North East
Learning Trust

DESIGN TECHNOLOGY

SCHEME OF WORK

Our Vision

Diamond Hall Junior Academy aims to provide an inspiring, inclusive, challenging and real-world curriculum that the children will enjoy. Inspiring future thinkers, innovators and problem solvers in an environment that stimulates and supports high quality learning. To ensure that all learners exceed their potential academically, socially, emotionally and spiritually with their families, in their communities as well as the wider world ensuring they become ambitious lifelong learners.

Principles and Purpose

Our curriculum is customised, personalised and structured so that the development of knowledge, skills and vocabulary is completed in a systematic and logical sequence, with big ideas being re-introduced in a variety of projects, making links between subjects and content. The curriculum is organised to support pupils growing depth of learning using a project-based, thematic approach, it provides children with a range and breadth of rich and memorable learning experiences which promotes SMSC and British Values.

Aims

- Develop a love for learning
- Opportunities to enrich children's lives through a broad and diverse range of exciting experiences
- Make meaningful links between subjects.
- Develop children's skills, knowledge and understanding of a range of themes and concepts.
- Develop a rich and deep subject knowledge
- Make effective connections to the real world
- Help children to think creatively and solve problems.
- Develop children's capacities to work independently and collaboratively
- Enable children to make choices about their learning
- Take account of children's interests and fascinations
- Understand the purpose and value of their learning and see its relevance in the past, present and future
- Make a positive contribution to the school and local community.

Our approach:

- Develops children to the best of their abilities
- Helps children to find their passions and interests
- Facilitates children's acquisition of knowledge, skills and understanding
- Helps children to develop intellectually, emotionally, socially, physically and morally
- Assists all children in becoming resilient, independent, responsible, useful, confident and considerate members of the community
- Promotes a positive attitude towards learning, so children enjoy coming to school
- Helps children to acquire essential knowledge and skills as a solid basis for lifelong learning
- Creates and maintains an exciting and stimulating learning environment
- Ensures that each child's education has continuity and progression
- Enables all children to contribute positively within a culturally diverse society
- Promotes innovation and entrepreneurialism
- Opportunities to learn in different environments.

Design Technology Intent

At Diamond Hall Junior Academy we believe that Design and Technology prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems.

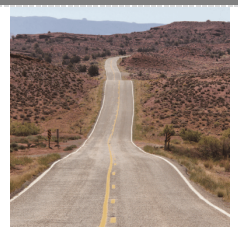
The national curriculum for design and technology aims to ensure that all pupils:

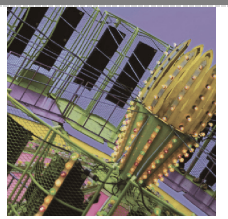
- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others
- Understand and apply the principles of nutrition and learn how to cook.

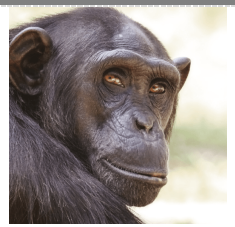
DT skills will be taught as an integrated part of a theme-based curriculum, with knowledge and skills being applied in relation to each class' current topic.

Curriculum Overview with Design Technology Implementation

Year Three	Autumn (1)	Autumn (2)	Spring	Summer (1)	Summer (2)
					
	Scrumdiddlyumptious	**Rocks, Relics and Rumbles**	**Through the Ages**	**Urban Pioneers**	**Emperors and Empires**
DT	Visit a local shop or supermarket to find out about different types of food sold, reading signs and labels to find out where produce is from. Sample different types of bread Take part in baking activities that need accurate weighing and measuring. Design and make packaging for a fantastical fruit or silly sweet! Invent a smoothie				

Year Four	Autumn (1)	Autumn (2)	Spring	Summer (1)	Summer (2)
					
	I Am Warrior!	**Traders and Raiders**	**Misty Mountain, Winding River**	**Road Trip USA!**	**1066**
DT	Investigate bridges, toilets, sewers, baths, theatres, concrete, a water wheel and the calendar. Identify which were designed by the Romans.	Create a design to make a Norman helmet with a nose guard Carve complex designs using the runic alphabet		Investigate totem pole and find out about the materials and techniques used to make them.	Design and make drawbridges Make a Saxon helmet Make small Anglo-Saxon charms by rolling and cutting air-drying or coloured clay. Design a Domesday book Design and make an Anglo-Saxon castle

Year Five	Autumn (1)	Autumn (2)	Spring	Summer (1)	Summer (2)
					
	Off With Her Head	**Sow, Grow, Farm / Allotment**	**Pharaohs**	**Firedamp and Davy Lamp**	**Scream Machine**
DT	Use research skills to identify types of costumes and consider the fabrics and materials that would have been used.	Consider ways eating could become more seasonal, such as looking at the origins of foods on its packaging or growing produce themselves in containers or grow bags. Provide a range of UK grown, seasonal produce for the children to use to prepare and cook a selection of their soup recipes. Design and make a healthy, seasonal soup Make amendments to recipes, in light of evaluation and feedback Produce a class soup cookbook	Build tombs and pyramids of different sizes using a range of construction materials, including Lego, wooden blocks, bricks and cardboard boxes. Follow a simple recipe to bake flatbread, adding a range of Middle Eastern fruits, such as dates or sultanas.		Using survey focus groups to support initial designs. Investigate roller coaster carriage designs, thinking about their structures and materials used in construction. Investigate home products and toys that spin and turn, including those controlled by a computer with variables, such as faster, slower, change direction, off and on. Consider how cams or gears could be used in a fairground ride. Design a drop ride

Year Six	Autumn (1)	Autumn (2)	Spring	Summer (1)	Summer (2)
					
	Fallen Fields	**A Child's War**	**Frozen Kingdoms**	**Darwin's Delights**	**Hola Mexico!**
DT	Discuss the significance of the poppy as a symbol of remembrance. Design and make a fabric poppy using a range of textiles, such as felt, net, beads and threads. Encourage them to add the finer details from their observations.	Find and make popular wartime foods. Look at images of Anderson shelters to determine what they were made from and how they were constructed. Use a range of materials to construct a structurally sound, miniature Anderson shelter. Use their structures to test loading capacity using rubble or sand.			Make Mexican food: chilli, tacos, refried beans, tortillas, guacamole and burritos Taste foods enjoyed and, in some cases, introduced to the world by the ancient Maya civilisation, including avocado, guacamole, tortilla, sweet potato, squash, papaya, a Horchata drink (a blend of milk, sugar, ground almonds and vanilla) and salsa. Consider whether the Maya diet was healthy and explain why. Make a simple wind instrument out of junk materials, such as card, empty plastic bottles and cutting tools.

Design Technology Progression – Learning Intention and Knowledge

		Year 3	Year 4	Year 5	Year 6
Creativity	**Generation of ideas**	Develop design criteria to inform a design. Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. **SCRUMDIDDLYUMPCIOUS**	Use annotated sketches and exploded diagrams to test and communicate their ideas. Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. **I AM WARRIOR!** **TRADERS AND RAIDERS** **ROAD TRIP USA** **1066**	Use pattern pieces and computer-aided design packages to design a product. A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products. **SCREAM MACHINE**	Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways. Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **A CHILD'S WAR** **HOLA MEXICO**
	Use of ICT	Write a program to make something move on a tablet or computer screen. A program is a set of instructions written to perform a specified task on a computer.	Write a program to control a physical device, such as a light, speaker or buzzer. Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device, such as a light, speaker or buzzer.	Link a physical device to a computer or tablet so that it can be controlled (such as changing motor speed or turning an LED on and off) by a program. Equipment and devices can be controlled by pressing buttons on a control panel, such as on a washing machine or microwave. **SCREAM MACHINE**	Use a sensor to monitor an environmental variable, such as temperature, sound or light. Computer monitoring uses sensors as a scientific tool to record information about environmental changes over time. Computer monitoring can also log data from sensors and record the resulting information in a table or graph.
	Structures	Create shell or frame structures using diagonal struts to strengthen them. Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure.	Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them. A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials. Shell and frame structures can be strengthened by gluing several layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them). **TRADERS AND RAIDERS** **ROAD TRIP USA** **1066**	Build a framework using a range of materials to support mechanisms. Various methods can be used to support a framework. These include cross braces, guy ropes and diagonal struts. Frameworks can be built using lolly sticks, skewers and bamboo canes.	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. Strength can be added to a framework by using multiple layers. For example, corrugated cardboard can be placed with corrugations running alternately vertically and horizontally. Triangular shapes can be used instead of square shapes because they are more rigid. Frameworks can be further strengthened by adding an outer cover. **A CHILD'S WAR** **HOLA MEXICO**
Investigation	**Investigation**	Use tools safely for cutting and joining materials and components. Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision.	Select, name and use tools with adult supervision. Useful tools for cutting include scissors, craft knives, junior hacksaws with pistol grip and bench hooks. Useful tools for joining include glue guns. Tools should only be used with adult supervision and safety rules must be followed.	Name and select increasingly appropriate tools for a task and use them safely. There are many rules for using tools safely and these may vary depending on the tools being used. For example, someone using a chisel should chip or cut with the cutting edge pointing away from their body. All tools should be cleaned and put away after use and should not be used if they are loose or cracked. **SCREAM MACHINE** **PHARAOHS**	Select appropriate tools for a task and use them safely and precisely. Precision is important in producing a polished, finished product. Correct selection of tools and careful measurement can ensure the parts fit together correctly.
	Evaluation	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model. **SCRUMDIDDLYUMPCIOUS** **URBAN PIONEERS**	Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements. Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made. Evaluation also includes suggesting improvements and explaining why they should be made.	Test and evaluate products against a detailed design specification and make adaptations as they develop the product. Testing a product against the design criteria will highlight anything that needs improvement or redesign. Changes are often made to a design during manufacture. **SCREAM MACHINE**	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others. Design is an iterative process, meaning alterations and improvements are made continually throughout the manufacturing process. Evaluating a product while it's being manufactured, and explaining these evaluations to others, can help to refine it. **HOLA MEXICO**

			I AM WARRIOR! **TRADERS AND RAIDERS** **ROAD TRIP USA** **1066**		
Nature	**Food preparation and cooking**	Prepare and cook a simple savoury dish. Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning. **SCRUMDIDDLYUMPCIOUS**	Identify and use a range of cooking techniques to prepare a simple meal. Cooking techniques include baking, boiling, frying, grilling and roasting. **I AM WARRIOR!** **TRADERS AND RAIDERS** **ROAD TRIP USA** **1066**	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. Sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one. **SCREAM MACHINE** **PHARAOHS** **EAT THE SEASONS**	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently. Ingredients can usually be bought at supermarkets, but specialist shops may stock different items. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses. **A CHILD'S WAR** **HOLA MEXICO**
	Nutrition	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). There are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet **SCRUMDIDDLYUMPCIOUS**	Design a healthy snack or packed lunch and explain why it is healthy. Healthy snacks include fresh or dried fruit and vegetables, nuts and seeds, rice cakes with low-fat cream cheese, homemade popcorn or chopped vegetables with hummus. A healthy packed lunch might include a brown or wholemeal bread sandwich containing eggs, meat, fish or cheese, a piece of fresh fruit, a low-sugar yoghurt, rice cake or popcorn and a drink, such as water or semi-skimmed milk.	Evaluate meals and consider if they contribute towards a balanced diet. A balanced diet gives your body all the nutrients it needs to function correctly. This means eating a wide variety of foods in the correct proportions. **EAT THE SEASONS**	Plan a healthy weekly diet, justifying why each meal contributes towards a balanced diet. Eating a balanced diet is a positive lifestyle choice that should be sustained over time. Food that is high in fat, salt or sugar can still be eaten occasionally as part of a balanced diet. **A CHILD'S WAR** **HOLA MEXICO**
	Origins of food	Identify and name foods that are produced in different places. The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England. **SCRUMDIDDLYUMPCIOUS**	Identify and name foods that are produced in different places in the UK and beyond. Particular areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America.	Describe what seasonality means and explain some of the reasons why it is beneficial. Seasonality is the time of year when the harvest or flavour of a type of food is at its best. Buying seasonal food is beneficial for many reasons: the food tastes better; it is fresher because it hasn't been transported thousands of miles; the nutritional value is higher; the carbon footprint is lower, due to reduced transport; it supports local growers and is usually cheaper. **PHARAOHS** **EAT THE SEASONS** **SOW, GROW, FARM**	Explain how organic produce is grown. Organic produce is food that has been grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives. Organic farmers use crop rotation, animal and plant manures, hand-weeding and biological pest control.
Materials	**Materials for Purpose**	Plan which materials will be needed for a task and explain why. Materials for a specific task must be selected on the basis of their properties. These include physical properties as well as availability and cost. **URBAN PIONEERS**	Choose from a range of materials, showing an understanding of their different characteristics. Different materials and components have a range of properties, making them suitable for different tasks. It is important to select the correct material or component for the specific purpose, depending on the design criteria. Recipe ingredients have different tastes and appearances. They look and taste better and are cheaper when in season. **I AM WARRIOR!** **TRADERS AND RAIDERS** **ROAD TRIP USA** **1066** **MISTY MOUNTAIN, WINDING RIVER**	Select and combine materials with precision. Materials should be cut and combined with precision. For example, pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques. **OFF WITH HER HEAD** **SCREAM MACHINE** **PHARAOHS**	Choose the best materials for a task, showing an understanding of their working characteristics. It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability. **FALLEN FIELDS** **A CHILD'S WAR** **DARWINS DELIGHTS** **HOLA MEXICO**
Processes	**Electricity**	Incorporate a simple series circuit into a model. An electric circuit can be used in a model, such as a lighthouse. It can be controlled using a switch.	Incorporate circuits that use a variety of components into models or products. Components can be added to circuits to achieve a particular goal. These include bulbs	Use electrical circuits of increasing complexity in their models or products, showing an understanding of control. Electrical circuits can be controlled by a	Understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) and use programming to control their products.

