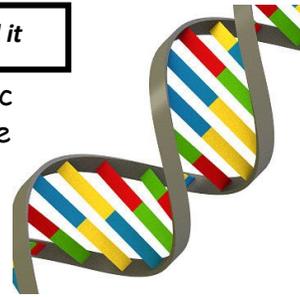


Variation, inheritance and evolution Year 8

End point 1 and 2: Describe the structure of DNA and who discovered it

stands for deoxyribonucleic acid. It is a chemical up of two long molecules, arranged in a spiral. We refer to this as the double-helix structure.

It was discovered in 1953 by James Watson and Francis Crick. In a laboratory in Cambridge, they had help from Rosalind Franklin and Maurice Wilkins.



End point 3: Explain the difference between inherited and environmental Characteristics

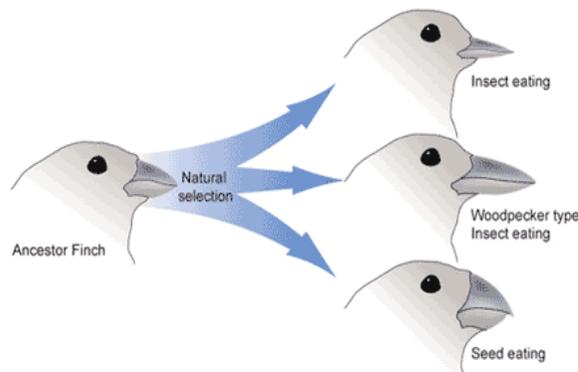
Variation in a characteristic that is a result of genetic information from the parents is called:

Inherited variation. Here are some examples of inherited variation in humans: **eye colour, hair colour, skin colour, lobed or lobeless ears**

Variation caused by the surroundings is called:

Environmental variation. Here are some other examples of features that show environmental variation: **your language, your religion, scars.**

End point 3: Describe the process of evolution



Fossils show that species have changed over long periods of time. This change is called evolution. The accepted theory is the theory of natural selection. Charles Darwin first proposed this theory. Small changes over a long period of time make a big difference. Making the organism better adapted to survive and grow to maturity passing on its genes to the next generation

End point 5: Explain how a species becomes extinct

A species becomes extinct when there are no more individuals of that species left. An extinct species has gone forever, although some scientists hope that they might bring back some extinct species using genetic engineering.

Changes in the environment may leave individuals less well adapted to compete successfully for resources such as food, water and mates. These problems can lead to extinction.

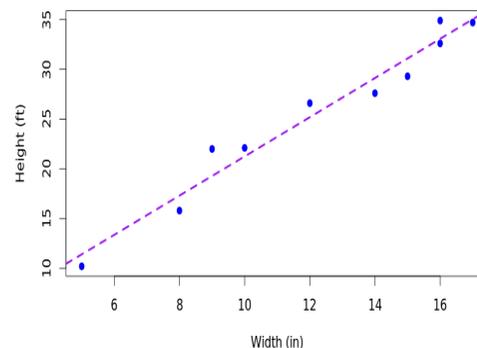
For example, dinosaurs became extinct millions of years ago. This was probably due to changes in the environment.

Continuous variation

For any species a characteristic that changes gradually over a range of values shows continuous variation. Examples of such characteristics are:

Height, weight

If you record the heights of a group of people and draw a graph of your results, it usually looks something like this:



Discontinuous variation

A characteristic of any species with only a limited number of possible values shows discontinuous variation. Human blood group is an example of discontinuous variation. In the ABO blood group system, only four blood groups are possible (A, B, AB or O). There are no values in between, so this is discontinuous variation. A bar chart to represent the frequency of each blood group in the population.

