



Year 6-Adaptation & Evolution

How does life keep surviving?



Adaptation and Evolution



Adaptations are special features or behaviours that help living things survive in their environment.



Over a long time, these adaptations can lead to evolution, which means species slowly change to become better suited to where they live.



Charles Darwin was a naturalist who developed the theory of evolution.

There are two main types of adaptations:



Behavioural adaptations
Things animals or plants do to survive.



Physical adaptations
Body parts or features that help an animal or plant survive in an environment.

Polar Bear

Physical Adaptation

Black skin to stay warm



Long claws to attack prey



Bumpy footpads to grip ice



Dig dens to protect themselves from the cold



Strong swimmers to swim through icy water



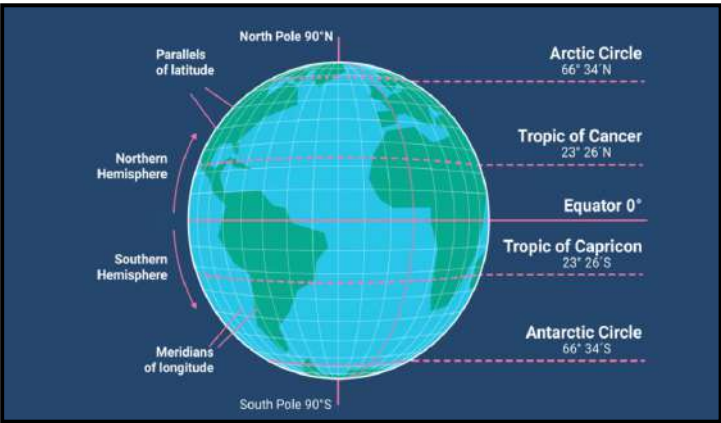
Over many generations, animals and plants with the best adaptations survive longer and have more babies. They pass their helpful traits to their young. This process, called **natural selection**, causes species to evolve over time.



Fossils are like time capsules from the past, preserving clues that help us understand how living things have changed over long periods of time.



Division of the Earth



longitude

Measures how far east or west



latitude

Measures how far north and south



Greenwich or prime meridian

Where west becomes east



equator

Where north changes to south

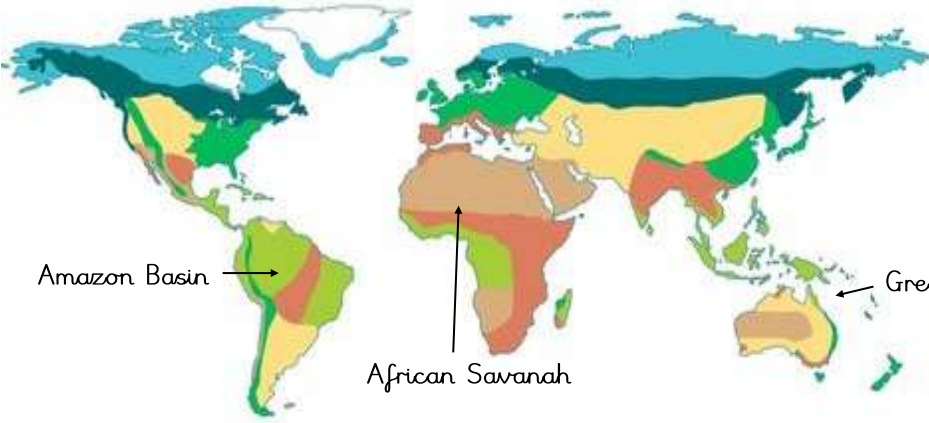


Biomes

A biome is a large area of the world with a certain climate, plants, and animals that are specially adapted to live there

There are five major vegetation regions: forest, grassland, tundra, desert, and ice sheet

The three climate zones are the polar, temperate, and tropical.