			for lighthouses and torches, buzzers for burglar alarms and electronic games, motors for fairground rides and motorised vehicles and switches for lights and televisions.	simple on/off switch, or by a variable resistor that can adjust the size of the current in the circuit. Real-life examples are a dimmer switch for lights or volume control on a stereo.	Computer programs can control electrical circuits that include a variety of components, such as switches, lamps, buzzers and motors.
	Mechanisms and Movement	Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. Levers consist of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and-down motion.	Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products. Mechanisms can be used to add functionality to a model. For example, sliders or levers can be used in moving pictures, storybooks or simple puppets; linkages in moving vehicles or puppets; gears in motorised vehicles or spinning toys; pulleys in cable cars or transport systems and cams in 3-D moving toys or pictures. **1066**	Use mechanical systems in their products, such as pneumatics and hydraulics. Pneumatic systems use energy that is stored in compressed air to do work, such as inflating a balloon to open a model monster's mouth. These effects can be achieved using syringes and plastic tubing. Hydraulic mechanisms work in a similar way, but instead of air, the system is filled with a liquid, usually water. It is important that the system is air or watertight. **SCREAM MACHINE**	Explain and use mechanical systems in their products to meet a design brief. Mechanical systems can include sliders, levers, linkages, gears, pulleys and cams. Other mechanisms include pneumatics and hydraulics.
Comparison	**Compare and Contrast**	Explain the similarities and difference between the work of two designers. Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market.	Create and complete a comparison table to compare two or more products. A comparison table can be used to compare products by listing specific criteria on which each product can be judged or scored.	Survey users in a range of focus groups and compare results. A focus group is a small group of people whose reactions and opinions about a product are taken and studied. Evaluations can be made by asking product users a selection of questions to obtain data on how the product has met its design criteria.	Create a detailed comparative report about two or more products or inventions. Products and inventions can be compared using a range of criteria, such as the impact on society, ease of use, appearance and value for money.
Humankind	**Everyday products**	Explain how an existing product benefits the user. Particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box. **SCRUMDIDDLYUMPCIOUS**	Investigate and identify the design features of a familiar product. Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable. **I AM WARRIOR!** **ROAD TRIP USA** **1066** **MISTY MOUNTAIN, WINDING RIVER**	Explain how the design of a product has been influenced by the culture or society in which it was designed or made. Culture is the language, inventions, ideas and art of a group of people. A society is all the people in a community or group. Culture affects the design of some products. For example, knives and forks are used in the western world, whereas chopsticks are used mainly in China and Japan. The design of products needs to take into account the culture of the target audience. For example, colours might mean very different things in different cultures. **SCREAM MACHINE** **PHARAOHS**	Analyse how an invention or product has significantly changed or improved people's lives. People's lives have been improved in countless ways due to new inventions and designs. For example, the Morrison shelter, designed by John Baker in 1941, was an indoor air-raid shelter used in over half a million homes during the Second World War. It saved the lives of many people caught in bombing raids. **A CHILD'S WAR** **HOLA MEXICO**
	Staying safe	Use appliances safely with adult supervision. Electrical appliances must only be used under the supervision of an adult. Safety rules must also be followed when using electricity: fingers and other objects must not be put into electrical outlets, anything with a cord or plug should never be used around water and a plug should never be pulled out by its cord. **SCRUMDIDDLYUMPCIOUS**	Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray. Chemicals are used in the home every day. They include cleaning products, such as bleach and disinfectant, but also paints, glues, oils, pesticides and medicines. Most chemical products carry a hazard symbol showing in what way the chemical could be harmful. Chemicals should only be used under adult supervision. Appropriate safety precautions, such as wearing goggles and gloves, working in a well-ventilated room, wiping up spills and tying back long hair, should be taken.	Explain the functionality and purpose of safety features on a range of products. Safety features are often incorporated into products that might cause harm. Some examples include the child-safety caps on medicine bottles, seatbelts in cars, covers for electrical sockets and finger guards on doors. **SCREAM MACHINE** **EAT THE SEASONS**	Demonstrate how their products take into account the safety of the user. The safety of the user has to be taken into account when designing a new product. Methods to help keep users safe include providing clear instructions for use; clear indication of the age range for which it is designed; safety features (such as child-resistant packaging); warning symbols and electrical safety checks.
Significance	**Significant People**	Describe how key events in design and technology have shaped the world. Key inventions in design and technology have changed the way people live. **THROUGH THE AGES**	Explain how and why a significant designer or inventor shaped the world. Significant designers and inventors can shape the world. **I AM WARRIOR!**	Describe the social influence of a significant designer or inventor. Many new designs and inventions influenced society. For example, labour-saving devices in the home reduced the amount of housework, which was traditionally done by women. This enabled them to have jobs.	Present a detailed account of the significance of a favourite designer or inventor. The significance of a designer or inventor can be measured in various ways. Their work may benefit society in health, transport, communication, education, the built environment or technology. It may enhance culture in different areas, such as fashion, ceramics or computer games.

Design Technology Impact

The curriculum at Diamond Hall Academy is well planned and thought-through to enable a wide range of engagement, so to develop knowledge and skills cross the curriculum, not only within class but in providing out of class opportunities to enable children to develop themselves as learners and encourage each child to be as independent as possible. Pupil voice feedback, specific whole staff planning time and moderation during staff meetings allows the staff to regularly review and assess the impact that the curriculum is having.

Regular and robust monitoring and scrutiny by SLT and Subject leaders provide first-hand evidence of how pupils are doing and ensures that high expectation and demanding outcomes are maintained. In-school and cross-school moderation is quality assured.

We are working with NELT primary schools and Hermitage Academy, to develop, monitor and quality assure our curriculum quality and provision.

The impact of our curriculum is measured through a range of different strategies:

- Data which is produced from summative tests as well as on-going teacher assessments
- Work scrutinies
- Learning walks
- Pupil voice
- Lesson observations

Monitoring is conducted by members of the senior leadership team and subject leaders. Governors are invited to work alongside us with our monitoring.

Knowledge Organisers

Year Three: Scrumdiddlyumpcious

Scrumdiddlyumptious!

Useful food

Food gives all animals the energy they need to survive. Energy is needed to make muscles move and keeps body systems working well. It is also needed by the body to fight off illness and recover after injury.

Food groups

A food group is a collection of foods that provide similar nutrients, such as vitamins, minerals, proteins and carbohydrates.

Fruits and vegetables provide fibre to help digestion, and carbohydrates and natural sugars for energy. They also contain vitamins and minerals to keep the body healthy.

Carbohydrates provide the body with energy.

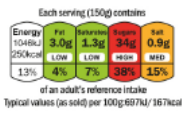
Protein from meat, fish, eggs and pulses is needed by the body for building, repairing and maintaining body tissues that make up the muscles, skin and other organs.

Dairy and alternatives contain protein, fat, vitamins and minerals, especially calcium, which is needed for healthy bones and teeth.

Oils and spreads contain fats, which are needed for energy, warmth and to protect the body's organs.

Food labelling

Food labelling tells shoppers what is inside the foods they buy. The words and colours on food labels tell the shopper whether the amounts of fat, sugars and salt are low (green), medium (amber) or high (red) and how much energy or calories the food contains.



Eatwell Guide

The Eatwell Guide shows the amounts of different foods that people need to eat for a healthy, balanced diet. Sugary and processed foods are outside the circle because people don't need to eat them as part of a balanced diet.

Nutritional packed lunch

Choosing nutritional food for a packed lunch can be tricky, especially because processed food and snacks can contain lots of fat and sugar. Choosing a variety of foods from the Eatwell Guide can help to make packed lunches healthier.

Example of a nutritional packed lunch based on the Eatwell Guide

James Lind (1716–1794)

James Lind was a ship's surgeon. He worked with sailors who were suffering from an illness called scurvy. Sailors with scurvy were tired, their joints and muscles were weak and achy and they felt irritable and miserable. Their gums bled and many lost teeth. James Lind discovered that scurvy was caused by a lack of vitamin C in their diet and eating citrus fruit containing this vitamin could cure the disease. He helped to save the lives of many sailors.

Fairtrade and farming

The food that people buy comes from all over the world. Bananas are grown in Costa Rica, the cocoa bean (used to make chocolate) is grown in Ghana and rice is grown in China. Sometimes, farmers in countries across the world get paid very little for the food they grow or rear. Fairtrade is a worldwide movement that works with farmers and supermarkets to make sure farmers get paid and treated fairly. Food and products from Fairtrade farms and producers carry the Fairtrade logo.

FAIRTRADE

Advertising food

Food adverts use different ways to encourage people to buy products. Many food manufacturers have a target audience for their products, such as children, and they create adverts that appeal to this audience.

Slogans like 'Beanz Meanz Heinz' and 'Eat fresh' are memorable and become associated with certain food products.

Promises make shoppers feel that foods are healthy or will make them happy.

Well-chosen vocabulary makes food sound tasty or healthy.

Warm colours like red and orange make people hungry.

Eye-catching pictures make food look irresistible.

Logos help shoppers to recognise products.

Glossary

calorie	A unit used to measure the amount of energy a food provides.
citrus fruit	A family of fruits that contain lots of vitamin C including oranges, grapefruits, limes and lemons.
fat	A nutrient in food that gives the body energy, keeps the body warm and protects the organs.
fibre	A type of carbohydrate found in plant-based foods that helps the digestive system to work properly.
logo	A design or symbol used by a company to advertise its products.
mineral	A nutrient in food, such as calcium, iron, potassium and zinc, which helps the body to grow, develop, stay healthy and fight illness.
nutrient	A substance that animals and plants take in so they can live and grow.
processed	Foods that have been changed during preparation. Not all processed foods are unhealthy, for example when olives are pressed to make olive oil.
slogan	A short, easily remembered phrase used to advertise a product.
sugar	A substance found naturally in some foods, such as fruit, or added to foods to make them taste sweet.
vitamin	A nutrient in food such as vitamin A, B1, B2, B3, B12 and C that helps the body to grow, develop, stay healthy or fight illness.

Year Three: Urban Pioneers

Knowledge organiser

Urban Pioneers

What is a city?

A city is a large settlement where lots of people live and work. Businesses and banks are located in the centre of a city. There are shopping districts full of shops and many restaurants, cafes and bars. Cities have good transport links so people can easily get in and out to work and shop. Train stations, bus stations and coach depots are usually in the centre of a city. Some people live in city centres, usually in flats, but many live in the residential areas surrounding cities, called suburbs.

Features of a city


cathedral

tourist office


city hall


train station


main square


shops

History of a city

Most cities developed near rivers and ports, which provided good transport links, or were close to natural resources, such as coal. Industry is often an important part of city life and different cities are known for their industries. Sheffield, in northern England, is an important centre for steel production and Stoke-on-Trent, in Staffordshire, is associated with the pottery industry. The history of a city can include major events, famous people who have lived there and important buildings and landmarks. Monuments and statues often celebrate the history of a city.

