Pye Bank CE Primary DSAT Knowledge Organiser

YEAR 6 — Biology: How do living things change over time and place? — SCIENCE

KEY VOCABULARY

Acquired Characteristic: a change to an organism during its lifetime, caused by use, disease or other environmental influences.

Adaptation: the process by which a species evolves over time to become better suited to its environment.

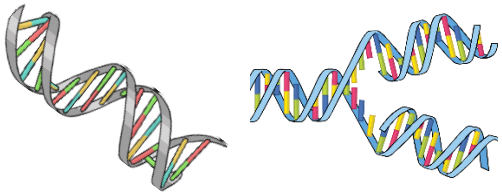
Ancestor: a living thing from which something else has evolved. All life shares a common ancestor that lived around 3.5 billion years ago.

Artificial Selection: selectively breeding plants and animals to produce new species that possess certain characteristics.

Camouflage: adaptations that enable an animal to blend in with its natural environment to avoid detection.

Evolution: the gradual change in living things over many generations, due to changes in inherited characteristics.

Gene: part of the DNA inside cells, through which inherited characteristics are passed down from parents to offspring.



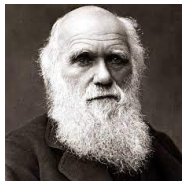
Inherited Characteristic: a characteristic that is passed down from parents to offspring through genes.

Natural Selection: The process by which favourable characteristics become more common over time.

Primate: a group of mammals that includes humans, monkeys, lemurs and apes.

Species: a group of living organisms that can breed with others of the same type to produce fertile offspring.

KEY SCIENTIST – Charles Darwin



1809-1882

Charles Darwin was an English scientist who studied nature. He is known for his theory of **evolution** by natural selection. According to this theory, all living things are struggling to survive. The living things that have the most helpful traits for their environment tend to survive.

These living things then pass along their helpful traits to their young. In this way, animals change, or evolve, over hundreds of years. He described his ideas in his important book, *On the Origin of Species by Means of Natural Selection* (1859).

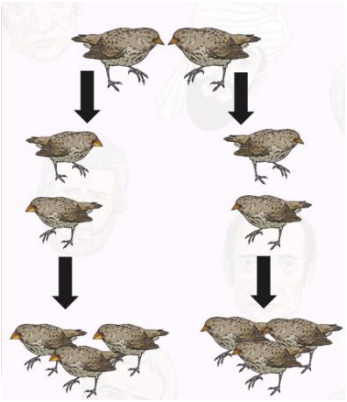
STICKY KNOWLEDGE

1. Characteristics are passed from parents to offspring. Variation is inherited.
2. Genes determine inherited characteristics such as eye colour or ear lobe shape.
3. The benefit of selective breeding is that desirable traits can be chosen for a plant or animal to thrive.
4. Evolution happens over a very long period of time with small changes in each generation.

5. Most cells in the human body contain 23 pairs of chromosomes.
6. Fossils help us to find out about living things which lived millions of years ago.

KEY CONCEPT – Natural Selection

"Survival of the fittest" is simply another way of describing natural selection. All living things have slight variations that make them different from each other. Some variations provide individuals with an advantage, making them more suited to their environment. This means they are more likely to survive and reproduce, and so pass the positive characteristic down to their offspring. As a result, positive characteristics become more common in a population over time.



KEY CONCEPT – Inheritance

Inherited characteristics are characteristics which we get from our parents and/or grandparents. They are aspects of our bodies or our abilities which are passed down through the generations. They can determine some aspects of your appearance such as hair colour, eye colour, dimples, hair line and nose shape.

However, inherited characteristics do not only determine your appearance.
They can also determine...

What blood type you are
A- A+ B- B+ AB- AB+ O- O+