermometer  the water cycle  volume  water vapour | air  decibels (dB)  decibel meter  ear  eardrum  ear protectors  gas  hertz (Hz)  high pitch  insulator of sound  liquid  loud  low pitch  matter  medium  musical instrument  pitch  quiet  solid  sound  sound proofing  vibration  volume | Carroll diagram  classification key  classify  conservation  conservationist  deforestation  earthquake  endangered  flood  flowering plants  human impact  invertebrate  observe  nature reserve  non-flowering plants  pollution  seasonal changes  taxonomist  uprooted  vertebrate  Venn diagram  waterlogged  wildfire | bar chart  condensing  cell/battery  conclusion  evaluate  evaporating  gas  insect  liquid  medicine  motor  pharmacology  pharmacologist  precipitation  predict  solid  switch  temperature  the water cycle  trustworthy  variable  viscosity  water vapour |
| **Year 5** | **Materials -**  Mixtures and separation | **Materials -**  Properties and changes | **Forces and Space -** Earth and space | **Living things -**  Life cycles and reproduction | **Forces and space -** Unbalanced forces | **Animals -**  Human timeline  **Making connections -**  Does the size of an asteroid affect the size of its impact crater? |
| Knowledge | Some substances will dissolve in a liquid to form a solution.  The factors that affect the time taken to dissolve, including temperature and stirring.  Some liquids and solids can be separated using sieving, filtering and evaporation and to describe these processes. | To describe a broader range of materials and their properties, including hardness, solubility, transparency, conductivity and response to magnets.  Dissolving, mixing and changes of state are reversible changes.  Some changes result in the formation of new materials, which are usually irreversible (e.g. burning, rusting, the action of acid on bicarbonate of soda). | The Sun is a star at the centre of our Solar System.    The Sun, Earth and Moon are approximately spherical bodies.    The names, order and relative positions of the planets and other main celestial bodies.    A moon is a celestial body that orbits a planet and give examples of moons that orbit other planets.    The Earth and other planets orbit around the Sun.    The tilt of the Earth and its orbit around the Sun causes the seasons.    The Moon orbits around the Earth.  How the Earth’s rotation causes day and night and the apparent movement of the Sun across the sky.  To know about famous scientists throughout history.    To know how scientific knowledge has changed over time, leading to the current understanding of Science.    To know that mistakes can lead to new discoveries.    To know about the work of modern day scientists.    To know about science in the news and recent discoveries.    To know about the methods and equipment used by scientists throughout history and how these have led to modern methods.    To know about current scientific research and what it aims to achieve in the future.    To know that collaboration and peer reviewing is essential for effective scientific progress. | A life cycle shows the changes an animal or plant goes through until the reproduction of a new generation when the cycle starts again.    All living things must reproduce for the species to survive.    Sexual reproduction requires two parents whereas asexual reproduction only requires one parent.    There are different processes plants and animals use to reproduce (asexual and sexual reproduction).  There are a range of jobs and careers that use scientific knowledge and methods.    There is current scientific research taking place with aims for achievement in the future.    Scientific evidence is used to support or refute ideas or arguments. | Gravity is a non-contact force that pulls objects together.    Air resistance and water resistance are both types of friction.    Unsupported objects fall towards the Earth because of gravity.    Friction, air resistance and water resistance act in the opposite direction of a moving object.    When forces are unbalanced, the speed, shape or direction of an object changes.    When forces are balanced, the speed, shape or direction of an object stays the same.    Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.    Rougher surfaces have more friction between them than smoother surfaces and how that may affect movement.    The larger the surface area of an object, the greater the air or water resistance it creates.  About famous scientists throughout history. | How to describe the human life cycle, including the stages of growth and development (baby, toddler, child, teenager, adult, elderly).  How to describe changes that occur during puberty (in boys and girls).  Gestation periods vary across mammals.  A range of jobs and careers that use scientific knowledge and methods.  The methods and equipment used by scientists throughout history and how these have led to modern methods. |
| Skills | Gathering answers to open-ended questions from a variety of sources.  Labelling with a broader range of scientific vocabulary.  Annotating diagrams to explain concepts and convey opinions.  Selecting the most appropriate enquiry method to answer questions and give justification.  Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.  Suggesting which variables will be changed, measured and controlled.  Making and explaining decisions about what observations to make and how long to make them for. | Writing a method including detail about how to ensure control variables are kept the same.  Making increasingly scientific predictions by:  using previous scientific knowledge and evidence to inform their predictions;    using scientific language to describe a potential outcome or explain why they think something will happen;  making links between topics to evidence a prediction.  Using standard units to measure and compare with increasing precision (decimals).  Suggesting headings to tables, including units.    Designing results tables with increasing independence with consideration of variables where applicable.  Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.  