

Working Scientifically Map

Year 6 programme of study

Working scientifically

Statutory requirements

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Year Group: 6

	Term 1 and 2	Term 3 and 4	Term 5 and 6
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TOPICS	The Heart and Circulatory System Electricity	Classification Evolution and Inheritance	Light SRE Animals and their Habitats -Pond Study
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Types of Enquiry

Observing (changes) over time	The effect that exercise has on pulse rate. Graphing.		*	*Peppered moth.	*	How the human body develops.	
Seeking patterns and relationships	The effect that exercise has on pulse rate, breathing. Graphing. Bones, tendons, ligaments. Skeletal system. Arteries, Capillaries Veins. Cardiovascular system.	Testing different materials for conductivity.	Comparing pond creatures at different depths of the pond.	*Breeds of dogs.	Testing to see which materials are most suitable for reflecting light.		
Identifying / grouping / classifying	Identify bones in the Skeletal system.		I know that living things are classified into broad groups. Using keys to identify living things.	* Breeds of dogs	Identifying opaque, translucent, transparent materials	Identify the similarities and differences between males and females.	*Keys for the animals in the pond.
Comparative and fair testing	The effect that exercise has on pulse rate. Graphing.	*Making a circuit and comparing the brightness of bulbs.			Testing to see which materials are most suitable for reflecting light.		

Researching Using Secondary Sources	What is blood and what is it made of?	*Can I say what electricity is? (iPad research)		*Timeline of the Pakicetus		Using age appropriate books to find answers to SRE related questions.	*
SKILLS							
Asking questions	How does exercise effect heart rate?	*What is electricity research task? KWL table.	*		*	Yes, the use of the 'question box' to find age appropriate answers to various SRE related questions.	
Observing / measuring	The effect that exercise has on pulse rate. Graphing.	*Making a circuit and comparing the brightness of bulbs.	* (theoretical)	*Peppered Moth	I can explain how mirrors can be used to see things that are not directly in eye-line.		Pond dip. Observing and identifying creatures.
Planning / designing enquiries	The effect that exercise has on pulse rate. Graphing.	*Design a basic circuit.			Proving that light travels in straight lines experiment.		
Carrying out tests	The effect that exercise has on pulse rate. Graphing.	Testing to see which materials make the best conductors/insulators.			Testing to see which materials are the most reflective.		
Identifying/ grouping / classifying	Identify bones in the Skeletal system. Matching exercise.		*	Breeds of dogs	Identifying opaque, translucent, transparent materials	Identify the similarities and differences between males and females.	*
Gathering / recording data and info	The effect that exercise has on pulse rate. Graphing.	Making a circuit and comparing the brightness of bulbs.		Peppered moth (Collecting camouflaged examples)	I can explain how mirrors can be used to see things that are not directly in eye-line.		Pond dip – tally of creatures found habituating the pond.
Using equipment		Design a basic circuit.			I can explain how mirrors can be used to see things that are not directly in		Pond dip.

					eye-line. (torch, mirror)		
Reporting / communicating	Body systems documentary.	Drawing circuit diagrams.	*	Timeline of the Pakicetus	*		*
Evaluating Learning	T/F (beginning) heart & circulatory system. Diagram of circulatory system. T/F same heart. (end).	KWL at the start of unit. Test base circuit diagram. (End)	Sorting animals activity (start). Repeated activity at the (end of unit.)	Evo & Inheritance Apes to human picture prompt (start) a focus question (end).	Thought shower built over the unit. SATs booklets (end of unit).	Labelling diagrams.	Key – Draw the key that would fit the animal.(start) Draw the animal that would fit the criteria of the key.(end)