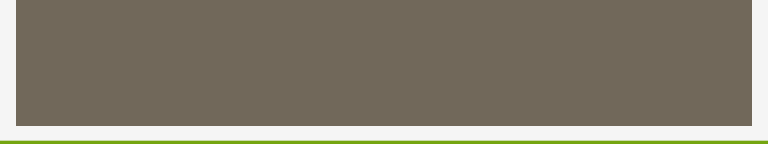




Genetics

Genetics

- **Genetics** is the study of how traits and characteristics are inherited



Inherited Characteristics and Non-Inherited Characteristics

Inherited Characteristics

- **Inherited Characteristics** are passed from parents to children.
- They are controlled by genes
- **Examples:** Eye colour, Hair colour, Height, Face shape

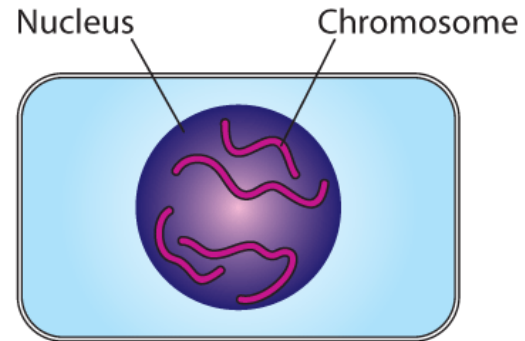
Non-Inherited Characteristics

- **Non-Inherited Characteristics** are learned during life
- **Examples:** An accent, learning different languages, reading, playing sport

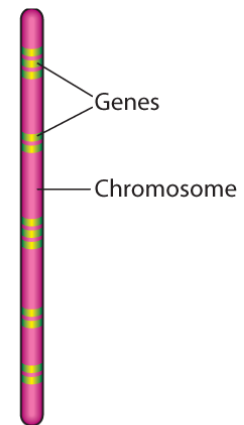
Chromosomes

Chromosomes

- **Chromosomes** are found in the nucleus of cells
- Chromosomes are made up of DNA and Protein
- Humans have 23 pairs of Chromosomes



▲ Fig 11.2 Chromosomes in the nucleus



▲ Fig 11.4 Genes on a chromosome

Genes

Genes

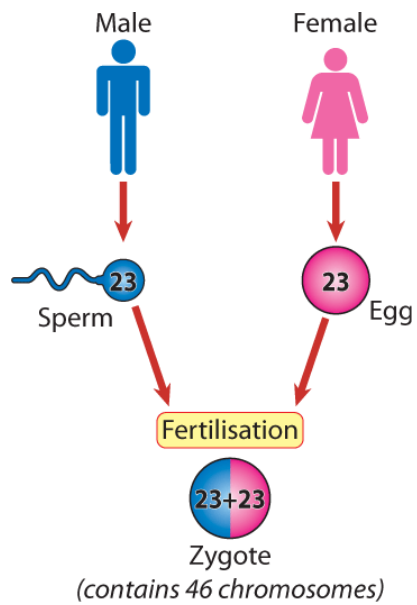
- **Genes** are found on chromosomes



Chromosome Number

Chromosome Number

- Every cell in our body has 23 pairs of Chromosomes
- 23 pairs of chromosomes = 46 single chromosomes



▲ Fig 11.6 Chromosome numbers in human reproduction

Chromosome Number

- During reproduction the male gives 23 single chromosomes in his sperm cell and the female gives 23 single chromosomes in her egg cell
- When the sperm and egg fuse a zygote is formed
- The Zygote = 46 Chromosomes (half the male characteristics and half the female characteristics)