



WENSLEY FOLD CE PRIMARY ACADEMY SCIENCE SCHEME OF WORK - YEAR 6

BIOLOGY – ANIMALS INCLUDING HUMANS

Key Learning Outcomes

At the start of this topic, assess children's prior knowledge by using a 'What I already know' mind map.

During this Science topic the pupils will be taught:

- To identify and name the main parts of the human circulatory system.
 - The heart is a major organ and is made of muscle.
- To describe the functions of the heart, blood vessels and blood.
 - The heart pumps blood around the body through vessels and this can be felt as a pulse.
 - The heart pumps blood through the lungs in order to obtain a supply of oxygen
 - Blood carries oxygen and other essential materials to different parts of the body.
- Recognise the impact of exercise, diet, drugs and lifestyle on the way their bodies function.
 - Provide us with energy (fats and carbohydrates).
 - Maintain good health (vitamins and minerals).
 - During exercise muscles need more oxygen so the heart beats faster and our breathing and pulse rates increase.
 - Observing/Measuring changes to breathing, heart beat and or pulse rates during exercise
 - Tobacco, alcohol and other 'drugs' can be harmful.
 - All medicines are drugs, not all drugs are medicines.
 - An adequate, varied and balanced diet is needed to help us grow and repair our bodies (proteins).
- Describe the ways in which nutrients and water are transported within animals, including humans.
 - Animals are alive; they move, feed, grow, use their senses, reproduce, breathe/respire and excrete.

To assess progress at the end of the topic, children must complete the 'What I know now' mind map.

Vocabulary

aorta arteries atrium blood vessel capillaries carbon dioxide circulatory system de-oxygenated heart lungs
 oxygen oxygenated pulse respiration veins ventricle

Investigative skills

predict prediction aim purpose method apparatus equipment measure accurate reliable repeatable
 analyse diagram fair test control variable independent variable dependent variable relationship trend conclusion
 evaluation



Key Learning Outcomes

During this Science topic the pupils will be taught:

- To assess progress at the end of the topic, children must complete the 'What I already know mind map.

[illegible]



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PHYSICS – LIGHT

Key Learning Outcomes

At the start of this topic, assess children's prior knowledge by using a 'What I already know' mind map

During this Science topic the pupils will be taught:

- To recognise that light appears to travel in straight lines.

- To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.
 - To explain how simple optical instruments work.
 - periscope
 - telescope
 - binoculars
 - mirror
 - magnifying glass

- To explain that we see things because the light that travels from light sources to our eyes or from light sources to objects and then to our eyes.

- To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

To assess progress at the end of the topic, children must complete the 'What I know now' mind map.

Vocabulary

absorb concave convex cornea dispersion emit image iris lens light ray mirror opaque optic nerve prism pupil
 reflect reflection refraction retina shadow translucent transmit transparent

Investigative skills

predict prediction aim purpose method apparatus equipment measure accurate reliable repeatable
 analyse diagram fair test control variable independent variable dependent variable relationship trend conclusion
 evaluation



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PHYSICS – ELECTRICITY

Key Learning Outcomes

At the start of this topic, assess children's prior knowledge by using a 'What I already know' mind map.

During this Science topic the pupils will be taught:

- To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
 - Pupils should construct simple series circuits, to help them answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors.
 - Pupils are expected to learn only about series circuits, not parallel circuits.
- To compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
 - Investigating and describing electrical components such as burglar alarms and traffic lights.
- I can describe the difference between a conductor and insulators; giving examples of each.
 - Test and sort a range of materials, identifying whether they are insulators or conductors.
- To use recognised symbols when representing a simple circuit in a diagram.
 - Draw a range of series circuits representing each component as the correct symbol.
- To take the necessary precautions for working safely with electricity.

To assess progress at the end of the topic, children must complete the 'What I know now' mind map.

Vocabulary

battery brightness buzzer cell circuit component conductor function graphite insulator lamp metal motor parallel plastic
 series switch symbols voltage volume wire

Investigative skills

predict prediction aim purpose method apparatus equipment measure accurate reliable repeatable
 analyse diagram fair test control variable independent variable dependent variable relationship trend conclusion
 evaluation



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BIOLOGY – LIVING THINGS and THEIR HABITATS

Key Learning Outcomes

At the start of this topic, assess children's prior knowledge by using a 'What I already know' mind map.

During this Science topic the pupils will be taught:

- To classify living things into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.
 - Living things can be grouped into micro-organisms, plants and animals.
 - To understand that broad groupings, such as micro-organisms, plants and animals can be subdivided.
 - Vertebrates can be grouped as fish, amphibians, reptiles, birds and mammals.
 - Invertebrates can be grouped as snails and slugs, worms, spiders and insects.
 - Research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.
 - Plants can be grouped as flowering plants (incl. trees and grasses) and non-flowering plants (such as ferns and mosses).
- To describe how plants and animals can be classified.
 - Use classification keys and systems to identify how animals and plants are classified.
 - Research the work of scientists such as Carl Linnaeus, a pioneer of classification.
- To give reasons for classifying plants and animals based on specific characteristics.

To assess progress at the end of the topic, children must complete the 'What I know now' mind map.

Vocabulary

adapt	adaptation	amphibians	bacteria	characteristics	classify	excretion	ferns	fungi	growth	habitat	invertebrates
kingdoms	mammal	micro-organism	mosses	movement	non-woody	flowering plants	nutrition	reproduction	reptile		
respiration	sensitivity	species	vertebrate	virus	woody	flowering plants					

Investigative skills

predict	prediction	aim	purpose	method	apparatus	equipment	measure	accurate	reliable	repeatable
analyse	diagram	fair test	control variable		independent variable	dependent variable	relationship	trend	conclusion	



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evaluation