

**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**species**

plant or animal

similar characteristics, but **not always identical****breed** with each otherproduce similar **offspring****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****inherited characteristics**

eye colour



hair colour

ear lobes



dimples

genes carry**inherited****characteristics****DNA** is biological information

passed from parent to offspring

**acquired characteristics**

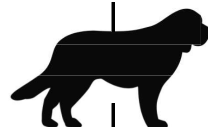
blacksmiths get stronger arms by hammering

stronger arms **do not** get passed to offspring by the effect of hammeringcharacteristics passed on through **genes**

(inherited characteristic)

biological variation

differences

within **same species**Latin = *Canis familiaris* (domestic dog species)a cat \neq dog

no biological variation between species

variation = differences between species**biodiversity****variety of life** on Earththe difference between **species**measured by **species richness** in an **environment**