Boreal forest

Cold forests with evergreen trees

Deserts

Extremely dry with hot days and cold nights

Polar ice

Icy, frozen land with almost no plants

Temperate grassland

Warm with wet and dry seasons

Temperate forest

Cold forests with evergreen trees

Tropical

Extremely dry with hot days and cold nights

Tropical rainforest

Icy, frozen land with almost no plants

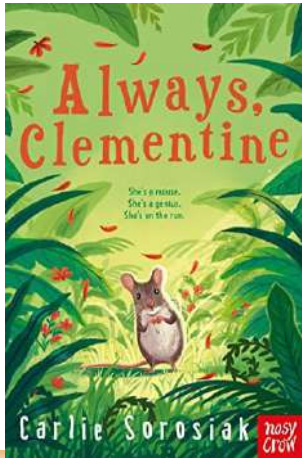
Tundra

Warm with wet and dry seasons

The books we'll use to support our topic:

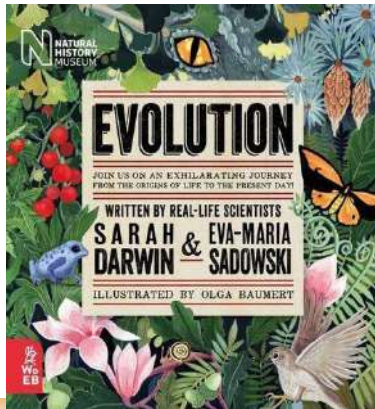
Always Clementine by Charlie Sorosiak

Clementine is different from other mice: she can calculate the speed of light and she dreams in Latin. The scientists say she's a genius and put her through test after test. Clementine is proud of being a good lab mouse, but she's lonely. Her only snatches of friendship occur during her late-night visits with a chimpanzee named Rosie. When a compassionate lab technician frees Clementine, the mouse discovers an outside world full of wonders:



Evolution by Sarah Darwin and Eva-Maria Sadowski

The Earth has come a very long way from the molten planet with oceans of magma that existed 4.5 billion years ago. Since then, the land has shifted, the climate has changed and life has flourished. But how exactly did living things come to be? Let real-life scientists Sarah Darwin and Eva Maria Sadowski enlighten you about the fascinating facts of evolution: what it is and how it works.



Vocabulary:

	evolution	A slow change in living things over a long time, helping them survive better.		contours	The shape of land, like hills and valleys. On a map, contour lines show where land goes up or down.
	adaptation	A special change in a living thing that helps it survive in its home.		proportions	How big or small parts of something are compared to each other.
	characteristics	The special things that make a person, animal, or thing different		variable	Something that can change
	biome	A big area of the world with the same kind of weather, plants, and animals		classify	To sort things into groups based on what they have in common.

Key skills we'll be building on:

	In science, we'll choose the most appropriate way to present scientific data and findings using diagrams and labels, bar charts, line graphs, scatter graphs or classification keys.		In computing, we'll learn to enhance a game using variables and conditions to add to the overall quality of a program.
	In geography, we'll explain the impact of human geography on a country's development and the impact this is having on settlements, land use, economic activity and on different biomes.		In Spanish, we'll develop our cultural awareness in a foreign language by comparing fictional characters.
	In art, we'll consider compositions and combine a variety of techniques and materials (including charcoal) in drawings		In P.E, we'll choose and implement a range of strategies to attack and defend and perform a wider range of more complex skills.

Our questions of the week:

Week 1 What is a biome? To create a pop up biome highlighting its specific features.	Week 2 How do humans impact biomes? To create a graphic organiser showing human impact.	Week 3 How do you survive in an extreme biome? To write a narrative about exploring and surviving in an extreme biome.
Week 4 How are animals adapted to their environment? To form a graphic organiser explaining the behavioural and physical adaptations of a creature	Week 5 Which traits do offspring inherit from their parents? To answer an enquiry into how traits are passed through generations.	Week 6 How does life continue to survive? To program a game using variables around surviving the dangers of a biome.

Why not try this at home?

Family Traits Chart Make a simple table listing family members and their characteristics (eye colour, hair type, height). Spot inherited traits and discuss how they've been passed down	Peppered Moth Experiment Cut out white and black paper moths and stick them on different colored backgrounds. Time how fast someone can find them. Discuss how real moths adapted during the Industrial Revolution!	Mini Documentary Watch a nature documentary (like BBC's Planet Earth or Life on Earth) and write down examples of animals adapting to their environments.
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