Bases match together by set rule (A-T and C-G)	Production of mRNA copy from a strand of DNA	Group of three tRNA bases complimentary to mRNA	Chemical bonds holding amino acids together in chain
Complimentary base pairs	**Transcription**	**Anticodon**	**Peptide bond**
Section of DNA not translated into protein	Section of DNA which is translated into protein	The monomers (repeated units) of proteins	mRNA leaves the nucleus through this gap (opening/pore).
Intron	**Exon**	**Amino acid**	**Nuclear pore**
DNA nucleotides read in groups of three	The equivalent of the triplet on the mRNA. This codes for an amino acid.	Codons which stop and start a polypeptide chain formation	RNA which determines the sequence of a polypeptide
Triplet	**Codon**	**Stop-start**	**mRNA**
Enzyme which transcribes one of the two DNA strands into mRNA.	Nucleic acid which brings amino acids to ribosome	This is where the mRNA is read.	Using the information on mRNA to join amino acids
RNA polymerase	**tRNA**	**rRNA**	**Translation**

Several ribosomes moving along a mRNA at one time to produce multiple copies of a polypeptide chain.	Long string of joined amino acids which equates to a protein	Unit of hereditary. Carries information to make a protein.	The DNA strand which is used to transcribe the mRNA
Polysome	**Polypeptide chain**	**Gene**	**Coding strand**
There may be more than one codon for each amino acid	The enzyme which unwind and untwist the DNA strand during replication	DNA strand made in one lengthy section during replication	DNA strand made in short sections during replication
Degeneracy	**Helicase**	**Leading strand**	**Lagging strand**
The name of the short pieces of RNA used to initiate the DNA sequence	The enzyme which creates a short RNA primer	The enzyme which joins the short Okazaki fragments together	The name of the short fragments produced on the lagging strand
RNA primer	**RNA polyerase**	**DNA ligase**	**Okazaki fragments**
Direction in which nucleotides are added along the leading strand.	The combination of a base, sugar and a phosphate	Enzyme which relieves the strain on the DNA molecule caused by Helicase unwinding the strands.	Enzyme which digests the RNA primer
5' to 3' end	**Nucleotide**	**DNA gyrase**	**DNA Polymerase I**

Enzyme which extends RNA primer with short lengths of complimentary DNA.	The proteins around which DNA is wound	Two-ringed nitrogenous bases (adenine and guanine)	Single-ringed nitrogenous bases (cytosine and thymine)
DNA Polymerase III	**Histones**	**Purines**	**Pyrimidines**
Part of chromosome which joins with spindle.	Weak chemical bond between nitrogenous bases	The two exact copies of a chromosome held by centromere	Chemical bond linking the DNA backbone (sugar-phosphate)
Centromere	**Hydrogen bond**	**Chromatid**	**Phosphodiester bond**
This is the shape of the DNA molecule. It is like a twisted ladder.	A set position of a gene on the DNA molecule	Organisms which have a nucleus with a nuclear membrane.	A sequence of nucleotides on the strand of DNA being copied which stop transcription (deactivate transcription)
Double helix	**Gene locus**	**Eukaryote**	**Terminator sequence**
The site where the RNA polymerase first attaches itself to the DNA to begin synthesis of the mRNA	Activators which bind to the enhancer	Transcription is activated when a hairpin loop in the DNA brings the transcription factors attached to this section in contact with the transcription factors bound to RNA polymerase at the promoter	Consists of the structural genes, promoter and operator sites
Promoter	**Transcription factors**	**Enhancer sequence of DNA**	**Operon**

Binds to the repressor altering its shape	Organisms which do not have a nuclear membrane (bacteria)	Gene which produces the repressor molecule	Molecule which binds to the operator site and suppresses its activity.
Inducer	**Prokaryote**	**Regulator gene**	**Repressor**
Set of genes after the operator which code for an enzyme needed in a metabolic pathway	The potential blocking site. It is here that an active repressor molecule will bind, stopping mRNA synthesis from proceeding	This occurs when genes are switched on by an inducer (e.g. lactose)	When an enzyme produced in excess it is used to bind to the repressor and help it block RNA polymerase
Structural genes	**Operator**	**Gene induction**	**End product inhibition**
The view that nucleic acids determine protein structure is known as the ...	The entire gene complement of an organism	A gene whose protein product interacts with other genes to regulate their level of activity	Change in the genetic code
Central Dogma	**Genome**	**Regulator gene**	**Mutation**
A mutation resulting from the insertion or deletion of a base changing the reading frame	Failure of homologous chromosomes or chromatids to separate during cell division	Variation in chromosome number involving less than a whole set e.g. Down's syndrome	An external agent which induces a gene mutation
Frame shift	**Non-disjunction**	**Aneuploidy**	**Mutagen**

Two or more copies of every chromosomes	Genes which code for a specific amino acid sequence	Genes which control the level of activity of structural genes	An organic catalyst. Nearly all are proteins
Polyploidy	**Structural genes**	**Regulator genes**	**Enzymes**
The physical characteristics of an organism	An organism's hereditary make-up	A unit of hereditary information, carrying the information for the production of a polypeptide	One of two or more forms of a gene at a locus on a chromosome
Phenotype	**Genotype**	**Gene**	**Allele**
When a characteristic in the heterozygous form is a intermediate form	When the heterozygous form stimulates the expression of two alleles	A gene which exists as more than two alleles, but the rules of inheritance are the same	The presence of two or more genes on the same chromosome meaning they wont segregate independently
Incomplete dominance	**Co dominance**	**Multiple alleles**	**Linkage**
Occurs when an allele at one locus is needed for the expression of the allele at another locus	9 : 3 : 4 ratio	Development of a characteristic requires the presence of at least one dominant allele at each of two loci	9 : 7 ratio
Epistasis	**Epistasis/ supplementary**	**Complementary genes**	**Complementary genes**

A characteristic that develops if either of the dominant alleles at two loci are present	15 : 1 ratio	When an allele at one locus is necessary for the expression of another allele at a different locus	Three stages of protein synthesis
Duplicate genes	**Duplicate genes**	**Supplementary genes**	**Transcription, RNA processing, translation**
1 : 1 : 1 : 1 ratio	Four phenotypes from a dihybrid cross but two genes involved are both effecting the same trait. 9 : 3 : 3 : 1 ratio	2 : 1 ratio	The more genes involved the more phenotype ratios look like a normal distribution curve
Dihybrid test cross	**Collaboration**	**Lethal gene**	**Polygenes**
3 : 1 ratio			
Monohybrid cross with dominance			