



# Year 6 – Fantastic Beasts and Where to Find Them

## Evolution and Inheritance

Animals and plants produce offspring that are similar but not identical to them. Offspring often look like their parents because features are passed on.

In the same way that there is variation between parents and their offspring, you can see variation within any species, even plants.

Characteristics that are influenced by the environment the living things live in. These adaptations can develop as a result of many things, such as food and climate.

Eye colour is an example of an inherited trait, but so are things like hair colour, the shape of your earlobes and whether or not you can smell certain flowers.

A good habitat should provide shelter, water, and enough space and plenty of food.

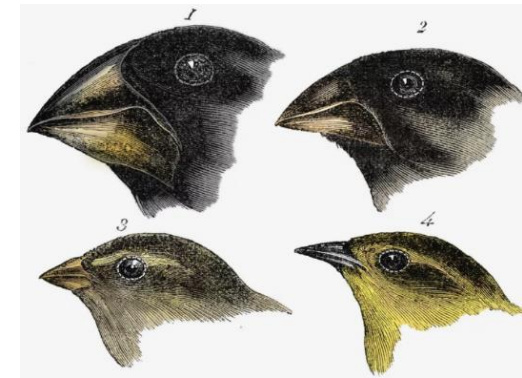
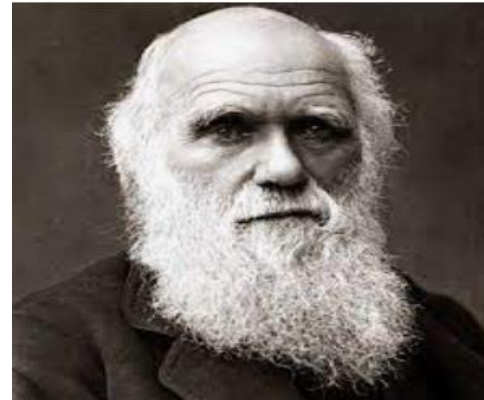
There are many types of environments around the world. Polar regions, deserts, rainforests, oceans, rivers and grasslands are all environments.

Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually evolved through natural selection to have longer necks so that they can reach the top leaves on taller trees.

Fossils are the preserved remains, or partial remains of ancient animals and plants. Fossils let scientists know how plants and animals used to look millions of years ago. This is proof that the living things have evolved over time.

Evolution is the gradual process by which different kinds of living organisms have developed from earlier forms over millions of years. Scientists have proof that living things are continuously evolving- even today!

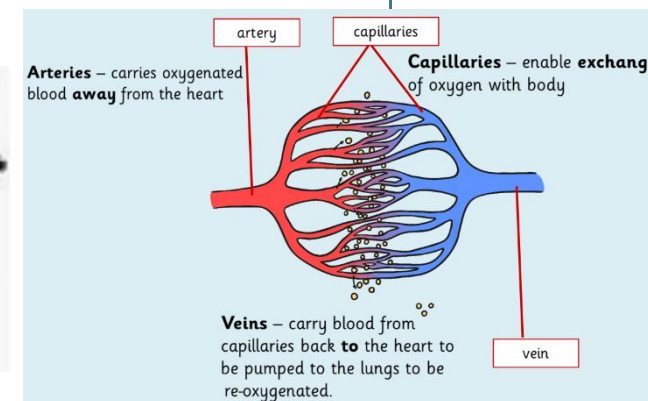
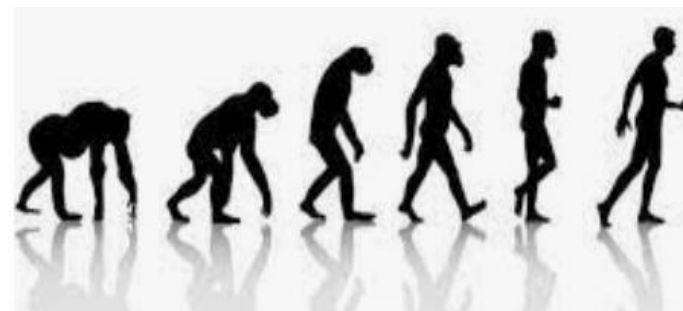
Living Things	Habitat	Adaptive Traits
polar bear	arctic	Its white fur enables it to camouflage in the snow.
camel	desert	It has wide feet to make it easier to walk in the sand.
cactus	desert	It stores water in its stem.
toucan	rainforest	Its narrow tongue allows it to eat small fruit and insects.



