

Year Group: 6	Term: Spring 1	Unit Title: Explorers	
	<p>Enquiry: Who do you think is the most influential explorer? Support your answer with evidence and reasoning in the form of a website.</p>	<p>Driver Subject/s: Science with history and geography</p>	
<p><b>Geography:</b></p> <ul style="list-style-type: none"> <li>The points of a <b>compass</b></li> </ul> <p><u>Longitude and Latitude</u></p> <ul style="list-style-type: none"> <li><b>Latitude</b> lines run around the earth east to west.</li> <li>These lines are the same distance apart from each other.</li> <li><b>Longitude</b> lines run over the top of the earth north to south.</li> <li>These lines are not equally distant from each other.</li> <li>These lines are used to give the specific location of anywhere in the world using <b>coordinates</b>.</li> </ul> <p><u>Time Zones</u></p> <ul style="list-style-type: none"> <li>The <b>Prime Meridian</b> line divides the earth into the eastern and western <b>hemisphere</b>.</li> <li>It passes through the Royal <b>Observatory in Greenwich</b>, England.</li> <li>All time zones start here - <b>Greenwich Mean Time (GMT)</b>.</li> <li>There are 24 different <b>time zones</b> – one for each hour in the day.</li> <li>From GMT to the east = +1 hour for every time zone.</li> <li>From GMT to the west = -1 hour for every time zone.</li> <li>The International Date Line is on the opposite side of the world from the PM.</li> <li>When it is noon at the <b>Prime Meridian</b>, it is midnight along the International Date Line. This is where midnight occurs first across the globe.</li> </ul> <p><u>Who was John Cabot?</u></p> <ul style="list-style-type: none"> <li>John Cabot (or Giovanni Caboto) was a Venetian navigator and explorer who, in 1497, sailed from Bristol in his ship <i>The Matthew</i>. He headed west to discover Canada which he claimed for Henry VII. This was the first European exploration of the coastal area of North America since the Norse exploration in the eleventh century.</li> </ul> <p><u>Famous explorers from the period of exploration:</u></p> <p>Research some of the world's famous geographical explorers e.g. Cook, Columbus, Battuta etc.</p> <p><b>Science:</b></p> <p><u>Evolution and adaptation</u></p> <ul style="list-style-type: none"> <li>Animals and plants produce <b>offspring</b> that are similar but not identical to them. Offspring often look like their parents because their features are passed on. These are <b>inherited traits</b>.</li> </ul> <p><u>What is evolution?</u></p> <ul style="list-style-type: none"> <li><b>Evolution</b> is a process of change that takes place over many <b>generations</b>, during which <b>species</b> of animals, plants, or insects slowly change some of their physical characteristics. This is because offspring are not identical to their parents.</li> </ul>	<ul style="list-style-type: none"> <li>It occurs when there is competition to survive. This is called <b>natural selection</b>.</li> <li>Difference within a <b>species</b> (for example between parents and <b>offspring</b>) can be caused by <b>inheritance</b> and <b>mutations</b>.</li> <li><b>Inheritance</b> is when <b>characteristics</b> are passed on from <b>generation</b> to the next.</li> <li><b>Mutations in characteristics</b> are not <b>inherited</b> from the parents and appear as new <b>characteristics</b>.</li> </ul> <p><u>How do we know about evolution?</u></p> <ul style="list-style-type: none"> <li>Evidence of evolution comes from fossils - when these are compared to living creatures from today, <b>palaeontologists</b> can compare similarities and differences.</li> <li>Other evidence comes from living things - comparisons of some species may reveal common ancestors.</li> </ul> <p><u>What is adaptation?</u></p> <ul style="list-style-type: none"> <li><b>Adaptation</b> is when animals and plants have <b>evolved</b> so that they have <b>adapted</b> to survive in their environments. For example, polar bears have a thick layer of blubber under their fur to survive the cold, harsh environment of the Arctic while giraffes have long necks to reach the leaves on trees.</li> <li>Some environments provide challenges yet some animals and plants have adapted to survive there. These are <b>adaptive traits</b>.</li> <li>Sometimes <b>adaptations</b> can be disadvantageous. One example of this can be the dodo, which became extinct as it lost its ability to fly through <b>evolution</b>. Flying was unnecessary for the dodo as it had lived for so many years without predators, until its native island became inhabited.</li> </ul> <p><u>Who was Charles Darwin and why is he famous?</u></p> <ul style="list-style-type: none"> <li>Charles Darwin, an evolutionary scientist, studied different animal and plant <b>species</b>, which allowed him to see how <b>adaptations</b> could come about. His work on the finches was some of his most famous.</li> <li>Locate the Galapagos Islands and map the journey of the Beagle.</li> <li>Darwin questioned how plants and animals change over long periods of time. His observations and ideas became known as the theory of evolution.</li> <li>In 1859 he published his ideas on natural selection in a book called, <i>On the Origin of Species</i>.</li> </ul> <p><u>Classification</u></p> <ul style="list-style-type: none"> <li>describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</li> </ul> <p><u>Who was Edward Jenner?</u></p> <ul style="list-style-type: none"> <li>Edward Jenner was a scientist based in Berkeley, S. Glos, and pioneered the world's first vaccines.</li> <li>Research the life, achievements and impact of the life of Edward Jenner, a local <b>significant figure</b>.</li> </ul>		

