



EGERTON PRIMARY SCHOOL KNUTSFORD  
SCIENCE CONCEPTS AND END POINTS ASSESSMENT

*"Ready to learn. Ready to thrive. Ready for tomorrow."*

"The important thing is to never stop questioning."

Albert Einstein

### Science at Egerton Primary School Year 3

#### Scientific Enquiry:

**Comparative/Fair testing** – Carrying out fair tests to see the effect of a changing variable.

**Research** – Using secondary sources of information to answer questions.

**Observation over time** – Observe changes that occur over a period of time (minutes to months).

**Pattern-seeking** – Identifying patterns and looking for relationships in enquires.

**Identifying, grouping and classifying** – Identifying patterns and looking for relationships in enquires.

#### Biology

- **Understand plants** – This concept involves becoming familiar with different types of plants, their structure and reproduction.
- **Understand animals and humans** – This concept involves becoming familiar with different types of animals, humans and the life processes they share.
- **Investigate living things** – This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.
- **Understand evolution and inheritance** – This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.

#### Chemistry

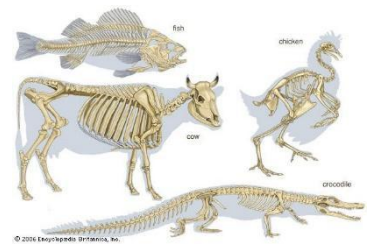
- **Investigate materials** – This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.

#### Physics

- **Understand movement, forces and magnets** – This concept involves understanding what causes motion.
- **Understand the Earth's movement in space** – This concept involves understanding what causes seasonal changes, day and night.
- **Investigate light and seeing** – This concept involves understanding how light and reflection affect sight.
- **Investigate sound and hearing** – This concept involves understanding how sound is produced, how it travels and how it is heard.
- **Understand electrical circuits** – This concept involves understanding circuits and their role in electrical applications.

## Year 3

# Animals Including Humans – Skeleton, Muscles, Nutrition

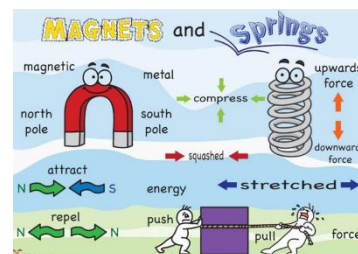


End Point Assessment
I can explain that skeletons are needed for support, protection and movement.
I can explain that muscles are needed for support, protection and movement.
I can describe the interaction between the skeleton and muscles.
I know that animals need the right types of nutrition, and that they get this from what they eat.
I can name the main food groups.
I understand the different food groups and their importance.
I can define a balanced diet.
I can explain what happens if you eat too much or too little of one food group or vitamin.
I can ask relevant questions.
I can write a conclusion.

Key Vocabulary	
<b>Nutrition</b>	Nutrition is like fuel for our bodies. It's all about eating foods that help us grow, stay healthy, and have energy to play and learn.
<b>Carbohydrates</b>	Carbohydrates give us energy. They're found in foods like bread, pasta, rice, and fruits.
<b>Protein</b>	Protein is a nutrient that helps our bodies grow and repair. It's found in foods like meat, fish, eggs, beans, and nuts.
<b>Vitamins and Minerals</b>	Vitamins and minerals help our bodies to work properly. They're found in foods like fruits, vegetables, and dairy products. Each vitamin and mineral does something special for our bodies, like helping us see in the dark (Vitamin A) or keeping our bones strong (Calcium).
<b>Balanced Diet</b>	A balanced diet means eating a variety of foods from all the different food groups in the right amounts. In good proportion.
<b>Skeleton</b>	Our skeleton is like the frame that holds our body together. It's made up of bones, and it helps us stand up straight, move around, and protect our organs.
<b>Vertebrate</b>	Vertebrates are animals that have a backbone or spine inside their bodies.
<b>Invertebrate</b>	Invertebrates are animals that don't have a backbone or spine.
<b>Endoskeleton</b>	Animals with skeletons inside their body.
<b>Exoskeleton</b>	Animals with skeletons outside their body.
<b>Rib cage</b>	The structure of bones protecting the lungs and heart.
<b>Spine</b>	The structure of bones that runs up the centre of the back.

