

Year 3 Science Sequence
Plants

National Curriculum Objective	Key Learning	I Can...
- 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.	- Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. - The roots absorb water and nutrients from the soil and anchor the plant in place. - The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination, and seed dispersal. - The leaves use sunlight and water to produce the plant's food. Some plants produce flowers which enable the plant to reproduce. - Pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). - This forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways. - Different plants require different conditions for germination and growth.	- I can explain the different parts to a plant and that each part has a different job - I understand that plants need sunlight, water, and soil (food) to survive - I can investigate how water is transported through the stem to other parts of the plant - I can explain the life cycle of the plant - I can explore how seeds are dispersed in different ways
Key Vocabulary: Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal) End of unit assessment: TAPS YR 3: Function of a plant stem		

Example evidence for 'Secure'

- Can explain the function of the parts of a flowering plant
- Can describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination
- Can give different methods of pollination and seed dispersal, including examples
- Can explain observations made during investigations
- Can look at the features of seeds to decide on their method of dispersal
- Can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal

Year 3 Science Sequence
Animals including Humans

National Curriculum Objective	Key Learning	I Can...
- 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.	- Animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. - Food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy. - A piece of food will often provide a range of nutrients. - Humans, and some other animals, have skeletons and muscles which help them move and provide protection and support.	- I can investigate and explain the five food groups. - I can explain what contributes to a balanced diet. - I understand how nutrients, water and oxygen are transported within our bodies. - I can identify that humans and some other animals have skeletons. - I can understand the function of muscles within the body - I understand how exercise affects the body.
Key Vocabulary: Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine End of unit assessment: TAPS YR 3: Investigating the human skeleton		
Example evidence for 'Secure'		
- Can name the nutrients found in food - Can state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients - Can name some bones that make up their skeleton, giving examples that support, help them move or provide protection - Can describe how muscles and joints help them to move - Can classify food into those that are high or low in particular nutrients - Can answer their questions about nutrients in food, based on their gathered evidence - Can talk about the nutrient content of their daily plan - Use their data to look for patterns (or lack of them) when answering their enquiry question - Can give similarities e.g. they all have joints to help the animal move, and differences between skeletons		

Year 3 Science Sequence

Rocks

National Curriculum Objective	Key Learning	I Can...
- 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.	- Rock is a naturally occurring material. There are different types of rock e.g. sandstone, limestone, slate etc. which have different properties. - Rocks can be hard or soft. They have different sizes of grain or crystal. They may absorb water. - Rocks can be different shapes and sizes (stones, pebbles, boulders). - Soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). - The type of rock, size of rock pieces and the amount of organic matter affect the property of the soil. - Some rocks contain fossils. Fossils were formed millions of years ago. When plants and animals died, they fell to the seabed. They became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from the water.	- I can investigate describe and compare different types of rock. - I can explore how and why rocks change over time. - I can investigate whether rocks let water through them (permeability). - I understand what fossils are and how they are formed. - I can investigate soil and its properties
Key Vocabulary: Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil End of unit assessment: TAPS YR 3: Reporting on Rocks		



Example evidence for 'Secure'

- Can name some types of rock and give physical features of each
- Can explain how a fossil is formed
- Can explain that soils are made from rocks and also contain living/dead matter
- Can classify rocks in a range of different ways, using appropriate vocabulary
- Can devise tests to explore the properties of rocks and use data to rank the rocks
- Can link rocks changing over time with their properties e.g. soft rocks get worn away more easily
- Can present in different ways their understanding of how fossils are formed e.g. in role play, comic strip, chronological report, stop-go animation etc.
- Can identify plant/animal matter and rocks in samples of soil
- Can devise a test to explore the water retention of soils

Year 3 Science Sequence
Light

National Curriculum Objective	Key Learning	I Can...
• 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 by an opaque object. • Find patterns in the way that the size of shadows change.	• We see objects because our eyes can sense light. • Dark is the absence of light. We cannot see anything in complete darkness. • Some objects, for example, the sun, light bulbs and candles are sources of light. Objects are easier to see if there is more light. • Some surfaces reflect light. • Objects are easier to see when there is less light if they are reflective. • The light from the sun can damage our eyes and therefore we should not look directly at the sun and can protect our eyes by wearing sunglasses or sunhats in bright light. • Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light. • The size of the shadow depends on the position of the source, object and surface.	• I can identify light sources • I can identify whether an object is a light source or a reflector. • I can group objects according to whether they are transparent, translucent, or opaque • I can explain how the Sun can be dangerous and ways we can protect ourselves. • I can explain how shadows are formed • I can explore how shadows vary in size

Key Vocabulary: Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous

End of unit assessment:

TAPS: YR 3 Can everything make a shadow?

Example evidence for 'Secure'

- Can describe how we see objects in light and can describe dark as the absence of light
- Can state that it is dangerous to view the sun directly and state precautions used to view the sun, for example in eclipses
- Can define transparent, translucent and opaque
- Can describe how shadows are formed
- Explore how different objects are more or less visible in different levels of lighting.
- Explore how objects with different surfaces, e.g. shiny vs matt, are more or less visible.
- Explore how shadows vary as the distance between a light source and an object or surface is changed.
- Explore shadows which are connected to and disconnected from the object e.g. shadows of clouds and children in the playground.
- Choose suitable materials to make shadow puppets.
- Create artwork using shadows.

Year 3 Science Sequence
Forces and Magnets

National Curriculum Objective	Key Learning	I Can...
• 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.	• A force is a push or a pull. When an object moves on a surface, the texture of the surface and the object affect how it moves. • It may help the object to move better or it may hinder its movement e.g. ice skater compared to walking on ice in normal shoes. • A magnet attracts magnetic material. Iron and nickel and other materials containing these, e.g. stainless steel, are magnetic. • The strongest parts of a magnet are the poles. Magnets have two poles – a north pole and a south pole. • If two like poles, e.g. two north poles, are brought together they will push away from each other – repel. • If two unlike poles, e.g. a north and south, are brought together they will pull together – attract • For some forces to act, there must be contact e.g. a hand opening a door, the wind pushing the trees. • Some forces can act at a distance e.g. magnetism. The magnet does not need to touch the object that it attracts.	• I can understand what a force is and how it is measured • I can compare and group magnetic and non-magnetic materials. • I can investigate the effects of water resistance. • I can investigate floating and sinking



Key Vocabulary: Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole

End of unit assessment:

TAPS: YR 3 Testing the strength of magnets

Example evidence for 'Secure'

- Can give examples of forces in everyday life
- Can give examples of objects moving differently on different surfaces
- Can use their results to describe how objects move on different surfaces
- Can name a range of types of magnets and show how the poles attract and repel
- Can draw diagrams using arrows to show the attraction and repulsion between the poles of magnets
- Can use their results to make predictions for further tests e.g. it will spin for longer on this surface than that, but not as long as it spun on that surface
- Can use classification evidence to identify that some metals, but not all, are magnetic
- Through their exploration, they can show how like poles repel and unlike poles attract, and name unmarked poles
- Can use test data to rank magnets

