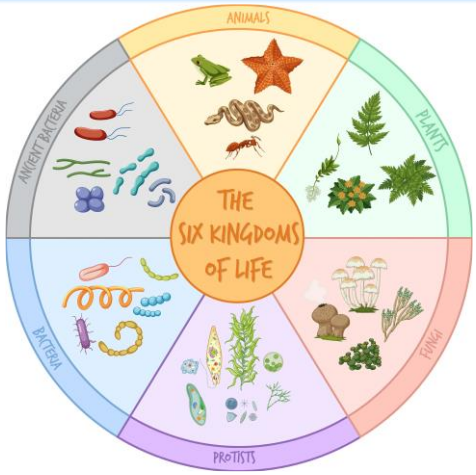
YEAR FIVE/SIX
KNOWLEDGE ORGANISER
SCIENCE: Living things and their habitats

MRS GREN

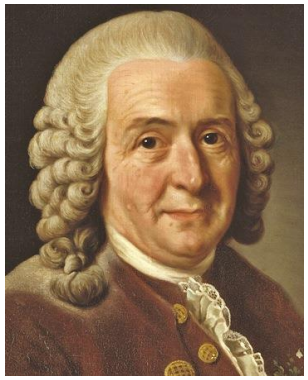
- Movement
- Respiration
- Sensitivity
- Growth
- Reproduce
- Excretion
- Nutrition



KEY KNOWLEDGE

- Classifying living things
- Understand the Kingdoms of Life
- Classify living things using the Linnaean System
- Identify the characteristics of different types of microorganisms
- Investigate asexual reproduction through spore dispersal
- Classify and describe a living organism

KEY SCIENTISTS



Carl Linnaeus

KEY VOCABULARY

classification
microorganism
habitat
living organism
species
microscopic
ecosystem
kingdom
Linnaean System
cell

SUBJECT SPECIFIC SKILLS

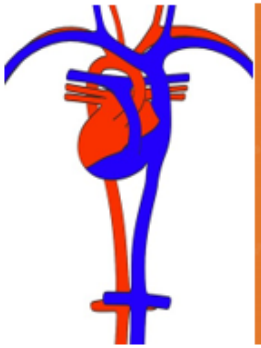
- Describe how living things are classified into broad groups
- according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals
- Give reasons for classifying plants and animals based on specific characteristics
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations

PRIOR KNOWLEDGE (OTHER YEAR GROUPS)

- Living Things and Their Habitats (KS1 & LKS2)

YEAR SIX
KNOWLEDGE ORGANISER
SCIENCE: Animals including humans

IMAGES



KEY KNOWLEDGE

- Know that the heart acts as a pump taking blood through vessels in the body including the lungs
- Know how to keep the heart healthy
- To know the key features of The Circulatory System
- Know the impact of smoking and drugs on the body
- Know what a healthy diet is
- Know how exercise is important for the body
- To explain how nutrients and water are carried around the body
- Know the role and function of the lungs

KEY SCIENTISTS

Daniel Hale Williams

Dr Christiaan Barnard

KEY VOCABULARY

Arteries, blood, ventricles, circulatory system, heart, lungs muscles, veins, vitamins, balanced diet, energy, exercise, prescribed drugs, recreational drugs, blood cells, platelets, oxygen, carbon dioxide, bronchus, bronchioles, nutrients

SUBJECT SPECIFIC SKILLS

- Using test results to make predictions to set up further comparative and fair tests
- Recording data and results of increasing complexity using scientific diagrams & labels
- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- Recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function
- Describe the ways in which nutrients and water are transported within animals and humans

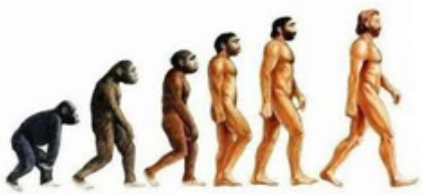
PRIOR KNOWLEDGE (OTHER YEAR GROUPS)

Health and nutrition – Lower KS2

Animals including humans – KS1

YEAR SIX
KNOWLEDGE ORGANISER
SCIENCE: Evolution and inheritance

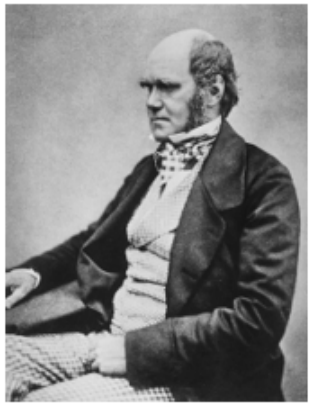
IMAGES



KEY KNOWLEDGE

- To know the parts of the eye
- To explain how we see
- To understand how light travels from a light source
- To know the difference between secondary and primary light sources
- To be able to articulate how we know light travels in straight lines
- To know how light can be reflected or refracted
- To know how shadows are formed and their size changes