# Year 3

## Forces and Magnets



### End Point Assessment

I can compare how things move on different surfaces.
I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.
I can notice how magnets attract or repel each other and attract some materials and not others.
I can compare and group together a variety of everyday materials to see if they are magnetic or not.
I can describe magnets as having two poles.
I can predict whether two magnets will attract or repel each other, depending on which poles are facing.
I can describe the relationship between magnetic force and magnetic field.
I can explain, in detail, the role magnets play in everyday life and how they work. I can develop testable questions.
I can draw and label diagrams.
I can plan a given type of enquiry.
I can use standard units when taking measurements.
I can present key findings in writing.

Key Vocabulary	
<b>Force</b>	A force is a power or strength that can cause an object to move.
<b>Friction</b>	Friction is the force that pulls backwards when objects rub against each other.
<b>Contact Force</b>	Contact force is a push or pull that happens when two things touch each other. For example, when you push a toy car.
<b>Non-contact Force</b>	Non-contact force is a push or pull that happens even when things aren't touching. Like when a magnet pulls a paperclip without touching it.
<b>Magnetic Force</b>	Magnetic force is a special kind of force that magnets have. It's what makes them attract or repel other magnets or magnetic materials.
<b>Magnet</b>	A magnet is a special object that can attract certain metals like iron, and it can push away other magnets. Magnets have two ends called poles.
<b>Attract</b>	When two magnets or magnetic objects pull towards each other, they attract.
<b>Repel</b>	When two magnets or magnetic objects push away from each other, we say they repel.
<b>Magnetic Field</b>	A magnetic field is the force that surrounds a magnet and attracts magnetic objects.
<b>Poles</b>	The ends of a magnet are called poles. Every magnet has a north pole and a south pole.
<b>Orienteering</b>	a sport where you have to find your way across a route with the aid of a map and compass.

# Year 3

## Light



### End Point Assessment

- I can understand that humans, and other animals, need light to see things.
- I can recognise that dark is the absence of light.
- I can understand that light is reflected from surfaces.
- I can recognise that light from the sun can be dangerous and that there are ways to protect the eyes.
- I can recognise that shadows are formed when the light from a light source is blocked by a solid object.
- I can find patterns in the way that the sizes of shadows change.
- I can say whether light travels in straight or wavy lines and explain how I know this.
- I can explain how reflection enables us to see objects which are not light sources.
- I can describe the relationship between the position of a light source and the size/shape of a shadow.

### Skills

- I can ask relevant, testable questions.
- I can use various ways to record, group and display evidence.
- I can use a range of equipment as instructed.
- I can present findings either in writing or orally.
- I can use tables to record evidence. I can present key findings in writing.

### Key Vocabulary

<b>Light</b>	Light is a form of energy that allows our eyes to see.
<b>Light Source</b>	A light source is a thing that makes light. It can be the sun, a lamp, or even a candle.
<b>Darkness</b>	Darkness is when there's no light. It's when things are hard to see because it's so dark. Is the absence of light.
<b>Reflect</b>	The process that describes light bouncing off a surface.
<b>Shadow</b>	A shadow is a dark image that is formed when an object blocks the light.
<b>Transparent</b>	Things that are transparent let light pass through easily, like glass.
<b>Opaque</b>	Things that are opaque don't let light pass through, like walls or curtains.
<b>Translucent</b>	Things that are translucent let some light through, but you can't see through them clearly, like frosted glass.
<b>Sun Protection</b>	Sun protection is keeping safe from the sun, wearing suncream, hats, or sunglasses to protect our skin and eyes from the sun's bright light and harmful rays.
<b>Vitamin D</b>	A vitamin that comes from sunlight or food and is important for bone strength.
<b>Ultraviolet rays</b>	A type of light that can be harmful.
<b>Fluorescent</b>	Gives a highly visible reflection of light.

