



New plants from old

Worksheet 2 - What is 'natural selection'?

Plants and animals and insects and microbes — in fact every living thing — change naturally over time.

We all have certain characteristics that we have inherited from our parents. Some of these are stronger than others, and some characteristics may 'skip' a generation or two, so we all develop a bit differently to our parents, and their parents.

Scientists have known this for a long time, but it was Charles Darwin who first stated what most scientists accept today: that we, as humans, develop through 'natural selection'. That means that the characteristics helped certain individuals to survive were passed on to later generations.

For example, in a hunting society the person who has the best eyesight would be more likely to survive and pass on that characteristic than someone with weak eyesight who could not see the lion coming!

Or, a person who lived in a swampy area, and who had some extra chemical in their body that meant that they did not get malaria from mosquitoes would be more likely to survive and pass on that special protection than somebody who did not have it.

Natural selection is a bit gruesome. The weak die or don't reproduce very well; the strong reproduce very well and therefore their characteristics that make them strong become more and more predominant in the population. It is a never ending process, because even in a strong population, the strongest individuals will produce more offspring, which in turn makes the population even stronger. The process can be slow say over millions of years or happen over a few years, months, days or seconds. It depends on the proportion of weak individuals that manage to survive compared with the number of strong individuals who do not successfully reproduce for one reason or another.

1.What does 'natural selection' Mean?

'Natural selection' means

Charles Darwin did not know how these 'strong characteristics' were transmitted from one generation to the next – we now know that we are talking 'genes'. One man figured it out, but did not know what they should be called, was a 19th century monk called Gregor Mendel.

Let's read about him see what he discovered.