Curriculum Overview

Year 5 – Space	
Science	• Describe the sun as Sol, a heliocentric star at the centre of our solar system, along with 8 orbiting planets. • Explain that looking directly at the sun is harmful and can permanently damage the eye. • Use a model to demonstrate that the 8 planets of our solar system (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune) orbit the sun in concentric paths. • Use a model to demonstrate that the Earth spins on its axis and the moon orbits the Earth whilst it travels around the sun. • Explain that the moon's orbit describes an approximate circular anticlockwise path in a flat plane with a duration of 29.5 days, with a single axial spin on its own axis. • Describe the Sun and Moon as approximately spherical and the earth as an oblate spheroid. • Using a model, demonstrate how the Earth's rotation leads to night and day. • Plan, carry out and record a fair test to demonstrate how shadows change as the sun appears to move across the sky. • Using what they know about the rotation of the Earth, explain the results of their test. • Explain that unsupported objects fall towards the earth because of the force of gravity acting between the Earth and the falling object. • Make observations of a range of objects, including those which do not necessarily fall in a linear path e.g. sycamore seeds, paper cupcake cases, of different mass and shape that are dropped and record the effect. • Use annotated diagrams of their observations to explain that objects which have mass will fall to the Earth's surface once released. • Know that Isaac Newton first discovered the force of gravity approximately 300 years ago. • Explain that gravity affects natural phenomena including precipitation, falling autumn leaves and the tides (caused by the moon's gravitational pull).

Curriculum Overview

Year 5 – Greeks	
History	• To locate the modern country of Greece on a map and describe its key features: climate, made up of a number of islands and a mainland, key topographical features. • To place Ancient Greek civilisation on a timeline and understand that it occurred at the same time as other ancient civilisations studied e.g. Ancient Egypt. • To understand that Ancient Greece was split into independent city states, and conduct independent research to compare similarities and differences between Sparta and Athens. • To infer information about life in Ancient Greece from artefacts and archaeological sites, and discuss the limitations of this kind of evidence. • To become familiar with a number of Greek myths e.g. *Pandora's Box; Theseus and the Minotaur.* • To use a range of sources to decide which aspects of Greek myths may be true and which may be untrue. • To identify Alexander the Great's greatest achievements from a range of sources (e.g. stories, maps, statues, pottery) and place these in chronological order. • Compare pictures of Ancient Greek buildings and modern national and local buildings which feature Greek elements (e.g. Chadderton Town Hall, The National Gallery, Minack Theatre), identifying similarities and explaining why they think we still use elements of Ancient Greek architecture today. • To understand that democracy was first practised in Ancient Athens. • To identify similarities and differences between democracy in Ancient Athens and modern democracy in the UK. • To know that the Olympic Games were first held in 776BC in Olympia as a religious celebration for the God Zeus. • To describe some of the key elements if the ancient Olympic games, including some of the events involved. • To identify some similarities and differences between the ancient and modern Olympic Games. • To decide which legacy of the Ancient Greeks is the most important and explain their choices using appropriate historical language.
Science (Science afternoon)	• Take measurements using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate.

Curriculum Overview

Year 5 – Rivers	
Geography	• Know how rivers erode, transport and deposit materials and describe these processes using the correct vocabulary: *erosion, deposition, transportation, channel, lake and mouth*. • Identify the physical features of coastlines: mudflats, salt marshes, cliffs, stacks, arches, shore platforms and estuaries. • Explain that the sea slowly erodes land and identify some areas of the UK that are more heavily affected by this e.g. the Holderness area on the east coast of England. • Use maps and aerial photography to identify where the physical environment has been changed due to human interaction and explain why these changes have occurred e.g. farm fields, residential and industrial areas, transport networks. • Know that humans have caused changes to world environments over time through pollution, deforestation, over-population and climate change. • Understand why people seek to sustain and manage their environment e.g. re-planting forests; agriculture; nature reserves. • Draw accurate maps, with complex keys, of a river and its surrounding environment as part of a fieldwork study. • Record photographic evidence, make sound recordings and explain the human and physical characteristics of a river and its surrounding environment as part of a fieldwork study.
Science	• Plan and carry out tests to investigate the effect of simple lever mechanisms, using force meters to measure the effects. • Record their results using annotated diagrams, tabulated results and line graphs. • Understand and use accurately the terms lever, fulcrum and pivot. • Name a range of everyday and household objects which use levers to allow a small force have a greater effect e.g. can opener, wheelbarrow, bottle opener. • To know that friction is a constant force that slows down moving objects and acts in the opposite direction to motion. • Carry out a range of comparative tests to demonstrate the effects of friction on an object when its surface area is increased or decreased. • Plan, carry out and present scientifically an enquiry to identify which surfaces involve the most friction.