Berlin

Berlin is the capital city of Germany and home to over 3.5 million people. The city was heavily bombed during the Second World War and many buildings were destroyed. When the war ended in 1945, the city was split into four parts. In 1961, a wall was built to separate East and West Berlin. The wall was finally pulled down in 1989, making the city whole again. There are several famous landmarks in Berlin, including the Brandenburg Gate and the Reichstag Building. Berlin has an underground railway system, called the U-Bahn. It is also connected to other German cities by motorways called the Autobahn.


Berlin skyline

Urban art

Art created outside on walls and buildings is known as urban art. Graffiti is a form of urban art that is mainly made up of words, whereas some pieces of urban art include pictures too. Urban artists use spray paint to create words and pictures that usually show the feelings of the artist or give a political message. Urban art is now part of popular culture, thanks to artists such as Banksy. It is important to remember that it is illegal to create graffiti or other forms of urban art on walls or buildings without permission.

24 hours in a city

Early morning	Street lights turn off. Lorries deliver fresh produce to shops. Rush hour starts as people travel to work in cars or on public transport.
Morning	Factories, shops and businesses are busy. Schools, colleges and universities are full of students and teachers. Parks are visited by young children and parents.
Lunchtime	Workers move around the city in their lunch hour. Cafes and restaurants are crowded.
Afternoon	Parents collect children from school. Pedestrian and road traffic increases. Street entertainers perform to passers-by.
Evening	Street lights turn on to light the city at night. Roads, trains and buses are busy as people travel home from work. People visit restaurants, bars and cafes.
Late night	Roads are quieter. Hospitals and emergency vehicles are active. Workers repair and maintain roads.

Tip: Print in A3.

Lighting a city

Light sources are used in different ways in a city at night. Street lights provide light for cars and pedestrians to see where they are going. Traffic lights control the traffic and guide pedestrians safely across roads. Some important buildings, such as cathedrals, town halls and galleries, are lit up at night to make them look attractive. Illuminated advertising boards flash to gain the attention of passers-by. Pictures of Earth from space at night show brightly lit areas where cities are located.

Light from the Sun

The Sun is our main source of light. The light from the Sun contains the visible light that we can see, and also light that we cannot see, called ultraviolet. It is this ultraviolet light that causes our skin to tan but also to burn. It can also damage our eyes. Sunglasses are important to protect eyes in bright sunlight. They block out the harmful ultraviolet rays and stop them reaching and damaging our eyes. It is important never to look at the Sun directly.

Sources of light

A light source is something that gives out light. Light sources can be natural, such as the Sun, or man-made, such as electric light bulbs. Some objects also appear to give out light but are not light sources. Instead, these are reflectors of light. For example, 'cat's eyes' in the road reflect the light from car headlights. The Moon reflects the light from the Sun. High visibility safety clothing also reflects light, making cyclists and runners more visible at night.


The Sun is a light source


Cat's eyes are light reflectors

Shadows

A shadow is formed when light from a light source is blocked by an opaque object. The shadow is always formed on the side of the object furthest from the light source. The size and shape of a shadow depend on the position and size of the light source compared to the object. For example, when the Sun is low in the sky at the beginning and end of the day, shadows are long. When the Sun is overhead in the middle of the day, shadows are short.

Glossary

Brandenburg Gate	A monument in Berlin, built on the site of a former city gate.
capital city	A city that is the centre of government of a country.
depot	A building where vehicles, especially buses or coaches, are kept.
district	An area of a city or country.
industry	An activity involving the production of goods in factories.
light source	Something that produces and gives out light, such as the Sun.
monument	A building, statue or structure that is built to honour an event or person.
opaque	An object or material that can not be seen through.
pedestrian	A person who is walking rather than travelling in a vehicle.
port	A town by the sea or by a river that has a harbour.
Reichstag Building	A historic building in Berlin that was once used as a parliament building.
reflect	To send back light, heat or sound without absorbing it.
residential	An area where there are private houses, not offices and factories.
settlement	A place where people live.
urban	In, from or belonging to a town or city.

Year Four: I Am Warrior

I am Warrior

Life as a Celt

The Celts were tribespeople who lived in England and across most of Europe over 2000 years ago. In Britain, there were many tribes of Celts, each with its own king. They were often at war with other nearby tribes. Celts lived by farming, hunting and gathering. They built roundhouses made from wattle and daub with thatched roofs. Most Celts farmed the land and kept animals, but there were also skilled craftsmen and blacksmiths. They made jewellery using glass beads and pots from clay.

Recreation of a Celtic roundhouse in Dorset

Life as a Roman

The Romans invaded Britain in AD 43 under the order of Emperor Claudius. Their way of life was different from the Celts. Romans built towns protected by walls. Inside, they had houses, shops, meeting rooms, workshops and bathhouses. Romans also enjoyed entertainment and built amphitheatres for theatre performances and gladiator battles. To join towns together, Romans built roads. These made it easier for troops to move around and for goods to be traded. Some rich Romans lived in grand country houses called villas. These were large farms with a big house for the owners, with servants and farm workers.

Celtic warriors

Celtic warriors carried an iron sword and an oval, wooden shield. Some wore bronze or wooden helmets and rode into battle on horses or chariots. It is thought that both men and women were warriors. They liked to scare their enemies by painting themselves with blue dye, called woad. They would shout, beat their shields and blow horns to frighten their enemies. The Celts were not as disciplined or as organised as the Romans.

Roman warriors

The huge Roman army was divided into groups called legions. Each legion was divided into groups of 80 men called centuries. The soldiers were well trained and organised. Roman soldiers lined up for battle in a tight formation. They carried curved, wooden shields that they could overlap to form a protective shell around them called a *testudo*, meaning 'tortoise'. Soldiers carried a short sword called a *gladius*, a dagger and a spear. They wore armour and helmets made of iron. Only men could be soldiers in the Roman army.

Queen Boudicca

Boudicca refused to allow her tribe's lands to be taken over by the Romans after the death of her husband, King Prasutagus, who was the leader of the Celtic Iceni tribe. As a punishment, the Romans tied Boudicca and her daughters to a post and savagely beat them. Boudicca promised to fight back and formed an army of loyal supporters. They defeated the Roman army at Colchester and then in London. However, although Boudicca had a bigger army, her warriors were not as well trained as the Roman army. The Romans fought back hard, and Boudicca was eventually defeated. It is thought she then ended her life by drinking poison.

Gladiators

Gladiators in ancient Rome were often slaves, criminals or prisoners of war. They were trained to fight each other or wild animals for the entertainment of huge crowds. They fought in large, open-air arenas called amphitheatres. Gladiators' lives were tough. They lived in special training schools called *ludi*. The schools were more like prisons, and the gladiators had very little freedom. Once in the arena, they would often fight to their deaths.

Roman mosaic showing gladiators fighting a tiger

Spartacus

Spartacus was a gladiator who led a major slave rebellion against the Roman Republic. He escaped slavery in 73 BC and hid on Mount Vesuvius, where he formed an army of other escaped slaves. Together, they attacked and defeated the Roman army many times over the next two years. Spartacus was eventually killed, and his army was defeated by the Roman army led by Marcus Crassus.

The Death of Spartacus by Hermann Vogel, 1882

Images used from: Wikimedia Commons/Public domain

Timeline of the Roman Empire

753 BC	Rome is founded. Romulus becomes the first king.
509 BC	Rome becomes a republic ruled by elected citizens called senators rather than a king.
73–71 BC	A gladiator called Spartacus leads a revolt against the Romans.
58–51 BC	The Romans invade France, Belgium, western Germany and northern Italy and control many lands around the Mediterranean Sea.
55–54 BC	Julius Caesar tries to invade Britain twice but is beaten back by the Britons.
27 BC	Rome becomes an empire. Augustus Caesar becomes Rome's first emperor.
AD 43	The Romans invade Britain under the orders of Emperor Claudius.
AD 60	Boudicca leads the Iceni tribe in a revolt against the Romans.
AD 71–78	The Romans conquer Wales and northern England.
AD 83	The Roman army defeats the Scottish Highland tribes at the Battle of Mons Graupius.
AD 122	The building of Hadrian's Wall to defend the northern limit of the Roman Empire in northern England begins.
AD 211	Britain is split into two provinces called Britannia Superior and Britannia Inferior.
AD 250	New enemies, the Angles, Saxons and Jutes, repeatedly attack Britain.
AD 401–410	Roman soldiers leave Britain to protect other parts of the Roman Empire.

Roman numerals

The system of numbering using Roman numerals started between 900 and 800 BC. The numerals developed because the Romans needed a way to count that would be the same for everyone. This was essential for communication and trade. Roman numerals are still used today, for example after a king or queen's name, such as Henry VIII, or on a clock or watch face.

What the Romans did for us

The Romans invented or developed many things that are still used today. They designed a system of underfloor heating to keep homes warm. They developed a drainage and sewerage system. The Romans built many roads, some routes that are still used today. They also built stone forts and walls for defence, such as Hadrian's Wall and the fort at Vindolanda. Roman baths and aqueducts made of stone are still standing. The Romans brought in coins called *denarii* to buy things. The calendar we use today is based on the Roman calendar, with July and August being named after Julius Caesar and Emperor Augustus.

Ruins at Vindolanda Roman fort in England

Glossary

Britannia	The Roman name for Britain.
conquer	To take control of another country and its people, usually after a war or battle.
defeat	To win a war or battle against an enemy.
elect	To choose a person for a job by voting.
emperor	The leader of an empire.
empire	A group of countries that are ruled by one leader, king or country.
invade	To enter a country using force.
rebellion	An action against a leader or rules, especially when they are seen as unfair.
republic	A country ruled by elected people instead of a king or queen.
revolt	To refuse to be ruled or controlled by people in authority.
Roman numerals	Letters that ancient Romans used to write numbers.
tribe	A group of people, often of related families, who live together.
wattle and daub	A mixture of sticks, earth and clay used as a building material.

Images used from: Wikimedia Commons/Public domain

Year Four: Road Trip USA

Road Trip USA!

Welcome to the USA

The United States of America (US or USA) is a country on the continent of North America and is made up of 50 states. 48 states are joined together on the mainland, Alaska is found to the north-west of Canada and Hawaii is an island state in the Pacific Ocean. The capital city of the USA is Washington DC, and each state has a capital. The USA has a wide range of environments and a diverse population, including Native Americans.

New York

New York is a state in the north-eastern area of the USA and shares a border with Canada. Its capital is Albany. New York state has a varied landscape that includes three mountain ranges, many rivers, plains and lakes. The climate can experience extremes from -10°C in the winter, to warmer temperatures of 25–30°C in the summer.

New York City

New York City was the former capital of the USA and is in the south-east of New York state. It is made up of the five boroughs of Manhattan, Brooklyn, the Bronx, Queens and Staten Island. People from around the world visit New York City to experience the rich culture and enjoy its famous landmarks, such as Times Square, Central Park and the Statue of Liberty.

New York City skyline

Physical features

Grand Canyon

Old Faithful geyser

Monument Valley

Niagara Falls

Human features

Statue of Liberty

Mount Rushmore

Hoover Dam

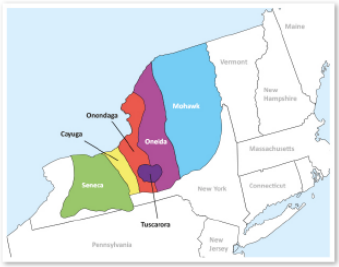
Golden Gate Bridge

Native Americans

Native Americans are the indigenous people of the USA. The Native American population began to decline when European explorers discovered the USA and created colonies. Many Native Americans lost their lives due to the spread of disease or through wars with Europeans. Many Native Americans were forced to move onto reservations as the European colonies grew in number. More recently, the US government has done more to protect the rights, culture and traditions of Native Americans.

The Iroquois

The Iroquois are a tribe of Native American people who have inhabited Ontario in Canada and parts of northern New York state for more than 4000 years. The Iroquois people originally lived near lakes and streams that provided water for drinking, fishing and a means of transportation. Today, the Iroquois are often referred to as the Haudenosaunee or Six Nations and are made up of a group that includes the Mohawk, Seneca, Oneida, Onondaga, Tuscarora and Cayuga tribes.



