



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

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

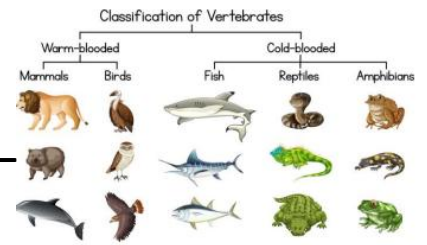
- **Investigate materials** – This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.

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 4

Living Things and their Habitats – Classification



End Point Assessment

- I can understand that living things (both plants and animals) can be grouped in a variety of ways.
- I can use classification keys to help group, identify and name a variety of living things.
- I can design my own classification key to group more than 3 organisms.
- I can explain the positive and negative impact of humans on the environment.
- I can recognise that environments can change and that this can sometimes pose dangers to living things.
- I can explain how different habitats change throughout the year.

Skills

- I can develop a range of relevant, testable questions.
- I can use various ways to record, group and display evidence.
- I can select and use a range of equipment.
- I can write a conclusion using evidence and identifying causal links.
- I can present key findings orally or in writing.

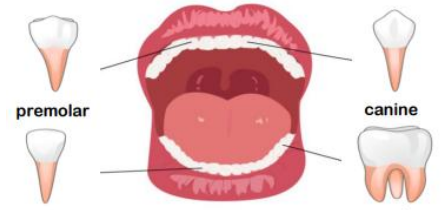
Unit Rocket Words: Year 4 – Living things and their habitats

Rocket Words

adapted	changed to suit an environment
camouflage	a way of blending or hiding in your surroundings
coastal	at or near the coast, or beach
grassland	areas containing grass
classify	to arrange things in classes or groups according to shared qualities or characteristics
species	a grouping, or kinds of animals with similar characteristics
sub-group	a group within a larger group
classification key	a series of questions that help to identify a species
region	a large space or area
blubber	a layer of fat beneath the skin of sea mammals
ecosystem	a community of living things
oxygenised	contains oxygen

Year 4

Animals Including Humans – Digestion



End Point Assessment

- I can name the main parts of the digestive system.
- I can describe the journey of food through the digestive system.
- I can describe the functions of the main organs in the digestive system.
- I can identify the different types of teeth in humans.
- I can describe the simple functions of different types of teeth.
- I can identify producers, predators and prey.
- I can construct and interpret basic food chains.
- I can compare the teeth of carnivores and herbivores and explain the differences between them.
- I can explain how changes in the natural world could impact a food chain.

Skills

- I can develop a range of relevant, testable questions.
- I can use various ways to record, group and display evidence.
- I can plan investigations using different types of scientific enquiry.
- I can display and present key findings in writing.

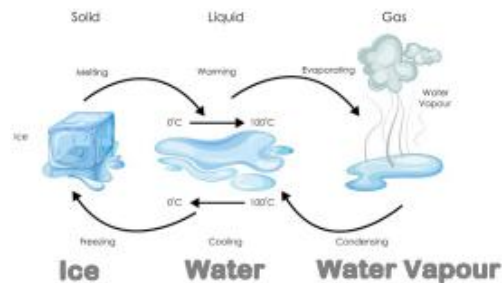
Unit Rocket Words - Year 4 - animals including humans

Rocket Words

	digestive system	series of organs that break down food
	oesophagus	tubes running from mouth to stomach
	saliva	a fluid in the mouth which helps break down food
	peristalsis	the movement of food through parts of the digestive system
	incisors	front teeth for cutting food
	molars	wide, flat teeth for grinding food
	enamel	very hard layer covering the tooth
	fluoride	ingredient in toothpaste that helps prevent cavities forming
	consumer	an animal which gets its food from other living things
	predator	an animal that gets its food from killing and eating other animals
	tundra	region found in the Arctic, where the climate is cold and windy
	hide	the skin of an animal

Year 4

States of Matter



End Point Assessment

- I can compare and group materials together, according to whether they are solids, liquids or gases.
- I can explain that some materials change state when they are heated or cooled.
- I can state the temperature at which changes of state occur, in degrees Celsius.
- I can identify the part played by evaporation and condensation in the water cycle.
- I can describe the relationship between temperature and evaporation.
- I can give simple descriptions of the different states of matter (solids, liquids and gases).
- I can identify and describe changes of state that are reversible.
- I can describe the properties of particles in different states of matter.