## Year 3

### Rocks



#### End Point Assessment

I can compare the simple physical properties of different kinds of rocks.

I can group different kinds of rocks based on their appearance.

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I can describe in simple terms how fossils are formed.

I can recognise that soils are made from rocks and organic matter.

I can identify sedimentary, igneous and metamorphic rocks.

I can explain how different types of rocks are formed.

I can explain why some rocks are permeable and some are not.

#### Skills

I can ask relevant questions.

I can use diagrams and tables to record evidence.

I can recognise patterns that relate to scientific ideas.

I can set up a fair or comparative test.

I can write a conclusion based on evidence.

#### Key Vocabulary

<b>Rocks</b>	Rocks can be big or small, and they're made up of different materials like minerals and sometimes fossils. There are different types of rocks.
<b>Soil</b>	Soil is the soft stuff that covers the ground. It's made up of tiny pieces of rock, dead plants, and animals. Plants grow in soil, and it's where they get their nutrients from.
<b>Fossils</b>	They're the remains or traces of plants and animals that lived long ago. You can find fossils in rocks, and they tell us about what life was like a long time ago.
<b>Absorb</b>	Soaking up of liquid e.g. water.
<b>Permeable</b>	Permeable means that water or air can go through something easily.
<b>Impermeable</b>	Impermeable means that water or air can't go through something.
<b>Organic Matter</b>	Organic matter is stuff that comes from living things, like plants and animals. When plants and animals die, they become part of the soil as organic matter.
<b>Sedimentary</b>	They're formed from layers of sand, mud, and other tiny pieces that get pressed together over time. They can hold fossils and tell us about the history of the Earth.
<b>Metamorphic</b>	Metamorphic rocks used to be other kinds of rocks, like sedimentary or igneous rocks, but heat and pressure deep inside the Earth changed them into something new.
<b>Igneous</b>	Are rocks that are formed when molten rock (magma) cools down and hardens, either underground or on the Earth's surface.
<b>Types of rocks</b>	Marble, Chalk, Granite, Sandstone, Slate, Limestone etc.

# Year 3 Plants



## End Point Assessment

I can identify and describe the functions of different parts of flowering plants.

I know what a plant needs for life and growth.

I understand that requirements for growth vary from plant to plant.

I can describe the way in which water is transported in plants.

I can explain the part that flowers play in the life cycle of flowering plants.

I understand pollination, seed formation and seed dispersal.

I know that plants make their own food through the process of photosynthesis.

I can compare and describe the effect of different factors on plant growth.

I can describe the relationship between the position of a light source and the size/shape of a shadow.

## Skills

I can ask relevant, testable questions.

I can use various ways to record, group and display evidence.

I can draw and label diagrams.

I can set up a fair test.

I can plan investigations using different types of scientific enquiry.

## Key Vocabulary

<b>Leaf</b>	It's the part of the plant that makes food using sunlight and air.
<b>Petal</b>	They're the soft, colourful parts that attract insects and help make the flower look beautiful.
<b>Roots</b>	They hold the plant in the ground and suck up water and nutrients from the soil.
<b>Stem</b>	It holds up the plant and carries water and nutrients from the roots to the leaves and flowers.
<b>Seeds</b>	Seeds are what plants use to make new plants. Seeds can be big or small, and they come in lots of different shapes and colours.
<b>Nutrients</b>	They're the things that plants need to grow. Nutrients come from the soil and help plants make food.
<b>Life Cycle</b>	The journey a plant takes from being a tiny seed to growing into a big plant, making flowers and seeds, and then starting all over again.
<b>Pollination</b>	It's when pollen moves from one flower to another, helping them make seeds. Pollination is often done by bees and other insects.
<b>Germination</b>	It's when a seed starts to grow into a new plant. First, it sends out a tiny root, then a stem, and finally, it grows into a big plant.
<b>Seed Dispersal</b>	Seed dispersal is a plant's way of spreading its seeds. It's how seeds get carried away from the parent plant to new places. This can happen in many ways, like by wind, water, animals, or even explosions..