

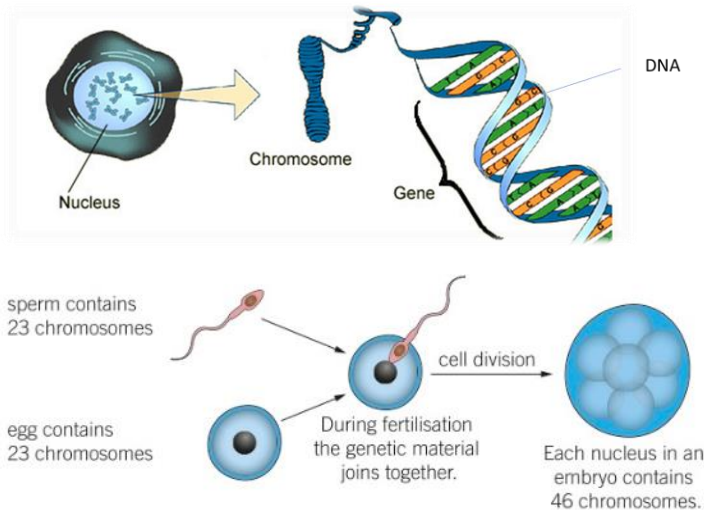
Section 1- Competition

Animals compete for: <ul style="list-style-type: none"> Food Water Space Mates 	Plants compete for: <ul style="list-style-type: none"> Light Water Space Minerals
---	--

Surviving in the desert:

Oryx	Cactus
Does not sweat – reduces water loss	Leaves rolled as spines – reduces water loss
Wide feet – does not sink into sand	Widespread roots – collect water from large area

Section 4 - Inheritance



▲ You get half of your genetic material from your mother, and half from your father.

Section 2- Adaptations

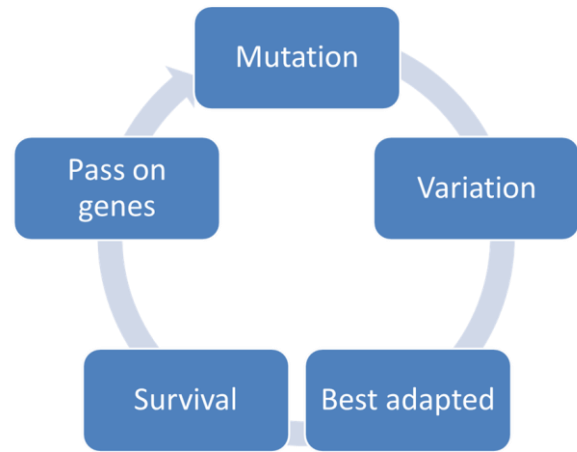
Adaptation = a characteristic that helps an organism survive in its environment. E.g. camouflage
 Interdependence = when a change in one population directly affects another. E.g. predator-prey relationships

Adapting to seasons:

Animals	Plants
Hibernation	Grow fast in spring
Migration	Drops leaves in winter

Section 5 - Natural Selection

Natural selection = survival of the fittest. Over time this leads to a process called evolution. The theory of evolution was created by Charles Darwin. It shows that all organisms evolved from unicellular organisms.



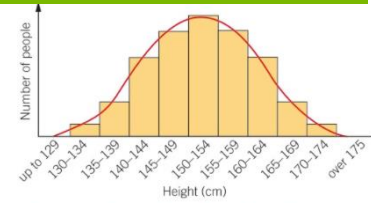
If a species is unable to adapt they will become extinct. Extinction = when no members of a species remain in existence.

Causes of extinction:

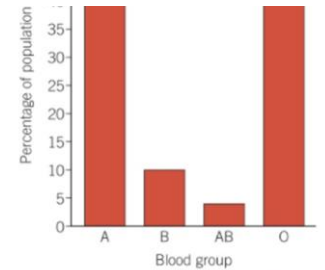
- Changes to environment (e.g. temperature)
- Destruction of habitat (e.g. deforestation)
- Outbreak of a new disease
- Introduction of a new predator

Section 3 - Variation

- Variation is due to inherited genetic factors (e.g. eye colour) and the environment (e.g. tattoos). Sometimes both
- Characteristics caused by multiple genes and the environment produce data within a range this is an example of continuous variation.
- Characteristics caused by one gene produce categoric data, this is an example of discontinuous variation.



▲ Continuous data is always plotted on a histogram.



▲ Discontinuous data is always plotted on a bar chart.

Section 6 - Discovery of DNA



Francis Crick James Watson Maurice Wilkins Rosalind Franklin

- 1) 1866 Gregor Mendel observed that characteristics are passed on as heredity units- now called genes.
- 2) 1952 Rosalind Franklin working with Maurice Wilkins produced an image using X-ray crystallography which showed the helical shape of DNA
- 3) 1953 Watson and Crick used this image to make a model of DNA and realised it had a double helix structure. Watson and Crick won the Nobel prize for their discovery of DNA's structure.