Skills

- I can develop a range of relevant, testable questions.
- I can make clear the key characteristics.
- I can start to use labelled diagrams to show complex outcomes.
- I can suggest further relevant comparative or fair tests.
- I can discuss alternative equipment that could be used.

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Unit Rocket Words: Year 4 - States of Matter

Careers connected to the human body:
 doctor, nurse, massage therapist,
 personal trainer, theatre technician

Rocket Words

	thermometer	an instrument that measures temperature in degrees Celsius (°C) or Fahrenheit (°F)
	melting point	the point where a solid melts and forms a liquid when heated
	freezing point	the point where a liquid freezes and forms a solid when cooled
	boiling point	the point where a liquid evaporates and forms a gas when heated
	solid	state of matter that holds its form and shape
	liquid	state of matter which flows and forms a pool
	gas	state of matter which flows, can spread out and can be squashed
	evaporation	the process where a liquid turns into a gas when heated
	particles	one very small part of matter
	condensation	the process where a gas forms a liquid when cooled
	water vapour	the name of water as a gas
	substance	the material, or matter, of which something is made

Year 4

Sound



End Point Assessment

- I know and can explain how sounds are made. I can write a conclusion using supporting evidence
- I understand that vibrations from sounds travel through a medium to the ear.
- I can find patterns between the pitch of a sound and features of the object that produced it.
- I can find patterns between the volume of a sound and the strength of the vibrations that produced it.
- I can recognise that sounds get fainter as the distance from the sound source increases.
- I can describe some functions of different parts of the ear.
- I can examine a sound wave and explain if it shows a low or high pitch.
- I can examine a sound wave and explain if it shows a loud or quiet volume.

Skills

- I can develop a range of relevant, testable questions.
- I can use a range of equipment with care.
- I can start to use labelled diagrams to show complex outcomes.
- I can suggest further relevant comparative or fair tests.

Unit Rocket Words: Year 4 - Sound

Rocket Words

	Vibration	Particles moving very quickly
	Medium	A substance such as air, water or a solid
	Source	The start of something
	Energy	The power to make something work, move or grow
	Materials	Anything used in making something or building
	Reflect	Bounce back from a surface
	Volume	How loud or quiet a sound is
	Decibels	The unit to measure loudness
	Pitch	How high or low a sound is
	Instruments	Objects used to play music
	Particles	Tiny pieces that make up something larger
	Sound source	The object that started the sound

Year 4

Electricity



End Point Assessment

- I can identify common appliances that run on electricity.
- I can construct a simple series electrical circuit.
- I can identify and name basic parts of a circuit.
- I can identify whether or not a lamp will light in a simple series circuit.
- I can recognise that a switch opens and closes a circuit and associate this with light in a series circuit.
- I can recognise some common conductors and insulators.
- I can identify different metals that are good conductors.
- I can construct a simple series circuit, trying different components such as bulbs, buzzers and motors.
- I can draw a circuit as a pictorial representation.
- I can identify the precautions for working safely with electricity.

Skills

- I can develop a range of relevant, testable questions.
- I can display and present key findings in writing.
- I can select and use a range of equipment repeatedly.
- I can start using labelled diagrams to show complex outcomes.
- I can identify and manage variables.

Unit Rocket Words: Year 4 - Electricity

Rocket Words

	electricity	energy that powers electrical appliances
	batteries	containers made of cells in which chemical energy is converted into electricity
	circuit	a pathway that electricity flows around
	voltage	the measure of electrical power
	current	the flow of electricity
	bulb	the glass case that contains the filament of an electric lamp
	conductor	electrical conductors are materials which allow electricity to flow through them easily
	insulator	materials that do not let electricity pass through them easily
	switch	a device which builds and breaks the connection in an electric circuit
	control	manage the amount of something
	wind turbines	a device which produces electricity using the power of the wind
	hydropower	a process that produces electricity using the power of water