Weston Turville CE School – Science Organiser Spring Term 1 and 2

Topic EVOLUTION AND INHERITANCE	Year: 6	Strand: Biology

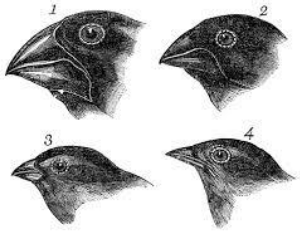
What Should I Already Know?

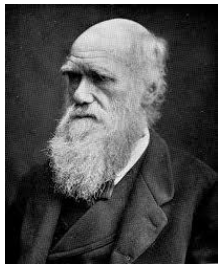
- Which things are living and which are not.
- Identifying animals and plants using classification keys.
- The basic needs of animals for survival (water, food, air)
- Some animals have skeletons for support, protection and movement.
- Food chains, food webs and the role of predators and prey.
- Features of habitats and the animals and plants that exist there (biodiversity).
- The life cycle of some animals and plants.
- Sometimes environments can change and this has an effect on the plants and animals that exist there.
- Living things breed to produce offspring which grow into adults
  - this is called reproduction.

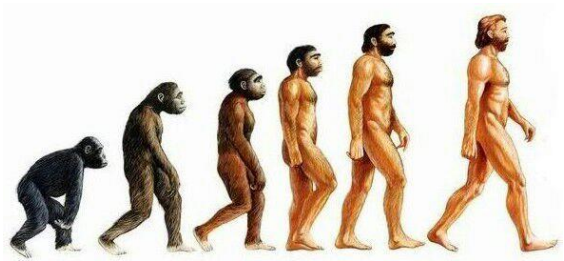
Diagrams

Charles Darwin, an evolutionary scientist, studied different animal and plant species, which allowed him to see how adaptations could come about. His work on the finches was some of his most famous.

Citation of images: wikipedia.org







Main Information

What will I know by the end of the unit?

What is the theory of evolution?

To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
To recognise that living things have changed over time and that a number of factors can affect a species' evolution.
To understand how humans have evolved over time, and how human behaviour can affect change in species over time.
Evolution is 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. This is because offspring are not identical to their parents.
It occurs when there is competition to survive- natural selection.
Difference within a species (eg. between parents and offspring) can be caused by inheritance and mutations. Inheritance is when characteristics are passed on from generation to the next. Mutations in characteristics are not inherited from the parents and appear as new characteristics.

How do we know about evolution?

To find out about how the work of scientists has helped develop our understanding of the process of evolution.
Evidence of evolution comes from fossils - when these are compared to living creatures from today, Palaeontologists can compare similarities and differences. Other evidence comes from living things - comparisons of some species may reveal common ancestors.

What is adaptation?

To identify how animals and plants are adapted to suit their environment in different ways.
To understand that adaptation of plants and animals to suit their environment may lead to evolution.
Adaptation is when animals and plants have evolved so that they have adapted to survive in their environments eg. 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. Sometimes adaptations can be disadvantageous, One example of this can be the dodo, which became extinct as it lost its ability to fly through evolution. Flying was unnecessary for the dodo as it had lived for so many years without predators, until its native island became inhabited. When adaptations are more harmful than helpful, these are called maladaptations.

Vocabulary

evolution	process of change that takes place over many generations, during which species of animals, plants or insects slowly change some of their physical characteristics
inherit	If you inherit a characteristic, you are born with it because your parents of grandparents had it
adaptation	a change in structure or function that improves the chance of survival for an animal or plant within a given environment
mutation	characteristics that are not inherited from the parents or ancestors and appear as new characteristics.
maladaptation	the failure to adapt properly to a new situation or environment
offspring	a person's children or an animal's young
fossil	the hard remains of a prehistoric animal or plant that are found inside a rock
ancestor	an early type of animal or plant from which a later, usually dissimilar, type has evolved
characteristics	the qualities or features that belong to plants or animals and make them recognisable
breeding	the process of producing plants or animals by reproduction
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
theory	a formal idea or set of ideas that is intended to explain something
species	the same main characteristics and are able to breed with each other
variation	a change or slight difference
extinct	no longer has any living members, either in the world, or in a particular place

Weston Turville CE School – Science Assessment

Topic: EVOLUTION AND INHERITANCE	Year: 6	Strand: Biology

Question 1: A gradual change that takes place over many generations is called:	Start of unit:	End of unit:
inheritance		
mutations		
evolution		
reproduction		

Question 2: Evolution occurs when there is competition to survive.	Start of unit:	End of unit:
This is called…		
reproduction		
natural selection		
variation		

Question 3: Evidence of evolution comes from…(tick two)	Start of unit:	End of unit:
Fossils		
living things		
Museums		
food chains		

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.	
Start of unit:	End of unit:

Question 5: 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 6: When we have the same characteristic as our parents or ancestors, we _____ that characteristic.	Start of unit:	End of unit:
have inherited		
have mutated to get		
have adapted to		
have maladapted to		

Question 7: Explain how a cactus has adapted to suit its natural environment.	
Start of unit:	End of unit:

Question 8: Can you give an example of two species that may have a common ancestor?	
Start of unit:	End of unit:

Question 9: The dodo was unable to adapt to its environment to survive. This means that the dodo is now…	Start of unit:	End of unit:
extinct		
endangered		
alive		
flying		

Question 10: When a characteristic is not inherited from a parent or ancestor, this is called…(tick two)	Start of unit:	End of unit:
an adaptation		
a mutation		
a generation		
variation		