Curriculum Overview

Year 5 – What a Wonderful World	
Geography	• Recognise many of the world's major countries by shape, including Great Britain, France, Italy, Spain, USA, Canada, Japan, South Africa, India, China and Russia. • Name and locate the largest cities within each continent: Moscow, London, Tokyo, Sydney, Mexico City, New York, San Paulo, Lima, Cairo, Karachi. • Name and locate the European countries with the highest population: Russia, Germany, Turkey, France, Italy, Spain, Poland, Netherlands, Sweden and Greece. • Use electronic maps and satellite imagery to identify the key topographical features of the countries of North America (e.g. the mountain ranges of Canada and Alaska; the desert areas of Nevada, Arizona and Mexico; the Lakes of Michigan). • Compare a region of the UK and a region in North America, identifying similarities and differences such as average temperature, highest mountain, longest river, percentage of arable/farmland, population size, government and culture. • Know that there are 5 main climate zones across the Earth, describe them and identify these on a map: arctic climates, temperate climates, Mediterranean climates, desert climates and tropical climates.
Science	• Explain that some plants and animals can reproduce asexually (plants through bulbs and cuttings; bacteria through producing exact copies) • Understand that most plants and animals reproduce sexually and explain this as involving male and female parts from two or more plants or animals. • Identify the sexual components of flowering plants. • Compare lifecycles of mammals, amphibians, insects and birds and identify similarities and differences between them (e.g. amphibians, birds and insects all lay eggs). • Draw conclusions as to the advantages and disadvantages of the differences between the different lifecycles e.g. mammals develop their young internally, giving it greater protection but also leaving the mother vulnerable for longer. • Construct a detailed timeline ascribing approximate ages to each stage of the development of humans and using the correct scientific terms for these: infant, child, adolescent, adult (capable of reproduction) and pensioner. • Explain the significant processes that mark the threshold between stages of the human lifecycle e.g. *the ability to walk marks the boundary between infant and child; the ability to survive without support marks the boundary between child and adolescent.*

Curriculum Overview

Year 5 – Anglo-Saxons/Scots/Vikings	
History	• To use their knowledge of the Romans in Britain to explain how the people of Britain felt after the Romans left and what problems this created for society. • To identify where the Angles, Scots and Vikings originated and where they settled in Britain. • To explain a number of different reasons why the Angles, Scots and Vikings moved from their homeland to Britain and to rank these by importance, explaining their choices. • Place key events from the era of the Anglo-Saxons and Vikings into a timeline, using dates to sequence these independently. • Use a variety of sources (e.g. artefacts, pictures, written accounts) to compare life in Anglo-Saxon and Viking settlements, identifying similarities and differences between these. • To read contemporary accounts of Viking raids (e.g. Anglo-Saxon Chronicles, Venerable Bede) and decide how reliable these are as a historical source. • To understand and describe the key achievements of King Alfred – towns, navy, army, education, roads, trade and laws. • To use their knowledge of King Alfred's reign to decide how successful he was as a monarch, and explain their decision. • To locate the site of Sutton Hoo on a map of the UK. • To explain what we can learn about the Anglo-Saxons from the Sutton Hoo ship burial. • To identify the limitations of Sutton Hoo as a historical resource e.g. *it only provides evidence for the rich levels of society; some artefacts may have rotted away.* • To summarise some of the ways that the Anglo-Saxons and Vikings changed life in the UK and explain whether they think the UK was better off with or without them, explaining reasons for their choices.

Curriculum Overview

Year 5 – Magic	
Science	• Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. • To plan and perform comparative tests on objects with mixed materials to determine why each material was chosen for each component, and present their findings using annotated diagrams (e.g. *the chair had a metal frame because metal is rigid, durable and relatively lightweight, and a plastic seat because plastic is able to be moulded into a shape, is durable and comfortable to sit on).* • Understand what filtration and sieving are and investigate which substances can be successfully separated using these and which cannot e.g. a solid and a liquid can be sieved to separate them. • Use their observations to suggest how to separate two substances independently and demonstrate this. • Carry out enquiries to determine which common substances will dissolve in liquid to form a solution, and that some of these may change the colour of the solution e.g. instant coffee. • Understand and use the terms solute, solvent, solution and dissolve to explain their findings. • Plan and carry out tests to determine that filtration and sieving will not separate a dissolved substance from a liquid, but evaporation will. • Record the results of these tests using detailed explanations and annotated diagrams. • Plan and carry out an enquiry to determine that the process of melting is reversed by cooling, using everyday substances such as chocolate, butter and candle wax. • Use their observations of mixing two different liquids together to explain that the different densities allow the liquids to separate, making the change reversible e.g. oil and water. • To explain that cooking effects a permanent change of state by mixing solids and liquids and applying heat (e.g. bread, cakes). • To understand that food decay is a permanent change of state through chemical change. • To understand that burning an object is an irreversible change of state. • To plan and record a demonstration of the action of acid (vinegar) on bicarbonate of soda, and use diagrams to explain that this change is irreversible.