Identifying which variables were difficult to control and suggesting how to better control them.    Commenting on the degree of trust by also reflecting on:  accuracy (human error with equipment); reliability (repeating results). | Raising questions throughout the enquiry process.  Identifying testable questions.  Selecting the most appropriate enquiry method to answer questions and give justification.  Drawing scientific diagrams by:  Using a wider range of standard symbols.  Drawing with increasing accuracy.  Labelling with a broader range of scientific vocabulary.  Annotating diagrams to explain concepts and convey opinions.  Suggesting headings to tables, including units.  Designing results tables with increasing independence with consideration of variables where applicable.  Using identified patterns to predict new values or trends. | Raising questions throughout the enquiry process.  Identifying testable questions.  Suggesting which variables will be changed, measured and controlled.  Making and explaining decisions about what observations to make and how long to make them for.  Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.  Using standard units to measure and compare with increasing precision (decimals).  Gathering answers to open-ended questions from a variety of sources.  Representing data by using line graphs and scatter graphs.  Plotting points with greater accuracy.  Reading the value Drawing scientific diagrams by:  using a wider range of standard symbols;    drawing with increasing accuracy;    labelling with a broader range of scientific vocabulary;    annotating diagrams to explain concepts and convey opinions.    Using tables with columns that allow for repeat readings.    Suggesting headings to tables, including units.    Designing results tables with increasing independence with consideration of variables where applicable.    Calculating the mean average.  of plotted points with greater accuracy.  Suggesting with increasing independence how one variable may have affected another.  Quoting relevant data as evidence of relationships.  Using identified patterns to predict new values or trends. | Suggesting which variables will be changed, measured and controlled.    Making and explaining decisions about what observations to make and how long to make them for.    Writing a method that includes details about how to ensure control variables are kept the same.    Writing a method that considers reliability by planning repeated readings.    Suggesting the most appropriate equipment to make observations and measurements and justifying their choices.  Using standard units to measure and compare with increasing precision (decimals).    Reading a wider variety of scales with unmarked intervals between numbers.  Using tables with columns that allow for repeat readings.  Representing data by using line graphs and scatter graphs.    Plotting points with greater accuracy.    Reading the value of plotted points with greater accuracy.  Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.    Suggesting with increasing independence how one variable may have affected another.    Quoting relevant data as evidence of relationships.    Identifying anomalies in repeat data and excluding results where appropriate.    Comparing individual, class and/or model data to the prediction and recognising when they do not match.    Using identified patterns to predict new values or trends.  Identifying steps in the method that need changing and suggesting improvements.    Identifying which variables were difficult to control and suggesting how to control them better.    Commenting on the degree of trust by also reflecting on:  accuracy (human error with equipment);    reliability (repeating results);    sources of information (e.g. websites, books).    Deciding what data to collect to test direct relationships further | Representing data by using line graphs and scatter graphs.    Plotting points with greater accuracy.    Reading the value of plotted points with greater accuracy.  Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.    Suggesting with increasing independence how one variable may have affected another.    Quoting relevant data as evidence of relationships.    Using identified patterns to predict new values or trends.  Commenting on the degree of trust by also reflecting on the sources of information (e.g. websites, books).    Deciding what data to collect to further test direct relationships. |
| Vocabulary | control variable  crystallising  dissolve  evaporation  evaporation method  filtering  insoluble  mixture  particle  sieve  sieving  soluble  solution  variable | burning  change of state  circumference  condensing  conductor  dissolve  electrical conductivity  evaporating  freezing  hard  hardness  insulator  irreversible change  light intensity  light meter  melting  mixture  opaque  property  reversible change  rust  rusting  soft  states of matter  trustworthy  thermal conductivity  translucent  transparency  transparent | force  full moon  gnomon  gravity  horizon  Jupiter  last quarter moon  Mars  Mercury  midday  moon  natural satellite  Neptune  new moon  night (nighttime)  phase  planet  Pluto  orbit  our Solar System  reflect  rotate  Saturn  season  shadow  Solar System  space  space junk  spherical  star  summer  sundial  sunrise  sunset  table  the Sun  the Moon  tilt  Uranus  Venus  winter  year | adolescence  adult  amphibian  asexual reproduction  bird  birth  bulb  carnivore  characteristic  chrysalis  cocoon  conclusion  cuttings  egg  estimating  extrapolating  fertilisation  fledgling  flowering stage  four-legged tadpole  four-stage life cycle  frog  froglet  germination stage  gestation  gills  hatch  hatchling  herbivore  incubation  infancy  insect  juvenile  larva  leaf growing stage  life cycle  line graph  line of best fit  lungs  mammal  mating  metamorphosis  nest  nestling  newborn  nymph  offspring  ovule  pollen  pollination  predict  pupa  reproduction  seed dispersal  seed stage  seedling stage  seed  sexual reproduction  species  tadpole  three-stage life cycle  tuber  two-legged tadpole | aerodynamics  air resistance  amplify  balanced  contact force  distance  effort  force  friction  gear  gravity  lever  load  machine  mass  matter  non-contact force  pivot  pulley  streamlining  surface area  unbalanced  water resistance | adolescence  adolescent  adult  adulthood  child  childhood  foetus  gestation period  hormones  infant  life cycle  newborn  old age  period (menstruation)  puberty  toddler |
