



Topic: Evolution & inheritance

Year 6

Strand: Biology

What I should know by the end of this unit:

- Living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- Living things produce offspring of the same kind, but normally offspring vary and they are not identical to their parents
- Animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

Key Vocabulary

Spelling	definition
adaptation	A characteristic of a living thing that makes it suited to its environment
evolution	The process by which living things gradually change over time
fossils	The remains of a once-living organism preserved as a rock
Inheritance	The process of passing on characteristics, such as eye colour, from parents to their offspring
migration	Seasonal movement of animals from one location to another
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
offspring	Children or young
reproduce	To produce again / give birth
species	A group of organisms that have common characteristics and can breed
variation	Natural differences between living things in a species

Evolution

What is evolution?	Evolution is the way that living things change over time
Do things evolve?	We know that living things used to look different to how they do now. We know this because fossils have been found that show creatures that look a lot different to how they do today, Fossils show us that living things have changed over time.
How do things evolve?	Charles Darwin observed that although individuals in a species shared similarities, they were not exact copies of each other. He noticed that there were small differences or variations between them. He also noticed that everything in the natural world was in competition. The winners were those that had characteristics that made them better adapted for survival. He noticed that living things were more likely to reproduce and pass on their useful characteristics to their offspring. Over time a species gradually changes. Given enough time these small changes add up to the extent a new species altogether can evolve.



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Adaptation

Adaptation is when things **evolve** to overcome challenges in their environment. For example by adapting their behaviour.

Examples of adaptation

Migration	Birds have adapted to move around the world to find weather and food sources to suit them. Birds that didn't do this may have run out of food and died.
Sticking together in packs	Animals that learned to live together in packs were more likely to be safer and more successful when hunting, leading to them being more likely to survive.

Variation

Living things produce offspring of the same kind. E.g. owls produce baby owls and humans produce baby humans. **... BUT ...** normally offspring vary and are not identical to their parents.

Natural variation like this can lead to offspring being more likely or less likely to survive in their environment. If the variant makes them more likely to survive, they are more likely to be alive to pass this on to their offspring. As a result, this variant is more likely to become more common in the species.

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 by minerals from underground water. These minerals gradually harden to stone and the mud and sand surrounding the body slowly turn to rock.

Pterodactyl fossil





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A gradual change that takes place over many generations is called:	Start of unit	End of unit
inheritance		
mutations		
evolution		
reproduction		

Evolution occurs when there is competition to survive. This is called:	Start of unit	End of unit
reproduction		
natural selection		
variation		
biodiverse		

Evidence of evolution comes from ... (tick two)	Start of unit	End of unit
fossils		
living things		
museums		
food chains		

Charles Darwin ...	Start of unit	End of unit
found the first fossil		
was made famous by his theory of evolution		
Found remains of the dodo		

Question 4: Animals adapt to survive in their environments. Write down an example of an animal that has adapted and the reason it can survive in its environment. For example, polar bears have a layer of blubber un-der their fur to keep them warm in the Arctic.	Start of unit	End of unit

When we have the same characteristics as our parents or ancestors, we _____ that characteristic.	Start of unit	End of unit
have mutated to get		
have inherited		
have adapted to		
have maladapted to		

Explain how a cactus has adapted to suit its environment	Start of unit	End of unit