

<b>Subject</b>	<b>Science</b>
<b>Unit/Topic</b>	Year 11 Inheritance Variation and Evolution

Key Vocabulary	Definition
<b>Sexual reproduction</b>	The fusion of male and female gametes.
<b>Asexual reproduction</b>	Involves only one parent with no fusion of gametes.
<b>Meiosis</b>	Cell division which halves the number of chromosomes, forming gametes.
<b>DNA</b>	A polymer made up of 2 strands, forming a double-helix, contained in chromosomes.
<b>Gene</b>	A small section of DNA on a chromosome which codes for a protein.
<b>Genome</b>	The entire set of genetic material of an organism.
<b>Mutation</b>	A change in the DNA.
<b>Gametes</b>	Sex cells, such as egg and sperm cells.
<b>Sex chromosome</b>	The pair of chromosomes that determine biological sex. In females it is XX, in males it is XY.
<b>Allele</b>	Different versions of the same gene (e.g. there are two alleles for the eye colour gene; brown and blue).
<b>Dominant</b>	An allele that is expressed in the phenotype when at least one allele is present. (e.g. A).
<b>Recessive</b>	An allele that is only expressed in the phenotype if <b>both</b> alleles are present (e.g. a).
<b>Heterozygous</b>	Alleles present are different (e.g. Aa).
<b>Homozygous</b>	Alleles present are the same (e.g. AA or aa).
<b>Genotype</b>	All of the alleles that are present.

<b>Phenotype</b>	Physical characteristics/features. It is the product of the effect of the genotype PLUS the environment.
<b>Cystic fibrosis</b>	A disorder of cell membranes where mucus is thick and sticky. It is caused by a RECESSIVE allele.
<b>Carrier</b>	A person who is heterozygous for a recessive allele.
<b>Polydactyly</b>	Inherited disorder where the individual has extra digits (fingers or toes). It is caused by a DOMINANT allele.
<b>Variation</b>	Differences in the characteristics of individuals in a population. It can be caused by mutations or by gamete formation in meiosis.
<b>Evolution</b>	A change in the inherited characteristics of a population over time through the process of natural selection
<b>Natural selection</b>	A process which gives rise to phenotypes best suited to their environment.
<b>Selective breeding</b>	The process by which humans breed plants and animals for particular genetic characteristics.
<b>Genetic engineering</b>	A process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic.
<b>Fossils</b>	The 'remains' of organisms from millions of years ago, which are found in rocks.
<b>Extinction</b>	There are no remaining individuals of a species still alive.
<b>Binomial system</b>	Naming organisms by their genus and species.