Iroquois Six Nations c1720 map

Road Trip USA!

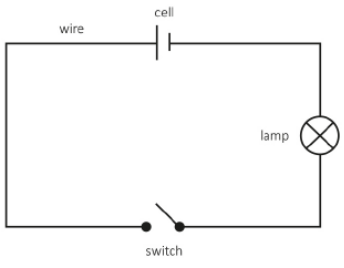
Tip: Print in A3

Iconic people from the USA

1732–1799	**George Washington** First President of the USA
1811–1896	**Harriet Beecher Stowe** Author and anti-slavery activist
1847–1931	**Thomas Edison** Inventor and businessman
1863–1947	**Henry Ford** Founder of the Ford Motor Company
1882–1945	**Franklin D Roosevelt** Longest serving US President
1895–1948	**George Herman 'Babe' Ruth** Professional US baseball player
1897–1939	**Amelia Earhart** First female pilot to fly across the Atlantic
1901–1966	**Walt Disney** Animator, voice actor and film producer
1901–1971	**Louis Armstrong** Trumpeter, composer and jazz singer
1913–2005	**Rosa Parks** Civil rights activist
1926–1962	**Marilyn Monroe** Actress, model and singer
1929–1968	**Martin Luther King Jr** Civil rights activist
1930–2012	**Neil Armstrong** Astronaut and aeronautical engineer
1935–1977	**Elvis Presley** Singer and actor
1942–2016	**Muhammad Ali** Professional boxer
1958–present	**Madonna Ciccone** Singer, songwriter, actress and businesswoman

Electricity

Electricity is a form of energy that is used to power many household appliances including kettles, toasters, televisions and computers. An electrical circuit is a loop through which electricity flows. A simple circuit is made up of a cell that provides electricity, wires through which the electric current can pass and a lamp that lights up when electricity flows through it. Electricity will only flow around the circuit when it is complete, so any breaks in the circuit will stop the flow of electricity.



A simple series circuit

Electrical conductors and insulators

Materials that allow electricity to pass through them are called electrical conductors. These include copper, aluminium, gold and silver. Materials that do not allow electricity to flow through them are called electrical insulators. These include glass, air, plastic and wood.

Glossary

borough	A town or village that governs itself.
capital	A town or city where the government of the country is based.
civil right	A right that has been given to a person by the government's laws.
climate	The typical weather for an area, region or country.
colony	An area controlled by a powerful country that is often far away.
indigenous	Occurring naturally or originating in a particular place.
landmark	A landscape feature that is easily seen and recognised from a distance.
Native American	A member of one of the groups of people who were living in America before the Europeans arrived.
physical feature	An item on a landscape that has occurred naturally.
president	A person who has the highest position in a country that does not have a king or queen.
reservation	An area of land managed by a Native American tribe.
state	A part of a large country that has its own government.
tribe	A group of people who live together and share beliefs, customs and language.

Year Four: Traders and Raiders

Traders and Raiders

Anglo-Saxons invade

During the Roman rule of Britain, tribes from Denmark and Germany attempted to invade Britain. The Romans built shore forts on the east and south coasts of England to protect themselves from invasion. After the Romans left in AD 410, three tribes called the Angles, Saxons and Jutes invaded England. They attacked and killed Britons or caused them to flee to Cornwall, Wales or Scotland. By AD 600 the invaders had claimed England as their own country and divided it into seven kingdoms. Each kingdom was ruled by an Anglo-Saxon king.

Map showing the different invasions of Britain and the Anglo-Saxon seven kingdom divide

Images from: Shutterstock editorial

Anglo-Saxon way of life

After the invasion, people in the south and east of England settled into the Anglo-Saxon way of life. The Anglo-Saxons lived in small villages of huts and farmed the land. They were great craftspeople who used metal, wood, clay and precious stones to make weapons, tools, pottery, furniture and jewellery. When the Anglo-Saxons arrived in Britain, they were pagans, which means they believed in different gods. Over time, most Anglo-Saxons converted to Christianity. They spoke Old English, which developed from the language spoken by the Angles, Saxons and Jutes. Few people could read and write.

Recreation of an Anglo-Saxon house in Suffolk

Vikings invade

The Vikings came from Denmark, Sweden and Norway. The word 'Viking' comes from the Old Norse language and means 'a pirate raid'. They first raided monasteries on the north coast of England in AD 793. Monasteries were easy targets for the Vikings, as the monks had no weapons but lots of riches. At first, the Vikings carried out violent raids, stealing precious items and burning down buildings, before returning home. However, they eventually conquered the land and took over many of the Anglo-Saxon kingdoms.

Viking way of life

The Vikings lived in large homes, called longhouses, which they shared with their animals. Longhouses were built from wood or stone with a thatched or turf roof. Many Vikings worked as farmers, growing crops and keeping animals. The Vikings were skilled craftsmen. They made strong weapons, fast ships and beautiful metalwork and wooden carvings. They also made jewellery from metal, wood and glass. Viking women were skilled at spinning wool to weave into cloth and dying fabrics. The Vikings were pagans, unlike most people living in Britain at the time, who were Christians. Gradually, the Vikings became Christians to allow them to live and trade more easily with their neighbours.

End of Anglo-Saxon rule

By AD 870, the only Anglo-Saxon kingdom left was Wessex, which was ruled from AD 871 by a wise and popular king called Alfred. The Vikings tried to invade Wessex in AD 876 and at first seemed to be succeeding but Alfred fought back. He defeated the Viking leader, Guthrum, in battle. Alfred made a deal with Guthrum to share Britain between them. However, the Anglo-Saxons and Vikings continued to fight so Alfred created an army and navy to defend Wessex from Viking troops. Other Anglo-Saxon leaders followed Alfred and their separate kingdoms started to unite. The end of Anglo-Saxon rule came in 1066 with the invasion of the Normans.

Timeline

AD 410	The Romans leave Britain.
cAD 450	Angles, Saxons and Jutes invade England and settle on the south and east coast.
cAD 450–600	The invaders claim England as their own and divide the country into seven kingdoms.
AD 685	King Ecgfrith of Northumbria loses a fierce battle to the Scottish Picts, ending Anglo-Saxon rule in Scotland.
AD 731	Bede writes about the Anglo-Saxon invasion in the *Ecclesiastical History of the English People*.
AD 785	King Offa, the Anglo-Saxon king of Mercia, builds an earth wall to protect the border between his kingdom and the Welsh kingdom of Powys.
AD 793	Vikings attack the monastery of Lindisfarne.
AD 866	Vikings capture the city of York.
AD 870	Wessex is the only remaining Anglo-Saxon kingdom.
AD 871	Alfred of Wessex becomes king of the Anglo-Saxons.
AD 886	King Alfred agrees to share Britain with the Vikings.
AD 899	King Alfred dies in Winchester.
1066	The Normans, under William, Duke of Normandy, invade from France and defeat the Anglo-Saxon King Harold II at the Battle of Hastings. This ends the Anglo-Saxon era.

Famous people

There were several notable people during this period. Much of what we know about the Anglo-Saxons comes from Bede's writing and the *Anglo-Saxon Chronicle*, which was ordered by King Alfred and distributed around monasteries.

Bede

Bede was a Christian priest who lived in a monastery in Jarrow, Northumberland. He was a great scholar and wrote many books including the *Ecclesiastical History of the English People*.

King Arthur

King Arthur was a popular king of England. He worked with his Knights of the Round Table to fight the Anglo-Saxon invaders. Historians are not sure whether King Arthur existed or not.

Alfred the Great

King Alfred is considered to be one of the greatest Englishmen of all time. He was born in AD 849. He defended his kingdom of Wessex against the Vikings, agreed to share England with the Viking leader, Guthrum, and united Anglo-Saxon leaders.

Glossary

Angle	A member of a Germanic tribe who invaded and settled in Britain in the 5th century.
Anglo-Saxon	The people who invaded and settled in Britain from the 5th century up to the Norman conquest.
conquer	To take control or possession of a place or people, by force.
Germanic	Relating to people who speak Germanic, a group of languages that include German, Swedish and English.
invade	To enter a country by force.
Jute	A member of a Germanic tribe who invaded and settled in Britain in the 5th century.
longhouse	A long, single-room building made from wood, stone, mud and turf where many Viking people lived together.
monastery	A building in which monks live and worship.
Offa's Dyke	A wall made from earth that King Offa ordered to be built to divide his kingdom of Mercia from Wales.
pagan	Belonging to a religion that worships many gods.
Saxon	A member of a Germanic tribe who invaded and settled in Britain in the 5th century.
Viking	A member of a Scandinavian tribe who invaded and settled in Britain between the 8th and 11th centuries.

Images from: Wikimedia Commons/Public domain

Year Four: 1066

1066

Britain in 1066

In 1066, Edward the Confessor was the Anglo-Saxon king of England. After his death, his brother-in-law Harold Godwinson was crowned King Harold II, although several others also claimed the right to the throne.

Potential kings

Harold Godwinson

Harold was Edward the Confessor's brother-in-law and the most powerful Saxon earl. Harold's mother was related to the former king, Cnut the Great.

William of Normandy

William was the second cousin of Edward the Confessor and the Duke of Normandy. William claimed Edward had named him as his successor.

Harald Hardrada

Harald was a fierce Viking warrior and King of Norway. He claimed he was a descendant and successor of Cnut the Great.

Edgar Ætheling

Edgar had the strongest claim to the throne. He was the grandson of a previous English king, Edmund I. However, he was in his early teens in 1066.

Battle of Hastings

Build-up to the battle

King Harold II's brother, Tostig, had gone to Norway to help the Viking king, Harald Hardrada, to take the throne of England. King Harold II's army fought against Harald Hardrada in a battle at Stamford Bridge in Yorkshire on 25th September 1066. After a long battle, King Harold II defeated Harald Hardrada. He marched his army to the south of England where William of Normandy and his troops had landed at Pevensey Bay.

During the battle

King Harold II told his men to get ready for battle on Senlac Hill, Hastings on 14th October 1066. Both sides fought a hard battle. By the early evening, the battle was over. King Harold II and his brothers had been killed.

After the battle

William was crowned King of England on Christmas Day 1066 and became known as William the Conqueror. The time of the Anglo-Saxons had ended and the Norman period began. King William took over the Saxon lands, introduced the French language and built many castles.

Bayeux Tapestry

The Bayeux Tapestry tells the story of the Norman invasion and the Battle of Hastings in 50 different scenes. It is an embroidered cloth over 70m long and 50cm wide. The tapestry shows Duke William of Normandy sailing across the English Channel with his army and horses, the Battle of Hastings and the death of King Harold II. The tapestry is on display in the Bayeux Museum in northern France.

Part of the Bayeux Tapestry showing the death of King Harold II

Castles

The Normans built motte and bailey castles all around Britain to protect their new country. These consisted of a mound of earth known as a motte, with a wooden or stone tower on top called a keep. An enclosed area at the bottom of the mound, the bailey, housed the stables, storehouses, bakeries and quarters for the soldiers. These castles were quick and cheap to build, but not very strong and they caught fire easily. The motte and bailey castles were soon replaced with stone castles. These were castles with tall, square keeps and thick walls that could hold off fierce enemy attacks.

Events of 1066

5th January	The King of England, Edward the Confessor, dies.
6th January	Harold Godwinson is crowned King Harold II.
18th September	The Viking king of Norway, Harald Hardrada, invades the north of England and tries to claim the throne.
20th September	King Harold II sends some men to confront Harald Hardrada's troops outside York. King Harold II's men are defeated at the Battle of Fulford and King Harold II himself marches north with his troops to stop the Viking invasion.
25th September	King Harold II defeats Harald Hardrada at the Battle of Stamford Bridge. Harald Hardrada is killed. King Harold II marches his exhausted army south to stop the imminent invasion by William of Normandy.
28th September	William lands on the south coast of England.
14th October	The Battle of Hastings takes place between King Harold II and William of Normandy. William wins and King Harold II is killed.
Mid-October	After the Battle of Hastings, 15-year-old Edgar Ætheling is proposed as King of England by the Witan but there is no coronation to make it official.
25th December	William of Normandy is crowned King of England. He becomes known as William the Conqueror.

Domesday Book

Between 1085 and 1086, William the Conqueror ordered a 'Great Survey' to find out who owned the land across England and parts of Wales. He also wanted to find out how much money could be raised in taxes. This information was recorded in the *Domesday Book*. Officials had to record how much land there was and the owner. The information was given to scribes and clerks who recorded it in the *Domesday Book*.