**Key Geography Vocabulary:**

**compass** - A tool used for showing direction

**continent** - large landmass made up of many countries.

**co-ordinates** A set of numbers and/or letters that show you a specific position on a map.

**degrees** - a unit of measurement that is used to measure angles

**equator** - an imaginary line around the middle of the Earth at an equal distance from the North Pole and the South Pole.

**Greenwich** - borough of Greater London, England, located on the prime meridian

**hemisphere** - a half of the earth, usually divided by the equator into the northern and southern hemisphere.

**human geography** - features of land that have been impacted by human activity

**latitude** - latitude of a place is its distance from the equator

**longitude** - a place is its distance to the west or east of a line passing through Greenwich.

**Northern Hemisphere** - that half of the globe lying north of the equator

**physical geography** - natural features of land

**prime meridian** - prime meridian is the line of longitude, corresponding to zero degrees and passing through Greenwich, England, from which all the other lines of longitude are calculated.

**Southern Hemisphere** - that half of the globe lying south of the equator

**time zone** - one of the areas into which the world is divided where the time is calculated as being a particular number of hours behind or ahead of GMT (Greenwich Mean Time)

**tropics** - parts of the world that lie between two lines of latitude, the Tropic of Cancer, 23½° north of the equator, and the Tropic of Capricorn, 23½° south of the equator. The tropics have a humid climate, where the weather is hot and damp.

**Key Science Vocabulary:**

**adaptation** - a change in structure or function that improves the chance of survival for an animal or plant within a given environment

**adaptive traits** - genetic features that help a living thing survive.

**ancestor** - an early type of animal or plant from which a later, usually dissimilar, type has evolved

**breeding** - the process of producing plants or animals by reproduction

**characteristics** - the qualities or features that belong to them and make them recognisable

**environment** - all the circumstances, people, things, and events around them that influence their life

**evolution** - a process of change that takes place over many generations, during which species of animals, plants, or insects slowly change some of their physical characteristics

**extinct** - no longer has any living members, either in the world or in a particular place

**fossil** - the hard remains of a prehistoric animal or plant that are found inside a rock

**generation** - the act or process of bringing into being; through reproduction, especially of offspring

**inherit** - If you inherit a characteristic you are born with it, because your parents or ancestors also had it.

**inherited traits** - these are traits that you get from your parents such as blue eyes or curly hair.

**mutation** - characteristics that are not inherited from the parents or ancestors and appear as new characteristics.

**natural selection** - a process by which species of animals and plants that are best adapted to their environment survive and reproduce, while those that are less well adapted die out

**offspring** - a person's children or an animal's young

**palaeontology** - the study of fossils as a guide to the history of life on Earth

**reproduction** - when an animal or plant produces one or more individuals similar to itself

**species** - a class of plants or animals whose members have the same main characteristics and are able to breed with each other

**survive** - continue to exist

**theory** - a formal idea or set of ideas that is intended to explain something

**variation** - a change or slight difference