

Chapter 8 – Quick Revision Sheet

Heredity

Heredity

Definition:

Heredity is the process by which genetic information (traits) is transferred from parents to offspring through genes, resulting in similarities between them.

Example:

A child having the same eye colour, hair type or height pattern as their parents.

Traits

Definition:

Traits are characteristics or features of an organism.

Types of Traits

- Inherited traits :- Traits passed from parents to offspring through genes.
Example: Blood group, eye colour
- Acquired traits :- Traits developed during life, not inherited.
Example: Muscle building, skills

Mendel's Experiment

Scientist: Gregor Mendel (Father of Genetics)

Experiment:

Pea plants (Tall × Short)

Result:

F1 → All Tall

F2 → 3 Tall : 1 Short

Dominant Trait: Trait that expresses even in presence of another trait.

Recessive Trait: Trait that expresses only when both alleles are same.

Laws of Inheritance

LAW	MEANING
LAW OF DOMINANCE	Dominant trait shows over recessive
LAW OF SEGREGATION	Alleles separate during gamete formation
LAW OF INDEPENDENT ASSORTMENT	Traits are inherited independently

Genes

Gene is a segment of DNA that controls a trait.

Chromosomes

Chromosomes are structures made of DNA that carry genes.

Key Point:

Humans → 23 pairs

Sex Determination

Definition:

Process by which sex of an individual is decided.

Sex Determination in Humans

Parent Contribution	Result
X (Mother) + X (Father)	Girl (XX)
X (Mother) + Y (Father)	Boy (XY)