After William the Conqueror

William the Conqueror died on 9th September 1087 while fighting in France. He had decided to make his second son, William Rufus, the next King of England instead of his oldest son, Robert. Robert and his friends were not happy about the situation because they thought Robert should be king. Robert's followers led two rebellions against William Rufus over the next eight years and they were defeated both times. William Rufus died in a hunting accident in 1100 and his younger brother, Henry, became King of England.

William Rufus (c1056–1100)

Glossary

Anglo-Saxon	The Germanic people who lived in England from the 5th century up to the Norman conquest.
bailey	The open area within the outer wall of a castle containing buildings necessary for castle life.
Bayeux Tapestry	An embroidered cloth that shows the events leading up to the Norman conquest of England.
brother-in-law	The husband of your sister or the brother of your husband or wife.
castle	A large, strong building built to defend the people inside from attack.
claim to the throne	To demand to be recognised as an individual who has a right to become the next king or queen of a country.
conqueror	Someone who has successfully taken over a country or its people.
Domesday Book	A written record, ordered by William the Conqueror, showing who owned the land in England and parts of Wales.
keep	The strong, central tower of a castle, acting as a final refuge.
motte	A raised mound or area on which a wooden or stone keep is built.
Norman	Belonging or relating to the Normans, who were people from northern France.
rebellion	An action against those in authority.
Witan	The council of important and wise English noblemen summoned to advise the king.

Year Four: Misty Mountain, Winding River

Misty Mountain, Winding River

Rivers

A river is a body of water that flows downhill, usually to the sea. Rivers start in mountains or upland areas and flow downstream, collecting water from small, narrow streams, springs, rainfall or other water sources on the way to the sea.

River features

A variety of physical features can be found along the course of a river.

delta	A triangular piece of land at the mouth of a river that has formed because of a build up of sediment.
floodplain	An area of flat land next to a river that floods when the river bursts its banks.
interlocking spurs	Ridges that are formed when a river meanders around areas of harder rock.
meander	A bend in a river or stream.
oxbow lake	A curved lake that was once a meander in a river.
V-shaped valley	A deep, straight channel that has been cut into the rock by erosion.
waterfall	A cascade of water that falls from a higher level to a lower level.

River stages

The upper course

The upper course of a river is narrow. Water flows quickly over the riverbed, carrying rocks that erode the land and create steep-sided, V-shaped valleys.

The middle course

The middle course of a river grows wider and deeper as the land becomes flatter. Bends called meanders form.

The lower course

The lower course is the widest part of a river. The land is flat, and the water flows into the sea at the river's mouth.

Changing landscapes

Rivers, seas and oceans transform a landscape through erosion, deposition and transportation.

Erosion

Erosion is the wearing away and removal of rock and soil by means of wind or water.

Transportation

Transportation is when rocks and soil that have been dislodged and worn away by erosion are transported in flowing water.

Deposition

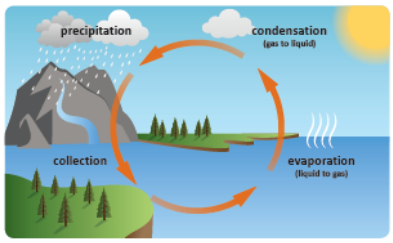
Deposition happens when flowing water slows down. Eroded rock and soil that have been transported are left behind.

Uses of rivers

Settlements have been built next to rivers for thousands of years because rivers provided essential water, food and power for people in the past. Today, rivers provide habitats for wildlife, hydroelectric power and water for crops. Rivers are also used for leisure activities, such as canoeing and fishing, and for transporting goods and people.

Water cycle

The water cycle is the journey water takes as it travels from rivers, lakes, seas and oceans into the sky and then back down to the ground. Water changes state as it goes around the cycle in four stages: evaporation, condensation, precipitation and collection.



Flooding

Flooding can happen for a wide variety of natural and human reasons, including excessive rainfall, lack of river dredging, land use and the topography of the land. Flooding can cause problems, including damaging property and equipment, contaminating farmland and cutting people off from vital services and supplies of food and water.

Mountains

A mountain is a large, raised part of the Earth's surface. A mountain's highest point is called its peak or summit. Mountains are at least 610m in height. A mountain range is a chain of mountains that are close together. They are usually arranged in a line connected by ridges.

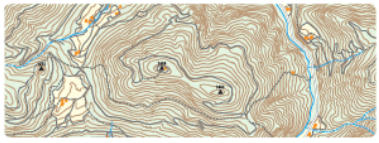
Himalayas mountain range

Altitudinal zones

In mountainous areas, there are large differences in altitude. These differences mean that the climate, landscape and oxygen levels at the bottom of a mountain can be very different from those at the top. These differences create altitudinal zones, with each zone supporting a range of different plants and animals.

Contour lines

Contour lines are used on maps to show the topography of the land. They join places of equal height and are usually labelled in intervals of 10m. If contour lines on a map are close together, the land is steep. If they are far apart, the land is flat.



contour lines

Types of mountain

Mountains can be classified according to what they look like and how they were formed.

Fold mountains form when tectonic plates collide with each other. One plate is pushed down while the other is pushed up and compressed, forming folds.

Volcanic mountains are formed when lava, ash and gases erupt and then cool. These types of mountain often have steep slopes and are symmetrical.

Fault-block mountains form at plate boundaries. The earth on one side of the boundary is forced up, and the other side collapses.

Dome mountains are the result of when magma is pushed upwards against the Earth's crust. Instead of erupting through the crust, the magma cools and hardens.

Plateau mountains are formed when land is lifted by magma below the Earth's crust. Large, flat areas of land are forced upwards, creating a plateau.

Glossary

altitude	The height of an object or point above sea level.
altitudinal zone	One layer out of many that naturally occur in mountainous regions to form a particular habitat.
collection	The process of water gathering in oceans, rivers, lakes and streams after falling as precipitation.
condensation	The process of a gas or vapour cooling down and changing state into a liquid.
contaminate	The process of making something poisonous or less pure.
dredge	The clearing of the bed of an area of water by removing mud, weeds and rubbish.
evaporation	The process of a liquid heating up and changing state into a gas or vapour.
plate boundary	The place where two tectonic plates meet.
ridge	Long, narrow sections of rocky ground that connect mountains.
sediment	Very small pieces of sand, soil and stone that form through the process of erosion.
topography	The physical appearance of an area of land, especially relating to its shape and surface.

Year Five: Pharaohs

Pharaohs

Egypt

Egypt is in the north-east corner of Africa and is well-known for its ancient history and culture. Much of Egypt is covered in desert and there is very little rain. The Nile is the main river that flows through Egypt.

A map of Egypt

Life in ancient Egypt

The Nile played an important part in the daily life of the ancient Egyptians. It provided water, food, transportation and excellent soil for growing food. The people of ancient Egypt built cities, temples, palaces and pyramids on both sides of the river and created a great civilisation. The Egyptian people were ruled by a pharaoh. Pharaohs were the richest and most powerful kings or queens and were believed to be messengers of the gods. The rest of the people were organised into a very strict hierarchical system of viziers; nobles; scribes; priests; farmers, craftspeople and soldiers; peasants and slaves.

Famous pharaohs

Khafra, c2558–2532 BC

Khafra was responsible for the building of Giza's second pyramid and his face is believed to be the model for the Great Sphinx that guards the pyramids.

Thutmose III, c1479–1425 BC

Thutmose is thought to be one of the greatest rulers of ancient Egypt. He was very young when he became king, so Hatshepsut ruled in his place until her death in 1458 BC.

Hatshepsut, c1473–1458 BC

Hatshepsut was one of Egypt's most successful female pharaohs and was responsible for the building of a temple at Deir el-Bahri.

Tutankhamun, c1336–1327 BC

Tutankhamun became pharaoh when he was only eight or nine years old and Egypt's old religion was restored during his rule.

Ramesses II, c1279–1213 BC

Ramesses had many monuments built, such as the temples at Abu Simbel and Nubia. He was also known as Ramesses the Great.

Cleopatra VII, c51–30 BC

Cleopatra was the last pharaoh of Egypt and ruled with the help of two Roman leaders, Julius Caesar and Mark Antony.

Egyptian gods

Ancient Egyptians believed that many different gods and goddesses controlled the world. They were thought to look like humans and animals and each god represented a different aspect of life in ancient Egypt. The Egyptians performed rituals and built temples to honour the gods.

Ra was the most important Egyptian god. He was the god of the Sun and was thought to be reborn every morning.

Anubis was the god of embalming and the dead. He had the head of a jackal and the body of a man.

Ma'at was the goddess of truth, justice and harmony. She symbolised the balance of life on Earth.

Tefnut was the goddess of moisture and the mother of the sky and the Earth. She had the head of a lioness.

Ra Anubis Ma'at Tefnut

Hieroglyphics

Ancient Egyptian writing is called hieroglyphics. Hieroglyphics use pictures to represent different objects, sounds, actions and ideas. Each character is known as a hieroglyph. There are more than 700 hieroglyphs. In 1799, a stone carving called the Rosetta Stone was found in Egypt. The Rosetta Stone had the same writing on it in three different languages and helped a Frenchman, Jean-François Champollion, to read hieroglyphics.

Discovery of Tutankhamun's tomb timeline

1922	
1st November	Carter and his team begin their final season working in the Valley of the Kings.
4th November	A boy carrying water for the workers discovers the steps to a tomb by accident.
5th November	Carter realises the steps lead to a royal tomb when he uncovers a special stamp.
6th November	Carter sends a telegram to Lord Carnarvon to tell him about the tomb and invites him to visit.
24th November	Lord Carnarvon and his daughter, Lady Evelyn Herbert, arrive to join Carter and his team.
25th November	The door to the tomb is removed and the team enter.
26th November	Carter enters a second doorway and discovers strange animals, statues and gold. Carter's team also discover objects that tell them about ancient Egyptian daily life in another room. They begin to remove items from the tomb. This takes seven weeks.
1923	
17th February	The team begin taking apart a third door. They discover the burial chamber of Tutankhamun.

Discovery of Tutankhamun's tomb

A wealthy Englishman, Lord Carnarvon, was interested in ancient Egypt. He paid for an archaeologist called Howard Carter and a team of workers to carry out excavations in the Valley of the Kings on the west bank of the Nile, where they discovered Tutankhamun's tomb. It took Carter and his team 10 years to remove over 3000 items from the tomb. After the discovery, a series of strange events occurred, including the death of Lord Carnarvon. Many people believed a curse had been placed on Carter's team for disturbing the tomb.

Howard Carter examining the tomb of Tutankhamun

Afterlife

One of the key beliefs in ancient Egypt was that when a person died, their spirit would live again in the afterlife. The ancient Egyptians had special rituals to prepare the body, and the dead were buried with possessions that would help them in the afterlife, such as food, drink, clothes and treasures. The pharaohs had huge tombs built to house their bodies and possessions. These tombs are the famous Pyramids of Giza that are guarded by a sphinx.

Glossary

archaeologist	A person who studies the lives of people who lived in the past.
afterlife	A world the ancient Egyptians believed they would travel to after death.
curse	A statement or warning supposed to inflict harm on someone or something.
Giza	A place in Egypt where large pyramids and the Great Sphinx were built.
hierarchy	A system where members of a society are ranked according to their status.
hieroglyphics	A method of writing used by the ancient Egyptians that used pictures to represent objects, sounds, actions and ideas.
pyramid	A huge, stone tomb built for the wealthy pharaohs of Egypt.
ritual	A fixed set of words or actions that are performed over time, usually as part of a ceremony.
Rosetta Stone	A stone with Greek and Egyptian writing on it, which helped historians to unlock and understand the code of hieroglyphics.
sphinx	A fictional creature with the body of a lion and the head of a pharaoh or god.
tomb	A stone structure or underground room where someone is buried.
Valley of the Kings	A valley in Egypt where many tombs were built.
vizier	An official who was of high importance and served the pharaoh.

Year Five: Sow, Grow and Farm

Sow, Grow and Farm

Farming in the UK

Farming is the business of growing crops and rearing livestock. Up to 70% of the land in the UK is used for farming. There are three main types of farming in the UK. These are arable, pastoral and mixed.

Arable farming is growing crops, such as cereals and vegetables.