**Charles Darwin** was an English scientist/naturalist who is famous for developing the Theory of Evolution by Natural Selection. He believed that all life on Earth evolved from a common ancestor whose offspring varied slightly from the previous generation. In 1831, Charles Darwin boarded a Royal Navy ship (H.M.S. Beagle) and began a five-year voyage around the world collecting samples of plants, animals and rocks from the various locations he visited.

During the voyage, Darwin visited the Galapagos Islands and discovered several species of finches (small birds) which varied from island to island. This discovery and analysis of the samples he collected on his voyage helped him to develop the Theory of Evolution. Darwin suggested that living things changed over time by Natural Selection: a natural process in which the animals and plants best suited to their environment will survive and reproduce and those less suited will be weaker and die out. In 1859, Darwin published his ideas in a book, 'On the Origin of Species'. "A man who dares to waste one hour of time has not discovered the value of life." Charles Darwin

Darwin's Theory of Evolution by Natural Selection: 1) All living things are born with slight variations or differences. 2) Some differences help with survival and having babies and these differences are passed down through generations. 3) Many species have lots of babies, some of which will not survive. 4) Those that survive are better adapted to living and breeding in that environment. 5) Useful traits that can be passed down through generations will become more common in the population, eventually leading to evolution.



## The Circulatory System

Mammals have hearts with four chambers. Notice how the blood that has come from the body is deoxygenated and the blood that has come from the lungs is oxygenated again.

Capillaries are the smallest blood vessels in the body and it is here that the exchange of water, nutrients, oxygen and carbon dioxide takes place.

If you linked up all of the body's blood vessels, including arteries, capillaries and veins, they would measure over 60,000 miles.

Plasma is liquid. The other parts of your blood are solid.

Red blood cells carry oxygen through your body.

Platelets help you stop bleeding when you get hurt.

White blood cells fight infection when you are sick

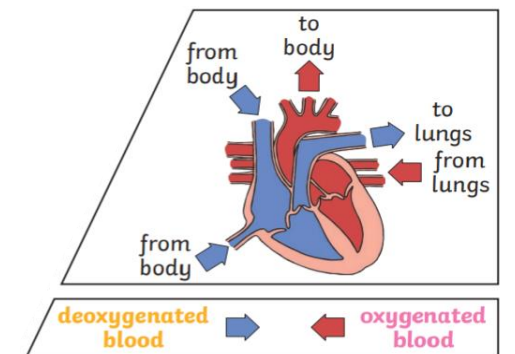
The liquid part of blood contains water and protein. This is called plasma.

Blood transports: gases (mostly oxygen and carbon dioxide); nutrients (including water); waste products.

Drugs, alcohol, and smoking have negative effects on the body.

A healthy diet involves eating the right types of nutrients in the right amounts.

Regular exercise strengthens muscles including the heart muscle; improves circulation; increases the amount of oxygen around the body; releases brain chemicals which help you feel calm and relaxed; helps you sleep more easily; strengthens bones and it can even help to stop us from getting ill.