| **Year 6** | **Living things -**  Classifying big and small | **Energy -**  Light and reflection | **Living things -**  Evolution and inheritance | **Energy -**  Circuits, batteries and switches | **Animals -**  Circulation and health | **Making connections -**  Are some sunglasses safer than others? |
| Knowledge | To know that ‘organism’ is a term used to refer to an individual living thing.  To know that micro-organisms are incredibly small and cannot usually be seen by the naked eye.  To know the characteristics of the different groups of vertebrates and commonly found invertebrates.  To know about famous scientists throughout history. | Light travels in a straight line from a light source.    Luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye.    Shiny surfaces reflect light uniformly.    When light is reflected off a surface, its direction changes.    Mirrors and periscopes work using reflection of light on smooth surfaces.    Shadows have the same shape as the objects that cast them as a result of light travelling in straight lines.    There are relationships between light sources, objects and shadows.    The distance between the object and the screen affects the size of the shadow.    The angle of a reflected ray is affected by the angle of the incoming ray on a smooth surface. | Living things have changed over time.    Fossils provide information about living things that inhabited the Earth millions of years ago.    Characteristics are passed from parents to their offspring, but all offspring vary from their parents.    Over time, variation in offspring can affect animals’ chances of survival in particular environments.    Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution.  Famous scientists throughout history.    A range of jobs and careers use scientific knowledge and methods.    The work of modern-day scientists.    There are spiritual, moral, social and cultural links with Science.    Methods and equipment used by scientists throughout history and how these have led to modern methods.    Scientific knowledge has changed over time, leading to the current understanding of Science.    Collaboration and peer reviewing are essential for effective scientific progress.    Scientific evidence is used to support or refute ideas or arguments. | A variety of components in a series circuit (including buzzer and motor).  Conventions are used to draw circuit diagrams, including the recognised symbols for common components and using straight lines.  The voltage of a circuit can be changed and this affects bulb brightness (or buzzer volume).  A range of jobs and careers that use scientific knowledge and methods.  How scientific evidence is used to support or refute ideas or arguments. | The main parts of the human circulatory system (heart, blood vessels and blood).    The heart pumps blood around the body.    Blood vessels transport blood around the body.    Blood transports vital substances around the body, including oxygen and nutrients.    The relationships between different organ systems.    The impact of diet, exercise, drugs and lifestyle on the way a body functions.    The heart rate is the number of beats per minute.    Exercise increases heart rate.  There are famous scientists throughout history.    There are a range of jobs and careers that use scientific knowledge and methods.    Science is in the news with recent discoveries.    There are spiritual, moral, social and cultural links with Science.    There were methods and equipment used by scientists throughout history and these have led to modern methods.    Scientific knowledge has changed over time, leading to the current understanding of Science.    Current scientific research is taking place with specific aims for the future | This unit revises key knowledge from the previous Year 6 units. |
| Skills | Grouping in a broader range of contexts.  Organising the layout of number and branching keys.  Formulating appropriate questions for classification keys. | Identifying testable questions.    Selecting the most appropriate enquiry method to answer questions and give justification.  Suggesting which variables will be changed, measured and controlled.    Writing a method including detail about how to ensure control variables are kept the same.  Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.  Using standard units to measure and compare with increasing precision (decimals).    Reading a wider variety of scales with unmarked intervals between numbers.  Drawing scientific diagrams with increasing accuracy, labelling with a broader range of scientific vocabulary and annotating diagrams to explain concepts and convey opinions.    Using tables with columns that allow for repeat readings.    Calculating the mean average.  Representing data by using line graphs and scatter graphs.    Plotting points with greater accuracy.    Reading the value of plotted points with greater accuracy.  Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.    Suggesting with increasing independence how one variable may have affected another.    Identifying anomalies in repeat data and excluding results where appropriate.    Using identified patterns to predict new values or trends.  Identifying steps in the method that need changing and suggesting improvements.    Identifying which variables were difficult to control and suggesting how to control them better.    Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results). | Raising questions throughout the enquiry process.    Selecting the most appropriate enquiry method to answer questions and give justification.  Suggesting which variables will be changed, measured and controlled.  