

Autumn	Spring	Summer
<p><b>3</b></p> <p><b>Into the Woods</b></p> <p>Challenge: How can we improve our green spaces so we can create a better environment for animals and people?</p> <p><b>AUTUMN 1 AND 2</b></p> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• Room for Growth</li> <li>• Plant anatomy</li> <li>• Plant functions</li> <li>• The needs of different plants</li> <li>• Water transport in plants</li> <li>• Life cycle of a flowering plant</li> <li>• Pollination methods</li> <li>• Seeds dispersal methods</li> </ul>	<p><b>Learning Rocks!</b></p> <p>Challenge: How can we bring back to life the Stone Age through the arts so that it is not forgotten?</p> <p><b>SPRING 1</b></p> <p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>• How fossils are formed</li> <li>• Observing rocks</li> <li>• Testing rock hardness</li> <li>• Investigating rocks</li> <li>• Animals and their fossils</li> <li>• Investigating soils</li> <li>• Soil composition</li> <li>• Rocks and their properties</li> </ul> <p><b>SPRING 2</b></p> <p><b>Animals including humans</b></p> <ul style="list-style-type: none"> <li>• Food groups</li> <li>• Animals and their food</li> <li>• Food chains</li> <li>• Food webs</li> <li>• The human skeleton</li> <li>• Muscles for moving</li> <li>• Animals and their skeletons</li> <li>• Types of skeleton</li> </ul>	<p><b>Life and Death on the Nile</b></p> <p>Challenge: How can we tell the story of the ancient Egyptians?</p> <p><b>SUMMER 1</b></p> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>• Investigating shadow size</li> <li>• Light sources</li> <li>• Light sources in our school</li> <li>• Light sources and reflectors</li> <li>• Sun safety</li> <li>• Forming shadows</li> <li>• Transparent, Translucent and Opaque</li> <li>• Making a sundial</li> </ul> <p><b>SUMMER 2</b></p> <p><b>Forces and magnets</b></p> <ul style="list-style-type: none"> <li>• Magnets through different materials</li> <li>• Magnets on different surfaces</li> <li>• Magnetism at a distance</li> <li>• Magnetic metals</li> <li>• Testing magnets</li> <li>• Magnetic poles</li> <li>• Using magnets</li> </ul>

## The Ancient Greeks

Challenge: How will we decide which Greek achievement has had the greatest impact on the western world?

### AUTUMN 1

#### Electricity

- Conductors and insulators
- Electrical machines
- Electrical components
- Electrical circuits
- Working circuits
- Electrical switches
- Electricity safety

### AUTUMN 2

#### Sound

- How we hear things
- Sound insulation
- Investigating pitch
- Making a string instrument
- Pitch and volume
- Investigating volume
- Sound and distance
- Distance and volume

## Romans Rule

Challenge: How can we capture what the Romans did for Britain so its impact can be seen today?

### SPRING 1

#### Living things and their habitats

- Grouping organisms
- Grouping animals
- Vertebrates and invertebrates
- Identifying familiar organisms
- Identifying invertebrates
- Creating a classification key
- Habitats throughout the year
- The effects of deforestation

### SPRING 2

#### Animals, including humans

- Digestive system organs
- The human digestive system
- Types of teeth
- Tooth Structure
- Looking after our teeth
- Food chains
- Food webs

## Every last drop!

Challenge: How can we inform others about the sea so that they can make ethical choices?

### SUMMER 1 AND 2

#### States of Matter

- Researching melting points
- Solids, liquids and gases
- Changing state
- Investigating melting points
- Thermal insulators
- The water cycle
- Making a solar still
- Investigating evaporation rates

## To Infinity and Beyond

**Challenge:** Can we create a space-themed science fair so we can educate and inspire children from our multi-academy trust schools?

**AUTUMN 1**

### Forces

- Investigating levers
- Gravity and weight
- Force meters
- Air resistance
- Water resistance
- Investigating friction
- Investigating pulleys
- gears

**AUTUMN 2**

### Earth and Space

- Planet Facts
- The Solar System
- Earth, Sun and moon
- The Lunar Cycle
- The formation of the solar system
- Comparing the planets
- Day and night
- Making a sundial

## Crisis

**Challenge:** How can we help people affected by crisis so we can make a positive difference to their lives?

**SPRING 1 AND 2**

### Properties and changes to materials

- Separating solutions
- Properties of materials
- Soluble materials
- Investigating hardness
- Separating mixtures
- Uses of materials
- New materials
- Reversible and irreversible changes

## The Last King

**Challenge:** How can we create a 21<sup>st</sup> century publication so that the Anglo-Saxon reign can be remembered?

**SUMMER 1**

### Living things and their habitats

- Amphibian lifecycles
- Mammal life cycles
- Insect lifecycles
- Bird life cycles
- Comparing animal lifecycles
- Flowering plant reproduction
- Investigation vegetative reproduction
- Animal reproduction

**SUMMER 2**

### Animals, including humans

- Gestation periods
- Foetal development
- Child development
- Child responsibility
- Puberty
- Men and women
- Old age
- Timeline of human

## War: what is it good for?

Challenge: How can we help children currently affected by war so that we understand the human impact of conflict?

### AUTUMN 1

#### Light

- Objects and their shadows
- Making a periscope
- Positioning a rear-view mirror
- The human eye
- Reflecting light
- How we see things
- The light spectrum
- Investigating shadows

### AUTUMN 2

#### Electricity

- Electrical components
- Electrical cells
- Comparing circuits
- Making a wire loop game
- Making a burglar alarm
- Making traffic lights
- Functioning circuits
- Electrical symbols

## Evolution

Challenge: How can we use scientific enquiry so that we can create an experiment.

### SPRING 1 AND 2

#### Evolution and inheritance

- The evolution game
- Mary Anning
- The fossil record
- Charles Darwin
- Natural selection
- Heredity
- Animal adaptations
- Plant adaptations

## Let Us Entertain You

Challenge: How can we entertain the different groups in our community so that we can bring enjoyment to others?

### SUMMER 1

#### Animals, including humans

- Blood
- The human circulatory system
- The human heart
- Investigating heart rate
- Alcoholic drinks
- The effects of smoking
- Diet and exercise
- The benefits of exercise

### SUMMER 2

#### Living things and their habitats

- Evolutionary taxonomy
- Making a classification key
- Carl Linnaeus
- Vertebrates and invertebrates
- Identify arthropods using a key
- Identify trees using a key
- Invertebrates in the local environment
- Trees in the local environment