Pastoral farming is rearing animals, such as cows and sheep.

Mixed farming is both growing crops and rearing animals.

The type of farming depends on the climate, the quality of the soil and the topography of the area. For example, the flat, nutrient-rich land in the east of England is perfect for arable farming, whereas the wet and windy hills of central Wales are most suited to pastoral sheep farming.

Allotments

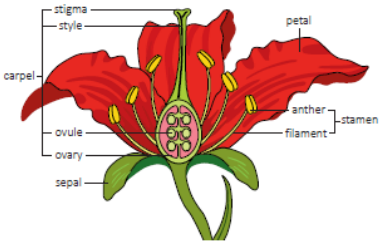
Allotments are small pieces of land that individuals can rent to use for growing fruit, vegetables and flowers. The location of allotments in the local environment depends on many factors, including soil quality, drainage, transport links, availability of water and local facilities.

During the Second World War there were food shortages and rationing. The Dig for Victory campaign encouraged people to grow fruit and vegetables on open land, increasing the number of allotments by over 70%.

Plant life cycles

Plants can reproduce in one of two ways. Firstly, by sexual reproduction where two parent plants are needed, and the offspring are genetically different to either parent. Secondly, by asexual reproduction where only one parent plant is needed, and the new plants are genetically identical to that parent. Some plants can reproduce in either way.

Flowers are needed for sexual reproduction. Flowers have both male and female parts. Pollen from the male stamen gets transferred to the female carpel in a process called pollination. Following pollination, the ovules are fertilised and seeds are produced.



Modern farming techniques

Some farmers use modern farming practices, including new machinery, technology and scientific discoveries, to produce more food. Whilst this has increased food production there have also been some negative effects on the environment.

Modern farming techniques include chemical pesticides, synthetic fertilisers and irrigation technologies.

Climate zones

The world is divided into five main climate zones. These are areas of similar average temperature and average rainfall.

The **polar zone** is cold and dry with long, dark winters. Average temperatures are 0°C to -47°C.

The **temperate zone** has warm summers, cool winters and year-round rainfall. Average temperatures are 0°C to 20°C.

The **desert zone** is hot year-round and has very little rainfall. Average temperatures are 35°C to 40°C.

The **tropical zone** has a wet season and a dry season. It is hot and humid. Average temperatures are 20°C to 30°C.

The **equatorial zone** has high humidity and heavy rainfall. It has consistent year-round temperatures of 25°C to 35°C.

North and South America

The continents of North and South America can be divided into environmental regions based on their physical features, climate and soil types. The characteristics of these environmental regions determine which type of farming will thrive in that area.

Citrus farming in California

The climate in California, on the west coast of North America, is hot and sunny in the summer and mild in the winter. The soil is fertile and well drained. This suits the growing of citrus fruits, particularly oranges. Several different types of orange are grown and sold in the United States or transported around the world.

orange grove

Coffee growing in Peru

Peru, in South America, has a cool to warm, tropical climate with frequent rainfall and rich soil. This makes ideal growing conditions for coffee. Growing and processing coffee is a difficult and time-consuming task because most of the work is still done by hand. The Fairtrade Foundation offers training to farmers to improve how they process coffee, so they can earn a better living.

coffee plant

Food miles

Consumers in the UK have come to expect that they can buy most foods all year round, regardless of the growing season. This means that some foods are transported from where they are grown to where they are eaten. The distances food travels is known as food miles. However, this movement of goods means more energy is being used to transport the food and keep it fresh, which can add to pollution and contribute to climate change.

Glossary

carpel	The female part of a flower, consisting of the stigma, style, ovary and ovules.
climate	The general weather conditions found in a place over a period of time.
fertiliser	A natural or chemical substance that is spread on the land or given to plants to make them grow successfully.
irrigation	The practice of supplying land with water so that crops and plants will grow.
livestock	Animals and birds that are kept on a farm, such as cows, sheep or chickens.
pesticide	A chemical substance used to kill animals and plants that are harmful to crops.
stamen	The male part of a flower, consisting of a thin stem, called the filament, and the anther that is covered with pollen.

Year Five: Scream Machine

Knowledge organiser

Scream Machine

Amusement rides

There are many types of amusement ride that use different forces and mechanisms.


swing ride


drop tower


pendulum ride


roller coaster


carousel


log flume

Forces

A force is a push or a pull. To make an object move, such as a roller coaster carriage, a force must be applied to the object. Nothing will move without a force pushing or pulling. Roller coaster carriages don't have engines so they rely on forces to keep them moving.

Gravity

Gravity is a force that pulls objects toward each other. On Earth, gravity pulls all objects towards its centre. On a roller coaster ride, gravity pulls the carriage faster on a downhill slope and slows the carriage down as it climbs uphill parts of the ride.

Friction

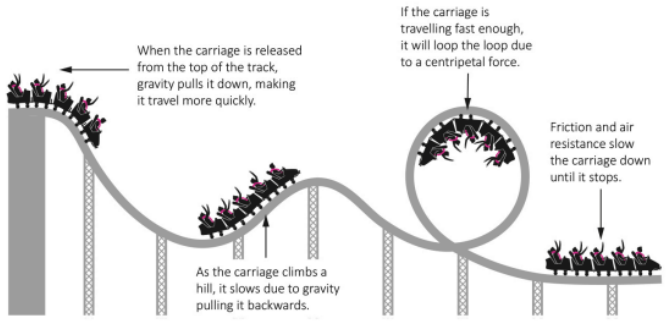
Friction is a force between two surfaces that rub together. Friction slows down a moving object and produces heat. The amount of friction depends on the types of materials that rub together. Using a smooth mat on a helter-skelter slide creates less friction than using a rough mat so the rider would travel faster.

Water and air resistance

Water and air resistance are types of friction. Water and air push against objects moving through them and slow the objects down. Many roller coaster carriages are streamlined, meaning they are designed to reduce air resistance.

Centripetal force

Centripetal force keeps an object moving in a circle at a constant speed. On a swing ride, the chains of the swings exert a centripetal force on the swing seat and the rider, keeping them travelling at a constant speed in a circle.



Tip: Print in A3.

Roller coaster design timeline

1400s	Artificial ice hills are built in Russia and people ride down them on sledges.
1700s	Owners of ice hills decide to build hills of wood so they can be used all year round. Customers ride sledges mounted on wheels.
1804	The first wheeled roller coaster, known as Russian Mountains, opens in France.
1810–40	Russian Mountain roller coasters become popular in France and faster, more exciting roller coasters are designed.
1850s	Many roller coasters are dismantled due to accidents and safety concerns.
1874	The Mauch Chunk Railway in the United States stops carrying coal from a mountaintop mine. Instead, passengers ride down the mountain.
1884	The wooden Switchback Railway ride opens in Coney Island, USA.
1895	A looping roller coaster called the Flip-Flap Railway is installed in Coney Island. Safety features like lap bars are introduced to keep riders in their seats.
1920s	Roller coaster development peaks, with rides such as the Scenic Railway at Dreamland, UK.
1940s	Amusement parks close because of material shortages during the war. Wooden roller coasters fall into disrepair.
1959	The Matterhorn Bobsled, a steel roller coaster, opens in Disneyland, California.
1970s	Nostaligic, wooden 'megacoasters' such as The Racer and The Beast are built in the USA.
1990s	New features like the inverted carriage are developed. Nemesis at Alton Towers is the first inverted roller coaster in Europe.
2010	The fastest roller coaster in the world, Formula Rossa, opens in the United Arab Emirates. It travels at 150 miles per hour.

Mechanisms

A mechanism is a part of a machine or several parts that work together to create movement.


A lever is a long, rigid arm balanced on a fulcrum. Levers are found in seesaws, wheelbarrows and crowbars.


A linkage is made up of several rigid lever arms connected by joints. Linkages are found in extending platforms, extending mirrors and diggers.


A cam mechanism is made up of three parts: a cam, slide and follower. Cams are found in car engines and steam trains.


Gears are wheels with teeth that slot together. Gears are found in wind-up toys, clocks and bicycles.


A pulley is a rope looped around one or more wheels. Pulleys are found in lifts, roller coaster rides and attached to the sails of boats.

Glossary

air resistance	A force that acts on an object when it moves through the air, causing it to slow down.
cam	A mechanism that changes one type of motion into another type of motion.
force	A push or pull that can change an object's speed, shape or direction of movement.
gear	A mechanism that is used to change the speed, force or direction of a motion.
gravity	A force that pulls things towards each other.
inverted carriage	A roller coaster carriage that sits under the rail.
linkage	A mechanism that is used to direct force or motion where it is needed.
lever	A simple mechanism that is used to move a load with less effort.
machine	A piece of equipment with moving parts that works when given power, such as electricity. Machines help people perform difficult tasks.
pendulum	A weight on a thread or stick that swings from side to side.
pulley	A mechanism that is used to lift a load with less effort.
streamlined	Designed to move more easily through air or water.

Year Five: Off With Her Head

Knowledge organiser

Off with Her Head

The Tudors

The Tudor period began when Henry Tudor defeated King Richard III at the Battle of Bosworth in 1485. This ended the Wars of the Roses. Henry Tudor became King Henry VII after the battle and married Elizabeth of York in 1486. Their youngest son, Henry, went on to become King Henry VIII. After King Henry VIII died his nine-year-old son, Edward, became king for six years. Henry's daughter, Queen Mary I, then took the throne and ruled until her death in 1558. Henry's youngest daughter then became Queen Elizabeth I. The reign of the Tudors ended with the death of Queen Elizabeth I in 1603.

Henry VIII

Henry VIII was King of England from 1509 until he died in 1547. He is mostly remembered for having six wives and for breaking away from the Roman Catholic Church and the Pope. He was only 18 when he became king and was an attractive and educated man. He was also an excellent sportsman, author and composer. Later in his life, he became overweight and had various health problems. He was known as a cruel and selfish man. During his reign, Henry founded the Church of England and expanded the Royal Navy from five ships to 60.

Henry's six wives

Catherine of Aragon (1485–1536)
Henry and Catherine were married for 24 years and had one daughter, Mary. Their marriage was annulled in 1533 after Henry broke away from the Roman Catholic Church.

Anne Boleyn (c1501–1536)
Henry married Anne in 1533 and their daughter, Elizabeth, was born later that year. Anne was accused of treason and beheaded at the Tower of London in 1536.

Jane Seymour (1508–1537)
Henry married Jane Seymour three weeks after Anne was beheaded. Jane died 12 days after giving birth to their son, Edward.

Anne of Cleves (1515–1557)
Henry was persuaded to marry Anne after seeing her portrait. They married in 1540 but divorced after six months.

Catherine Howard (1521–1542)
Catherine Howard was a teenager when she married the 49-year-old king. Within two years, she was beheaded for treason.

Catherine Parr (1512–1548)
Henry married his last wife, Catherine Parr, in 1543. She looked after Henry until he died.

Henry's 'Great Matter'

In 1527, Henry decided he needed a divorce from Catherine of Aragon so that he could marry her young lady-in-waiting, Anne Boleyn. The only way to divorce Catherine was to break away from the Roman Catholic Church. This became known as the 'Great Matter'. Thomas Cromwell, the king's chief advisor, helped Henry to break away from the Roman Catholic Church and persuaded parliament to make Henry the Head of the Church of England. This led to a period called the Reformation, where the Roman Catholic abbeys, monasteries and convents were closed, with all the money going to the king.

Anne Boleyn

Anne Boleyn was one of Catherine of Aragon's ladies-in-waiting. Henry married Anne in January 1533 after his divorce. Anne gave birth to a daughter, Elizabeth, in September 1533. Henry was disappointed not to have a son and blamed Anne. He decided to marry Jane Seymour and looked for ways to end his marriage to Anne. She was accused of being unfaithful to him, convicted and imprisoned in the Tower of London. On 19th May 1536, Anne was executed. Even though Henry VIII had sentenced her to death, she used her final moments to praise him:

'...a gentler nor a more merciful prince was there never: and to me he was ever a good, a gentle and sovereign lord.'

Off with Her Head

Tip: Print in A3.

