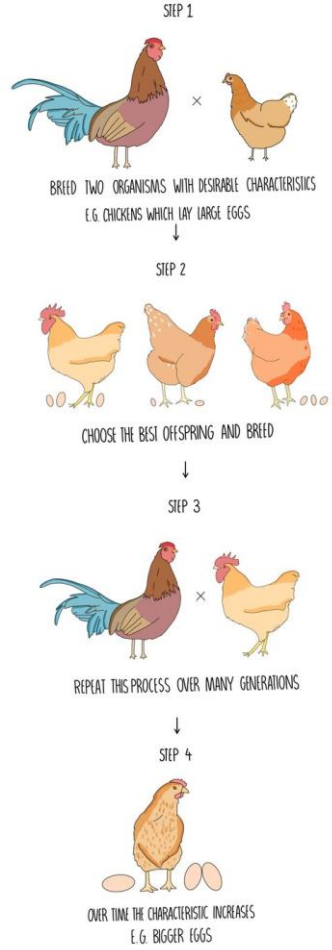
KS4: Evolution

Keywords/ Definitions	
Variation	Differences in the characteristics of individuals in a population
Continuous variation	A characteristic that changes gradually over a range of values
Discontinuous variation	A characteristic of any species with only a limited number of possible values.
Evolution	A change in the inherited characteristics of a population over time through the process of natural selection
Natural selection	A process which gives rise to phenotypes best suited to their environment
Selective breeding	The process by which humans breed plants and animals for particular genetic characteristics
Genetic engineering	A process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic
Fossils	The 'remains' of organisms from millions of years ago, which are found in rocks
Extinction	There are no remaining individuals of a species still alive.
Fossilisation	Where the hard structures (mainly bone) are replaced over time by minerals underground.
Preservation	Where organisms are preserved due to the absence of factors that decomposers need, e.g. oxygen, temperature, water.

Key Facts

1. Variation can be caused by genetic factors, environmental factors or a combination of both.
2. Continuous variation is displayed using a line graph/histogram.
3. Discontinuous variation is displayed using a bar chart.
4. At the time Darwin published his findings, they weren't universally accepted as it was seen to go against the teachings of the Church.
5. There was also a competing theory by Francois Lamarck, who proposed that living organisms could acquire characteristics. This was later disproved as scientific technology and our understanding of genetic developed.
6. The older fossils discovered are more simple in structure compared to younger ones discovered. This supports Darwin's idea that dinosaurs evolved over time
7. Because og how fast they reproduce bacteria can be classed as 'Evolution in Action' as mutation that benefits wi;; spread through the population very quickly.

Selective Breeding



Evolution by natural selection