

## Science

## Biology

## Animals and humans

Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals.

Look at the human circulatory system.

## Evolution and inheritance

Look at resemblance in offspring.

Look at changes in animals over time.

Look at adaptation to environments.

Look at differences in offspring.

Look at adaptation and evolution.

Look at changes to the human skeleton over time.

## All living things

Look at classification keys.

Look at the life cycle of animals and plants.

Look at classification of plants, animals and micro organisms.

Look at reproduction in plants and animals, and human growth and changes.

Look at the effect of diet, exercise and drugs.

## Chemistry

## Materials

Examine the properties of materials using various tests.

Look at solubility and recovering dissolved substances.

Separate mixtures.

Examine changes to materials that create new materials that are usually not reversible.

## Physics

## Light

Look at sources, seeing, reflections and shadows.

Explain how light appears to travel in straight lines and how this affects seeing and shadows.

## Forces and magnets

Look at the effect of gravity and drag forces.

Look at transference of forces in gears, pulleys, levers and springs.

## Earth and space

Look at the movement of the Earth and the Moon.

Explain day and night.

## Working Scientifically

Across all year groups scientific knowledge and skills should be learned by working scientifically. (This is documented in the Essentials for progress section.)

## Physics

## Electricity

Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials.

## Art &amp; Design

Use experiences, other subjects across the curriculum and ideas as inspiration for artwork.

Develop and share ideas in a sketchbook and in finished products.

Improve mastery of techniques.

Learn about the great artists, architects and designers in history.

## Computing

Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.

Use logical reasoning to explain how a simple algorithm works, 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.

Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.

Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

## Design &amp; Technology

## Design

Use research and develop design criteria to

inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

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 tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately.

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

Investigate and analyse a range of existing products.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Understand how key events and individuals in design and technology have helped shape the world

## Technical knowledge

Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages.

Apply their understanding of computing to programme, monitor and control their products.

## Cooking and nutrition

Understand and apply the principles of a healthy and varied diet.

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

## Geography

Locate the world's countries, with a focus on Europe and countries of particular interest to pupils.

Locate the world's countries, with focus on North and South America and countries of particular interest to pupils.

Identify key geographical features of the countries of the United Kingdom, and show an understanding of how some of these aspects have changed over time.

Locate the geographic zones of the world.

Understand the significance of the geographic zones of the world.

Understand geographical similarities and differences through the study of human and physical geography of a region or area in a European country.

Understand geographical similarities and differences through the study of the human and physical geography of a region or area within North or South America.

Describe and understand key aspects of:

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes and the water cycle

- human geography, including: settlements, land use, economic activity including trade links and the distribution of natural resources including energy, food, minerals and water supplies.

Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.

Use the eight points of a compass, four-figure grid references, symbols and keys (including the use of Ordnance Survey maps) to build knowledge of the United Kingdom and the world.

Use a wide range of geographical sources in order to investigate places and patterns.

Use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs and digital technologies.

### History

Changes in Britain from the Stone Age to the Iron Age.

Britain's settlement by Anglo Saxons and Scots.

A study of a theme in British history.

Ancient Greece.

A non- European society that contrasts with British history chosen from:

- Early Islamic Civilization
- Mayan Civilization
- Benin.

History of interest to pupils.

### Language

In the chosen modern language:

- Speak
- Read

- Write.

Look at the culture of the countries where the language is spoken.

### Religious Education

Study the beliefs, festivals and celebrations of Christianity.

Study at least two other religions in depth. Choose from Buddhism, Hinduism, Islam, Judaism or Sikhism.

Study three of the major six religions not studied in depth in order to gain a brief outline.

Study other religions of interest to pupils.