Using senses to describe, in detail and with a broader range of scientific vocabulary, what is noticed or what has changed.  Using tables with columns that allow for repeat readings.    Calculating the mean average.  Grouping in a broader range of contexts.  Suggesting with increasing independence how one variable may have affected another.    Quoting relevant data as evidence of relationships.    Identifying anomalies in repeat data and excluding results where appropriate.    Comparing individual, class and/or model data to the prediction and recognising when they do not match.  Identifying steps in the method that need changing and suggesting improvements.    Identifying which variables were difficult to control and suggesting how to control them better.    Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results).    Posing new questions in response to the data that would extend the enquiry. | Suggesting which variables will be changed, measured and controlled.    Writing a method including details about ensuring control variables are kept the same.    Writing a method that considers reliability by planning repeated readings.    Suggesting the most appropriate equipment to make observations and measurements and justifying their choices.  Using previous scientific knowledge and evidence to inform their predictions.    Using scientific language to describe a potential outcome or explain why they think something will happen.  Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.    Using standard units to measure and compare with increasing precision (decimals).    Reading a wider variety of scales with unmarked intervals between numbers.  Drawing scientific diagrams by using a wider range of standard symbols and drawing with increasing accuracy.    Using tables with columns that allow for repeat readings.    Suggesting headings to tables, including units.    Designing results tables with increasing independence with consideration of variables where applicable.    Calculating the mean average.  Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.    Suggesting with increasing independence how one variable may have affected another.    Quoting relevant data as evidence of relationships.    Identifying anomalies in repeat data and excluding results where appropriate.    Comparing individual, class and/or model data to the prediction and recognising when they do not match.    Using identified patterns to predict new values or trends.  Identifying steps in the method that need changing and suggesting improvements.    Identifying which variables were difficult to control and suggesting how to control them better. | Suggesting which variables will be changed, measured and controlled.    Making and explaining decisions about what observations to make and how long to make them for.    Writing a method including detail about how to ensure control variables are kept the same.    Writing a method that considers reliability by planning repeated readings.    Suggesting the most appropriate equipment to make observations and measurements and justifying their choices.  Making increasingly scientific predictions by using previous scientific knowledge and evidence to inform their predictions, using scientific language to describe a potential outcome or explain why they think something will happen and making links between topics to evidence a prediction.  Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.  Using standard units to measure and compare with increasing precision (decimals).    Reading a wider variety of scales with unmarked intervals between numbers.  Gathering answers to questions from a variety of sources.  Using tables with columns that allow for repeat readings.    Suggesting headings to tables, including units.    Designing results tables with increasing independence with consideration of variables where applicable.    Calculating the mean average.  Representing data by using line graphs and scatter graphs.    Plotting points with greater accuracy.    Reading the value of plotted points with greater accuracy.  Recognise the following across a broader range of contexts and in more complexity: naturally occurring patterns and relationships, changes over time and relevant secondary data.    Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.    Suggesting with increasing independence how one variable may have affected another.    Quoting relevant data as evidence of relationships.    Identifying anomalies in repeat data and excluding results where appropriate.    Comparing individual, class and/or model data to the prediction and recognising when they do not match.    Using identified patterns to predict new values or trends.  Commenting on the degree of trust by also reflecting on the reliability (repeating results) and sources of information (e.g. websites, books). | This unit revises key skills from the previous Year 6 units. |
| Vocabulary | amphibian  binomial system  bird  characteristic  classify  classification key  cold-blooded  conifer  exoskeleton  fern  fish  flowering plant  insect  invertebrate  life process  Linnaean system  mammal  micro-organism  microscopic  moss  organism  reptile  snail  spider  vertebrate  warm-blooded  worm | cast  incoming ray  light ray  light source  luminous  mirror  non-luminous  opaque  periscope  pupil  ray diagram  reflected ray  reflective  shadow  straight | adaptation  ancestor  characteristic  competition  environmental  evidence  evolution  extinct  fossil  gene  habitat  inherit  natural selection  offspring  peer review  population  reproduce  scientific theory  selective breeding  species  specimen  survival  survival of the fittest  variation | ammeter  appliance  battery  bulb  buzzer  cell  circuit  circuit diagram  component  current  electricity  motor  power source  resistance  switch  voltage  voltmeter  wire | balanced diet  blood  bloodstream  blood vessels  carbon dioxide  circulatory system  diet  drug  exercise  fitness  health  heart  heart rate  lifestyle  lungs  mass  nutrient  oxygen  pulse  pump (verb)  rate  resting heart rate  transport  water | This unit revises key vocabulary from the previous Year 6 units. |