Henry VIII timeline

1491	**28th June** Henry Tudor, later King Henry VIII, is born to King Henry VII and Elizabeth of York.
1502	**2nd April** Arthur, Henry's brother, dies aged 15.
1509	**21st April** Henry VII, dies. Henry VIII becomes king. **11th June** Henry marries Catherine of Aragon, his brother's widow.
1516	**18th February** Princess Mary is born to Catherine of Aragon.
1533	After seven years, Henry breaks away from the Pope and the Roman Catholic Church so that his marriage to Catherine of Aragon can be annulled. **25th January** Henry marries Anne Boleyn. **7th September** Princess Elizabeth is born to Anne Boleyn.
1534	**3rd November** Henry becomes Head of the Church of England.
1536	Roman Catholic monasteries, abbeys and convents are closed during the Dissolution of the Monasteries. **19th May** Anne Boleyn is executed for treason. **30th May** Henry marries Jane Seymour.
1537	**12th October** Prince Edward is born to Jane Seymour. Jane dies 12 days later.
1540	**6th January** Henry marries Anne of Cleves. The marriage lasts six months. **28th July** Henry marries Catherine Howard.
1542	**13th February** Catherine Howard is executed.
1543	**12th July** Henry marries Catherine Parr.
1547	**28th January** King Henry VIII dies, aged 55.

Life at court

Henry VIII had over 60 homes and his favourite was Hampton Court Palace. Henry enjoyed showing off his wealth at court. It became a centre for his favourite things, including art, music, dance, poetry and tournaments. The richest and most important people in the country also lived at court. To show their wealth and impress the king, the courtiers wore expensive clothes made of silk, velvet and lace. They had to please the king, give him expensive gifts and flatter him. If they displeased him, they would be severely punished or even executed.

Hampton Court Palace

Hans Holbein

Holbein was a German artist and portrait painter. He travelled to England in 1532 with the backing of Anne Boleyn and Thomas Cromwell. In 1535, he became the King's Painter. Holbein painted many portraits of the royal family and the nobles. He was also asked to paint a picture of Anne of Cleves so Henry could decide if he wanted to marry her. Henry liked the portrait but the marriage only lasted six months because Anne didn't look as beautiful in real life as she did in her portrait.

Anne of Cleves by Hans Holbein

Glossary

annulment	A legal procedure in which something is no longer legally binding.
Christianity	A religion based on the Bible, the belief in God and the person and teachings of Jesus Christ.
Church of England	A Protestant branch of Christianity created by Henry VIII.
divorce	A legal or official process to end a marriage.
English Reformation	The breaking away of the Church of England from the authority of the Pope and the Roman Catholic Church during the 16th century.
Protestantism	The beliefs and activities of the Christian Church that separated from the Roman Catholic Church in the 16th century.
reign	The period that a monarch rules.
Roman Catholicism	The beliefs and activities of the Roman Catholic Church, a branch of Christianity headed by the Pope.
Tower of London	A fortress in London used for many purposes, including a prison and execution ground.
treason	The crime of betraying your country and going against the ruler or government.
Tudor	Relating to the Tudor line of rulers who held the throne from 1485 until 1603.
Wars of the Roses	A series of wars between the House of Lancaster and the House of York for control of the throne of England.

Year Six: Hola Mexico!

Hola Mexico!

This is Mexico!

Mexico is located in the south of the continent of North America. It has a diverse landscape that includes mountains, rainforests and deserts. This means that its climate is also very varied and there are a wide range of plants and animals found there, including many types of cacti and over 700 species of reptile. Some people live in rural communities and others live in large cities. Mexico City is the capital of Mexico. It is home to nearly nine million people, with a vibrant, diverse population and a rich cultural heritage.

Mexico City and the Popocatépetl volcano

Chihuahuan Desert

The Chihuahuan Desert is one of the largest in North America. It covers parts of Texas, New Mexico, Arizona and Mexico. Winters are cool and summers are extremely hot. There is very little rainfall, but the Rio Grande River runs through the desert and provides water for the animals, plants and people who live there. The Chihuahuan Desert is said to have more species of cacti than any other desert. Shrubs and cacti, such as Mormon tea and prickly pear, are found in the desert. There are many different animals, such as the pronghorn antelope and kit fox, that thrive in the desert.

Festivals and celebrations

Mexican people celebrate many different festivals and special days across the year. They are a central part of Mexican culture and may involve music, food, dancing and special clothes.

Dia de la Independencia (Independence Day)

This festival celebrates the start of Mexico's fight for independence from Spain in 1810. On 15th September, the President of Mexico rings a bell in the National Palace in Mexico City then shouts, 'Viva Mexico!' from the balcony. The Mexican flag is waved, and people sing the national anthem. The following day, banks, schools, offices and many businesses close and there are parties and parades for everyone to enjoy.

Dia de los Muertos (Day of the Dead)

This festival takes place during the first two days of November. It is a positive celebration to remember loved ones who have died. Families set up brightly decorated altars with photographs of the deceased. Relatives place their loved ones' favourite foods on altars and skeleton costumes and skull decorations are popular.

Fiesta de Santa Cecilia (Festival of Saint Cecilia)

Mexicans celebrate Saint Cecilia, the patron saint of musicians, on 22nd November. Musicians take part in open-air concerts and people celebrate with food and drink. Over 500 musicians perform a song called *Las Mañanitas* that is dedicated to Saint Cecilia.

Food

Food plays an important part in Mexican culture. Many Mexican foods can be traced back thousands of years to the Aztecs or Maya and some contain flavours from other countries, including Spain. Traditional Mexican foods include chocolate, corn tortillas, avocados and beans. Popular Mexican dishes may contain a mixture of these ingredients, such as enchiladas, guacamole or churros with chocolate.

Music

Music and dance are essential to the culture of Mexico. Each region of Mexico has traditional dances that are accompanied by music and feature colourful costumes. One well-known type of music is mariachi, which is performed by a group of musicians playing violins, trumpets and guitars. A traditional Mexican song is *La Cucaracha*, which means 'The cockroach'.

Maya

The Maya were a group of indigenous people who lived in Mexico and other parts of Central America over 3000 years ago. The Maya were experts in farming, pottery, writing and maths. Around AD 900, the Maya civilisation began to decline, and the people moved into small villages, rather than staying in the great cities they had built. There are still some Maya people today who follow the lifestyle, language and traditions of the ancient Maya.

Maya calendar

The Maya created a calendar that was based on their understanding of maths and astronomy. It was highly complex and used three different calendars to record the days, months and years.

Maya ball game

The Maya played a ball game called *ulama* on a long, stone-lined court. Teams would compete to get a large, rubber ball through a stone ring using their knees, elbows or hips. The leader of the losing team was killed after the game.

El Castillo

El Castillo is a Maya temple in Chichén Itzá. During the spring and autumn equinox, the Sun casts a shadow that slithers down the steps of the temple like a snake.

El Castillo in Chichén Itzá, Mexico

Maya timeline

3114 BC	The Maya calendar begins.
1000 BC	Maya settlements develop.
750 BC	Large stone structures are built in Maya cities.
600 BC	The Maya create a settlement at Tikal that later becomes a major city.
300 BC	The Maya begin to use a monarchy government and develop a writing system known as glyphs.
100 BC	The largest known ancient city in the Americas, Teotihuacan, is founded in the Valley of Mexico.
250 AD	The Maya become one of the most significant civilisations. They dominate Central America.
900 AD	The Maya civilisation begins to mysteriously decline. People begin to live in smaller villages and abandon the great Maya cities.
1200	The Maya abandon their northern cities.
1400	The surviving Maya suffer a period of warfare, natural disasters and disease.
1500	Spanish explorers take land and wealth from the remaining Maya.

Glossary

civilisation	A well-organised and developed society.
climate	The weather in a particular place over a period of time.
culture	The lifestyle of a group of people or a society.
diverse	Very varied or different.
equinox	A time when the length of the day and night are the same.
festival	A celebration or special event held to mark a particular occasion.
heritage	Traditions, languages or buildings from the past that are important to a particular society.
indigenous	People, plants or animals that originated in a place.
landscape	A large area of land.
patron saint	A holy person who is specially chosen as a protector over a person, place, object or activity.
region	A geographical area with its own unique features or characteristics.
tradition	An activity, custom or belief that people have continued to follow for a long time.

Year Six: A Child's War

A Child's War

The Second World War

The Second World War lasted from 1939 to 1945. On one side were the Axis Powers (including Germany, Italy and Japan). On the other side were the Allied Powers (including Britain, France, the Soviet Union and the USA). After six years of fighting, the Allied Powers won. Children, as well as adults, were affected by the war.

Key leaders

Allied leaders


Winston Churchill
Prime Minister of Great Britain


Charles de Gaulle
President of France


Joseph Stalin
Leader of the Soviet Union


Franklin D Roosevelt
President of the United States

Axis leaders


Adolf Hitler
Leader of Germany


Benito Mussolini
Prime Minister of Italy


Michinomiya Hirohito
Emperor of Japan

Evacuation

During the war, German planes dropped bombs on British cities in an attempt to destroy factories, dockyards and airfields but homes and schools were also hit. The government decided to evacuate children from the cities, where they might be in danger, to the countryside where they would be safer. Children who were evacuated were called evacuees. They went to live with other families who looked after them until the war ended.

The Blitz

The intense and sudden bombing of British cities was called the Blitz. Sirens were sounded in the streets to warn civilians that bombers were coming. To escape the bombs, people went into air raid shelters. Weeks of sustained bombing raids killed thousands of people and destroyed many homes and cities.

Air raid shelters

Many people built air raid shelters, called Anderson shelters, in their gardens. These were made from corrugated steel panels with soil spread over the top. Some people, who didn't have gardens, made a Morrison shelter inside their homes. This shelter looked like a steel table with wire mesh around the sides.

Propaganda

Posters, radio, films and newspapers were used during the war to keep up people's spirits, celebrate Allied victories and make fun of the enemy. This was called propaganda. Propaganda was also used to persuade people to do what the government wanted, such as carry a gas mask, grow vegetables, make or mend clothes and evacuate children from the cities to the countryside.

Food and rationing

During the war, there was a shortage of some foods because ships bringing food into Britain were at risk of sinking by German submarines. Rationing was introduced in 1940, which meant that each person could only buy fixed amounts of certain foods each week. Every person was issued with a ration book, and they had to hand over coupons from their ration book, as well as money, when they went shopping. Many foods were rationed, such as butter, bacon, sugar, meat, cheese and milk, but some were not, including potatoes and fish. People were encouraged to grow their own vegetables through the 'Dig for Victory' campaign.

Battle of Britain

The Battle of Britain started in July 1940 and lasted for many months. The German air force bombed Britain in an attempt to destroy Britain's Royal Air Force so they could prepare to invade Britain by sea. However, the Royal Air Force shot down many German planes and stopped Hitler's planned invasion of Britain.

Spitfires were used in the Battle of Britain

Second World War timeline

Before the Second World War

1934 **19th August** Adolf Hitler, the leader of the Nazi party, becomes the leader of Germany.

1936 **March** German troops break the Treaty of Versailles when they occupy the Rhineland.

1938 **12th March** Austria becomes part the German Empire, which is known as the Third Reich.

During the Second World War

1939 **1st September** The Second World War begins when Germany invades Poland.

September In the first three days of evacuation, 1.5 million children and vulnerable adults leave British cities.

1940 **8th January** Rationing starts.

10th July–31st October The Battle of Britain takes place.

7th September The Blitz begins.

1941 **10th May** The Blitz ends.

7th December Japanese planes bomb the American naval base at Pearl Harbour in Hawaii, leading to the United States entering the war.

1944 **6th June** Allied troops land in Normandy, France to free western Europe from German control (D Day).

1945 **January** Allied forces begin to free prisoners of war from German concentration camps.

30th April Adolf Hitler commits suicide.

8th May Germany surrenders. The Second World War in Europe ends (Victory in Europe Day).

26th July Clement Attlee replaces Winston Churchill as Prime Minister of Great Britain.

15th August Japan surrenders (Victory over Japan Day). The Second World War ends.

After the Second World War

1945 **24th October** The United Nations is created to make sure a world war doesn't happen again.

1954 **4th July** Rationing ends in Britain.

Anne Frank

Anne was a German Jew who wrote a diary about her experiences during the war. When the Nazis gained control over Germany, Jews were persecuted and transported to concentration camps, so Anne moved with her family to Amsterdam in the Netherlands. When the Germans then invaded the Netherlands, Anne and her family went into hiding in a concealed room in her father's work building. Her famous diary tells her story while in hiding.

