Year 6 NC objective coverage

Geography

- locate the world's countries, using maps to focus on <u>North and South America</u>, 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 and North or South America

- 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

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

History

- A non-European society that provides contrast with British history – one study chosen from: early Islamic civilisation including a study of Baghdad; Mayan civilisation; Benin (West Africa)

- The achievements of the earliest civilisations – an overview of where and when the first civilisations appeared and a depth study of one of the following: Ancient Sumer; the Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China.

Science

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Living things and their habitats-
- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- give reasons for classifying plants and animals based on specific characteristics.

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.

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.

Design and 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 [for example, 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
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures

- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

- apply their understanding of computing to program, monitor and control their products.

Cooking
- 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.

Art and Design

- 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

- 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 inter-related 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

- 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 programs; 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.