



Evolution

Latin = *evolvere* = to unroll or roll out

Charles Darwin and **Alfred Wallace**

Theory of Evolution
1859
On the Origin of Species

living things developed from earlier and different **species**

species change as time rolls out

inherited characteristics

eye colour

hair colour

ear lobes

dimples

genes carry inherited characteristics

DNA is biological information

passed from parent to offspring

biological variation

differences within **same species**

Latin = *Canis familiaris* (domestic dog species)

species

plant or animal

similar characteristics, but **not always identical**

breed with each other

produce similar **offspring**

acquired characteristics

blacksmiths get stronger arms by hammering

X

stronger arms **do not** get passed to offspring by the effect of hammering

characteristics passed on through **genes**

(inherited characteristic)

a cat \neq dog

X

no biological variation between species

variation = differences between species

survival of the fittest (natural selection)

key mechanism of **evolution**

living things become most suited to the environment

polar bear | brown bear

weaker and less suitable species **do not survive**

adaption

process of change over a very long time

living things become well-matched to their environment through **natural selection**

fossil

remains or traces of a living thing

converted to rock

tells us about life on Earth millions of years ago

biodiversity

variety of life on Earth

the difference between **species**

measured by **species richness** in an **environment**