1831 Charles Darwin explored the Galapagos islands





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<u>History</u>	<u>Science</u>	<u>Art</u>		<u>P.E</u>	
<p>era</p> <p>significance</p> <p>similarities</p> <p>differences</p> <p>impact</p> <p>civilisation</p> <p>social</p> <p>religious</p> <p>political</p> <p>technological</p> <p>cultural</p> <p>accurate</p> <p>plausible</p> <p>account</p> <p>opinion</p> <p>misinformation</p> <p>interpretation</p> <p>evaluate</p> <p>version</p> <p>source</p> <p>significance</p> <p>similarities</p> <p>differences</p> <p>period of history</p> <p>impact</p> <p>civilisations</p> <p>social</p> <p>religious</p> <p>political</p> <p>technological</p> <p>cultural</p> <p>evaluate</p> <p>version</p> <p>source</p> <p>opinion</p> <p>explain</p> <p>summarise</p>	<p>variables</p> <p>evidence</p> <p>justify</p> <p>accuracy</p> <p>precision</p> <p>scatter graphs</p> <p>bar graphs</p> <p>line graphs</p> <p>argument (science)</p> <p>causal relationship</p> <p>life cycles</p> <p>reproduction</p> <p>life processes</p> <p>sexual and asexual reproduction (plants)</p> <p>root cuttings</p> <p>classification</p> <p>microorganisms</p> <p>organisms</p> <p>evolution</p> <p>evolve</p> <p>adaptation</p> <p>variation</p> <p>inherit</p> <p>inheritance</p> <p>puberty</p> <p>gestation period</p> <p>circulatory system</p> <p>heart</p> <p>lungs</p> <p>blood vessels</p> <p>blood</p> <p>lifestyle</p> <p>disease</p> <p>water transportation</p> <p>nutrient transportation</p> <p>oxygen</p> <p>air</p> <p>breathing</p> <p>exercise</p> <p>diet</p> <p>drugs</p>	<p>secondary colours, predict, media, lightening, darkening, control, marks, surfaces, record, exploration, sketch style, relationship, mood</p> <p>techniques, layering, adding, texture, shades, tones, sketches, plan, develop, consistencies, effect, adding, colour wheel</p> <p>blocking, washes, thicken, textural effects, complimentary colours, sketchbook, experimentations, source material, collect, purpose, effect</p> <p>tertiary colours, hot and cold palettes, mood, feelings, sources, techniques, dots, scratches, splashes</p> <p>final piece, water colour paint, backgrounds, detail, textures, colour palettes, harmonious, observation, base, design effect, shapes, reflect, style, tonal contrast, mixed media</p> <p>limited palette, purposely, annotate, represent, observed, remembered, imagined</p>		<p>movement, body, space, energy, time, action, stretch, jump, rise, dart, glide, levels, canon, unison, context, formation, phrase, motif, dynamics, pathways, direction,</p> <p>French dancing terms- plier (to bend), étendre (to stretch), relever (to rise), glisser (to slide or glide), sauter (to jump), élaner (to dart), tourner (to turn)</p> <p>invasion games</p> <p>create space, aim, pathway, dodging, dribbling, accuracy, teamwork, keeping possession, sending, receiving, predicting movement, intercepting, gaining &amp; maintaining possession, agility, change of direction, speed, acceleration, scoring/attacking, marking, blocking and defending, tactical awareness, decision making, evaluating performance.</p>	
		<u>Computing</u>	<u>Music</u>	<u>R.E</u>	<u>French</u>
		<p>programming</p> <p>variable</p> <p>change</p> <p>name</p> <p>value</p> <p>set</p> <p>change</p> <p>design</p> <p>event</p> <p>algorithm</p> <p>code</p> <p>task</p> <p>artwork</p> <p>program</p> <p>project</p> <p>test</p> <p>debug</p> <p>improve</p> <p>evaluate</p> <p>share</p>	<p>dynamics</p> <p>forte</p> <p>piano</p> <p>crescendo</p> <p>diminuendo</p> <p>expression</p> <p>phrasing</p> <p>polyrhythm</p> <p>solo</p> <p>duet</p> <p>syncopation</p>	<p>poetry, prose, history, information, stories, Bible, Old Testament, New Testament, genre</p> <p>Eucharist, communion, community, unity, friendship, nourish</p> <p>Loss, death, change, growth, Ash Wednesday</p> <p>Lent, Holy Week, the Triduum, Easter Vigil, Resurrection, Paschal</p>	<p>la pomme</p> <p>le carottes</p> <p>le chocolat</p> <p>les bonbons</p> <p>le fromage</p>