Glossary

Allied Powers	Countries (including Britain, France, the Soviet Union and the USA) that united to fight the Axis Powers.
Axis Powers	Countries (including Germany, Italy and Japan) that united to fight against the Allied Powers.
civilian	A person who was not in the police or armed forces.
concentration camp	A place where large numbers of people, especially Jews, were held and often killed.
evacuee	A child or vulnerable adult who was sent away from a city to live in the countryside, which was considered safer.
invade	To enter or occupy a country by force.
Nazi	A follower of Adolf Hitler, leader of the Nazi party.
persecute	To treat someone cruelly or unfairly.
propaganda	Biased news, media and communication, used to influence people's opinions.
rationing	The limited supply of food, clothes and other goods to prevent shortages.
Rhineland	An area of western Germany that runs along the River Rhine.
Treaty of Versailles	A peace treaty signed in 1919 that punished Germany for the First World War.

Year Six: Fallen Fields

Knowledge organiser

Fallen Fields

First World War 1914–1918

Before the war

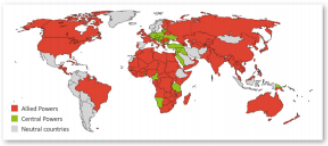
In the early 1900s, Britain was one of the world's most powerful nations and had a large empire. British politicians wanted to avoid war and there had been a period of peace in Europe. However, Germany was becoming a cause for concern, ruled by an ambitious **kaiser** who was envious of Britain's military strength.

Causes of war

The First World War started after the **assassination** of Archduke Franz Ferdinand in Sarajevo on 28th June 1914. However, other factors, including **imperialism, nationalism, militarism and alliances** between countries, also contributed towards war breaking out.

Warring countries

The war was fought between two groups: the **Central Powers** (Germany, Austria-Hungary, Bulgaria and the Ottoman Empire) and the **Allied Powers** (Serbia, Russia, France, Great Britain, Italy, Belgium and the United States of America). The USA joined the Allies in 1917. Some countries remained neutral during the war.



Becoming a soldier

When war broke out, the army needed soldiers. Initially, men did not have to fight but were persuaded to join by **propaganda**. Later on, **conscription** was introduced meaning that men aged 18–41 had to join the army. Hundreds of thousands of men were sent to battlefields in places such as northern France and Belgium.

Life in the trenches

Soldiers on both sides dug deep, narrow ditches called **trenches** in the ground to hide from enemy attack. Soldiers lived in the trenches for weeks at a time and thousands were killed in battle. Trench conditions were terrible. They were smelly, muddy and infested with lice and rats. The soldiers did not get much sleep and were woken to complete daily chores or fight. During rest time, soldiers wrote letters and sometimes played card games.

Weapons and technology

During the First World War, both sides used a combination of weapons such as **artillery**, poison gas, tanks and aircraft. Some of these, like poison gas and tanks, were newly-invented and being used for the first time. Poison gas was one of the most feared weapons of the war and was fired into the trenches inside shells. Its effects included vomiting, sore eyes, blistering skin and internal and external bleeding.

Life on the home front

The war changed people's lives at home in Britain. **Rationing**, bombing and strikes by discontented workers made life difficult for people living on the **home front**. New jobs were created to help with the war effort, including jobs for women that had previously been done by men, such as working in **munitions** factories. Children were also expected to help with the war effort by doing jobs around the home. Some men refused to fight for moral reasons. They were known as conscientious objectors and were often treated harshly.

The end of the war

The war ended in 1918 at 11 am on the eleventh day of the eleventh month. Germany signed an **armistice**, an agreement for peace, that had been prepared by Britain and France. The Allies celebrated the end of the war, and in London, a huge crowd gathered in Trafalgar Square. On the 28th June 1919, exactly five years after the assassination of Archduke Franz Ferdinand, Germany and the Allied Powers signed a peace treaty called the Treaty of Versailles.

Remembrance

The poppy is a symbol of remembrance. During the First World War, poppies grew on barren land such as old battlefields. A Canadian doctor called Lt Col John McCrae was inspired by the sight of the poppies to write a famous poem called *In Flanders Fields* after his friend died at Ypres. After the war, the poppy became an official symbol of remembrance.

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First World War timeline

1914	
28th June	Archduke Franz Ferdinand is assassinated in Sarajevo
28th July	Austria-Hungary declares war on Serbia and Russia mobilises its troops
4th August	Germany invades Belgium and Britain declares war on Germany
6th–10th September	First Battle of Marne
19th October – 22nd November	First Battle of Ypres
24th–25th December	Christmas truce
1915	
17th February	Battle of Gallipoli begins
22nd April	German forces launch their first gas attack near Ypres, Belgium
7th May	A German submarine sinks the British passenger ship, RMS *Lusitania*
31st May	London suffers first German Zeppelin attack
1916	
9th January	Battle of Gallipoli ends
21st February – 18th December	Battle of Verdun
2nd March	Conscription for unmarried men aged 18–41 is introduced in Britain
25th May	Conscription for married men aged 18–41 is introduced in Britain
31st May – 1st June	Battle of Jutland
1st July – 18th November	Battle of the Somme
15th September	Britain deploys the first ever tank used in warfare
7th December	David Lloyd George becomes the British prime minister
1917	
6th April	USA joins the war to support the Allies
17th July	The Royal Family change their surname to Windsor to appear more British
31st July – 10th November	Third Battle of Ypres, also known as the Battle of Passchendaele
1918	
January	Compulsory food rationing is introduced in stages in Britain
1st April	The Royal Air Force (RAF) is formed in Britain
8th – 11th August	Battle of Amiens
August	Allies force the German army to retreat
9th November	Kaiser Wilhelm II abdicates as ruler of Germany
11th November	Armistice is signed between France, Britain and Germany
1919	
28th June	Treaty of Versailles is signed, formally ending the war

Glossary

alliances	Groups of countries that promise to protect and support each other.
Allied Powers	Also referred to as the Allies. Serbia, Russia, France, Great Britain, Italy, Belgium and the USA.
armistice	An agreement made by both sides in a war to stop fighting for a certain time.
artillery	Large, heavy guns used in land warfare.
assassination	The killing of a prominent person, often for political or religious reasons.
Central Powers	Germany, Austria-Hungary, Bulgaria and the Ottoman Empire.
conscription	Compulsory enlistment for state service, typically into the armed forces.
home front	The everyday life and activities of civilians living in a country at war.
imperialism	A desire to conquer other countries through colonisation, use of military force, or other means.
kaiser	The German emperor.
militarism	The belief that it is important to have strong armed forces and that they should be used to gain land and political power.
munitions	Military weapons, ammunition, equipment and stores.
nationalism	The belief that a person's home country is better and stronger than others.
propaganda	Information, especially biased or misleading, used to promote a political cause or point of view.
rationing	A system allowing each person to have only a fixed amount of food.
trenches	Long tunnels dug into the ground to protect soldiers from attack.

Year Six: Darwin's Delights

Knowledge organiser

Darwin's Delights

Charles Darwin

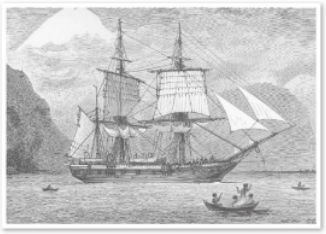
Charles Darwin (1809–1882) was an expert in natural history who put forward a theory of evolution by natural selection. He went on a famous sea voyage in 1831 on a ship called HMS *Beagle* and visited many places around the world, collecting animal and plant samples. The observations he made led him to his theory of evolution. When Darwin's book *On the Origin of Species by Means of Natural Selection* was published in 1859, some religious people were very shocked that he was suggesting animals and humans shared a common ancestry.

Darwin's investigations

Darwin was fascinated by the natural world and spent much of his time recording his observations and setting up experiments. During his time in the Galápagos Islands, Darwin made detailed observations about the finches, tortoises and mockingbirds he saw there. While living in Down House in Kent, Darwin continued his experiments in his 'outdoor laboratory' discovering much about plant growth, earthworm behaviour and bumblebee flight.

Route of HMS *Beagle*

On 27th December 1831, HMS *Beagle* set sail from Plymouth Harbour. It carried a crew of 73 men, including Captain Robert FitzRoy and Charles Darwin. It travelled across the Atlantic Ocean to South America where it stopped frequently, allowing Darwin to gather specimens. After spending five weeks in the Galápagos Islands, HMS *Beagle* travelled across the Pacific Ocean to New Zealand and Australia. The ship eventually arrived back in England on 2nd October 1836.

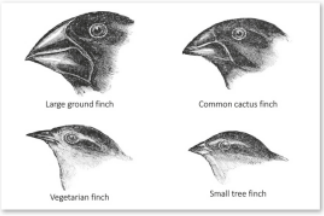


Galápagos Islands

The volcanic Galápagos islands lie 1000 km off the west coast of Ecuador in South America. There are 13 main islands, with several smaller islands and rocks. Darwin noticed that many species of animal, including land and marine iguanas, the blue-footed booby and the flightless cormorant, were only found on these islands. Darwin also noticed several different species of finch that all lived on the Galápagos Islands. Each had developed a different type of beak that best suited their diet.

Theory of natural selection

After studying the animals from the Galápagos Islands, Charles Darwin came up with the idea that animals evolve due to having the characteristics that make them best suited to their environment. He called this 'the survival of the fittest' or 'natural selection'. His idea was that in any environment, living things from the same species show natural differences in their characteristics. Darwin suggested that the living things that were best suited to their environment were most likely to survive and pass on their characteristics to their offspring. Over a long period of time, these characteristics can be seen in every animal.



Gregor Mendel

Gregor Mendel was an Austrian monk. In 1845, while working in the monastery garden, he experimented with pea plants. He discovered that particular features of each plant were passed on to their offspring. This supported Darwin's idea that characteristics were passed on from one generation to the next. Mendel put forward the idea that an offspring receives one unit of inheritance from each parent. These units are called genes, and Gregor Mendel became known as the father of genetics.

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Darwin's timeline

1809	Born in Shrewsbury, Shropshire.
1825	Attends University of Edinburgh Medical School but fails to become a doctor.
1827	Attends Cambridge University in the hope of becoming an Anglican priest.
1831	Sets sail on HMS *Beagle* for a voyage around the world.
1835	Visits the Galápagos Islands, where he observes many species of plants and animals.
1836	Returns to England on HMS *Beagle*.
1839	**January** Elected a Fellow of the Royal Society, a group of the world's leading scientists. **May** Publishes an account of his travels and discoveries on HMS *Beagle*.
1842	Moves to Down House in Kent, where many of his observations and experiments are carried out.
1859	Publishes his theory of evolution in *On the Origin of Species by Means of Natural Selection*.
1871	Publishes *The Descent of Man* that describes the evolution of humans.
1872	Publishes *The Expression of the Emotions in Man and Animals* that explains how humans and animals express their feelings in similar ways.
1882	Dies at Down House and is later buried in Westminster Abbey.

Fossils

The only way information can be obtained about evolution and animals and plants that are now extinct, is to examine fossils. Fossils are the preserved remains or traces of ancient plants and animals. They develop over millions of years, as the soft tissues of a dead animal or plant are slowly replaced with minerals from underground water. These minerals gradually harden to stone and the mud and sand surrounding the body slowly turn to rock.

Mary Anning

Mary Anning (1799–1847) was an English fossil collector. She lived in Lyme Regis in Dorset, in an area known as the Jurassic Coast. Mary spent much of her time collecting fossils along the beach. Although she had very little formal education, she worked hard and taught herself about fossils. She became an expert at removing fossilised bones from rock to reconstruct skeletons. She made many important finds, including *Plesiosaur* skeletons, which contributed to the early development of palaeontology, the study of fossils.

Plesiosaurus skeleton

Glossary

adaptation	A characteristic of a living thing that makes it suited to its environment.
ancestry	The line of relatives from which someone is descended.
evolution	The process by which living things gradually change over time.
extinct	An animal or plant species that has died out and is no longer present in the world population, such as dinosaurs.
fossil	The remains of a once-living organism preserved as rock.
inheritance	The process of passing on characteristics, such as eye colour, from parents to their offspring.
naturalist	A person who studies the natural world.
natural selection	The process where organisms that are most suited to their environment are more likely to reproduce, and in doing so, pass on these adaptations to the next generation.
natural world	The animals and plants that exist in nature and are not made or caused by people.
species	A group of organisms that have common characteristics and can breed.
variation	Natural differences between living things in a species.