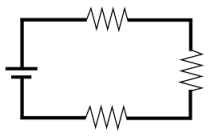
# UKS2 Science Knowledge and Skills Pathway

The focus of science teaching in Upper Key Stage 2 is to enable pupils to deepen their scientific view of the world around them, including a wide range of scientific ideas. Children are provided with the specific scientific knowledge and vocabulary to truly immerse themselves into the scientific world, with a clear development and progression of knowledge. Children in Upper Key Stage 2 are encouraged to establish their own hypothesis and find strategies to answer their own burning questions. Working scientifically is embedded within our curriculum, ensuring all children are equipped with the skills to become scientists. A working scientifically focus is at the heart of each topic's teaching to ensure that children are encouraged to explore, discuss, test and develop their own hypothesis surrounding everyday phenomena, truly understanding the world in which they live.

KS3



## Year 6

### Summer

**Fair's Fair:**
**Electricity:**
Associate brightness of a bulb and the volume of a buzzer with the number of cells used in a circuit.
Use recognised symbols within circuit diagrams.

**Working Scientifically Focus:**
Plan scientific enquiries to answer own questions; Ask and answer perceptive questions; Explain choices of enquiry; Organise evaluations carefully.

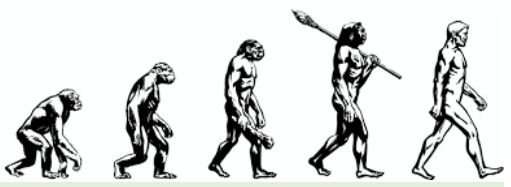
**Fair's Fair:**
**Light:**
Recognise that light travels in straight lines.
Understand that light travels from light sources to the eyes.
Understanding shadows have different shapes.

**Working Scientifically Focus:**
Predict using evidence and with reference to reliability; Make comments about reliability; Understand different levels of accuracy; Draw complex graphs by hand.

### Spring

**Darwin:**
**Animals, including humans (NC Statements):**
Identify parts of the circulatory system.
Recognise the impact of diet, exercise and lifestyle on our bodies.
Describe how nutrients and water are transported.

**Working Scientifically Focus:**
Use relevant information from a range of sources; Apply vocabulary in sophisticated ways; Link experiences to scientific content; Show an awareness of scientific ethics.



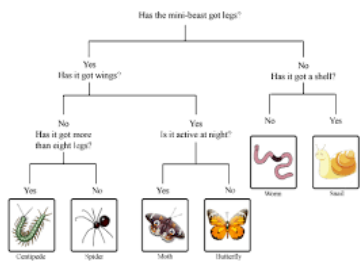
### Autumn

**Darwin**
**Evolution and Inheritance (NC Statements):**
Recognise that living things change over time.
Recognise living things make offspring.
Understand that humans and plants can adapt to their environment.

**Working Scientifically Focus:**
Plan scientific enquiries to answer own questions; Ask and answer perceptive questions; Use a range of presentation forms.

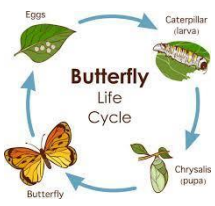
**Refugees and Migration**
**Living things and their habitats (NC Statements):**
Describe how living things are classed into broad groups.
Give reasons for classifying plants and animals.

**Working Scientifically Focus:**
Use relevant research and information to inform responses; Link experience to scientific content; Apply vocabulary in sophisticated ways; Make links between what they see and scientific content.




**Ancient Greeks:**
**Animals, including humans (NC Statements):**
Describe the changes as humans develop to old age.

**Working Scientifically Focus:**
Make links with previous investigations; Use scientific vocabulary; Make clear records of observations.




**Ancient Greeks:**
**Living things and their habitats (NC Statements):**
Different life cycles of mammals, amphibians, insects and birds.
Describe life processes of reproduction in plants and animals.

**Working Scientifically Focus:**
Explain the usefulness and reliability of sources; Make comments about levels of accuracy; Organise evaluations; Show sensitivity and selection within evaluations.

## Year 5

### Summer

**Sieges, Settlements and Solutions**
**Everyday Materials (NC Statements):**
Group together everyday materials based on properties.
Understand states of matter and dissolvability.
Reversible and irreversible reactions.

**Working Scientifically Focus:**
Draw on evidence to inform predictions; Take repeat readings; Ask and answer valid questions; Make complex links between differences and changes; Include relevant information and evaluation.

### Spring

**Forces of Nature:**
**Earth and Space (NC Statements):**
Movement of Earth relative to the Sun.
Movement of the Moon relative to the Earth.
Explain day and night in terms of rotation.

**Working Scientifically Focus:**
Make links to previous investigations; Use information from several sources; Work collaboratively to build on others' observations; Make clear records of observations.

### Autumn

**Forces of Nature:**
**Forces (NC Statements):**
Understand that objects fall due to a force of gravity between Earth and the falling object.
Effects of air resistance, friction and water resistance.

**Working Scientifically Focus:**
Refer to concepts of reliability, significance and replicability; Use scientific vocabulary during observations; Justify interpretations with evidence.