

Science

During Years 5 and 6 pupils will learn about:

Living things and their habitats:

Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.

Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **Animals including humans:**

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 their bodies function.

Describe the ways in which nutrients and water are transported within animals, including humans.

Evolution and inheritance:

Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Light:**

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.

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.

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

Shape as the objects that cast them

Electricity:

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.

Geography

Pupils will learn to:

- Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)
- Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country
- Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts
- Describe and understand key aspects of: human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water
- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world

Design & Technology

Building on earlier work, children will learn to:

Design:

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

Evaluate ideas and products against their own design criteria and consider the views of others to improve their work as well as to understand how key events and individuals in design and technology helped shape the world.

Pupils will understand and apply the principles of a healthy and varied diet and will prepare and cook a variety of dishes using a range of cooking techniques.

Shelters, Bread, Moving Cars

History - National Curriculum Coverage

Children will learn about:

a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066- WW2

the achievements of the earliest civilisations - an overview of where and when the first civilisations appeared and a depth study of Ancient Egypt

Year 6

Art

Across KS2 children will develop their techniques, including control and use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft & design.

Pupils will learn:

- to create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]
- about great artists, architects and designers in history.

Music

During Years 3 to 6 Pupils will learn to:

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.
- Improvise and compose music for a range of purposes using the interrelated dimensions of music.
- Listen with attention to detail and recall sounds with increasing aural memory.
- Use and understand staff and other musical notations.
- Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians.
- Develop an understanding of the history of music

Computing

Pupils will learn how to:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection and repetition in programmes; work with variables and various forms of input and output.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly, recognise acceptable / unacceptable behaviour: identify a range of ways to report concerns about content and contact