KEY SCIENTISTS



Charles Darwin

KEY VOCABULARY

Primary, secondary, light source, beam, straight lines, reflection, refraction, eye, retina, lens, pupil, cornea, optic nerve

SUBJECT SPECIFIC SKILLS

Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes

Recognise that light appears to travel in straight lines

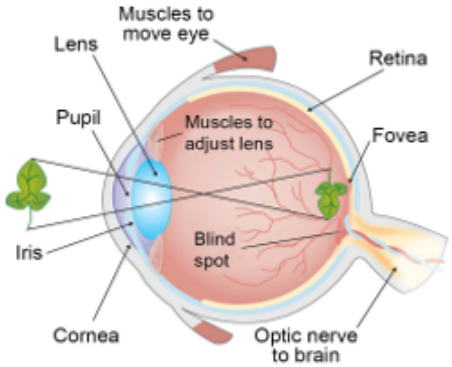
Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye

PRIOR KNOWLEDGE (OTHER YEAR GROUPS)

- Living things and their habitat – KS1
- Living things and their habitat – Lower KS2

YEAR SIX
KNOWLEDGE ORGANISER
SCIENCE: Light

IMAGES



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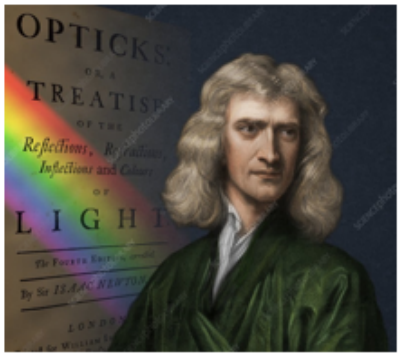
KEY SCIENTISTS



Sir Isaac Newton

KEY VOCABULARY

Primary, secondary, light source, beam, straight lines, reflection, refraction, eye, retina, lens, pupil, cornea, optic nerve, shadow

SUBJECT SPECIFIC SKILLS

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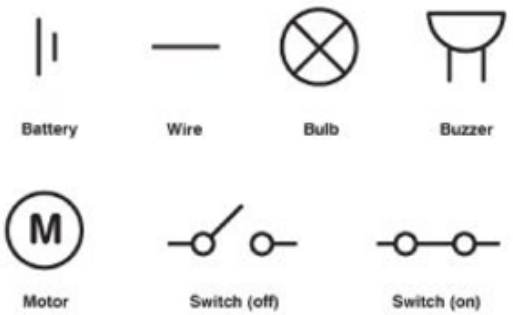
PRIOR KNOWLEDGE (OTHER YEAR GROUPS)

- Light – Lower KS2

YEAR SIX
KNOWLEDGE ORGANISER
SCIENCE: Electricity

IMAGES



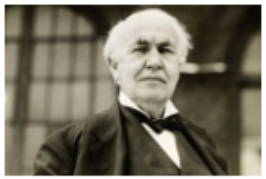
KEY KNOWLEDGE

- **What will make a bulb brighter or a buzzer louder?**
- More batteries or a higher voltage create more power to flow through the circuit.
- Shortening the wires means the electrons have less resistance to flow through.

- **What will make a bulb dimmer or a buzzer quieter?**
- Fewer batteries or a lower voltage give less power to the circuit.
- More buzzers or bulbs mean the power is shared by more components.
- Lengthening the wires means the electrons have to travel through more resistance.

KEY SCIENTISTS

Alessandro Volta



Thomas Edison

KEY VOCABULARY

Battery, circuit, current, conductor, insulator, cell, electricity filament, motor, switch voltage, open circuit, closed circuit, buzzer, circuit diagram, symbols

SUBJECT SPECIFIC SKILLS

- Using test results to make predictions to set up further comparative and fair tests
- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- 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
- Use recognised symbols when representing a simple circuit in a diagram

PRIOR KNOWLEDGE (OTHER YEAR GROUPS)

- Electricity – Lower KS2
- Materials – Upper KS2