Inheritance

A-Level Biology · Vocabulary in context

Word	Example
diploid /ˈdɪplɔɪd/	Body cells are **diploid**: they have two sets of chromosomes.
chromosome /ˈkrəʊməsəʊm/	Each **chromosome** is one long DNA molecule with many genes. DNA
haploid /ˈhæplɔɪd/	Sperm and egg cells are **haploid**: they have one set of chromosomes.
gamete /ˈgæmiːt/	A **gamete**, such as a sperm or egg, has half the normal number of chromosomes.
homologous chromosomes /həˈmɒləgəs ˈkrəʊməsəʊmz/	**Homologous chromosomes** are a matching pair, one from each parent.
gene /dʒiːn/	A **gene** is a piece of DNA that codes for one protein. DNA
meiosis /meɪˈəʊsɪs/	**Meiosis** makes sperm and egg cells.
nuclear envelope /ˈnjuːklɪə ˈenvələʊp/	The **nuclear envelope** is a double membrane with small holes, called pores.
spindle /ˈspɪndl/	The **spindle** is made of protein fibres that pull chromosomes apart.
sister chromatids /ˈsɪstə ˈkrəʊmətɪdz/	After DNA copies, each chromosome has two **sister chromatids**, joined in the middle. DNA
• **centromere** /ˈsentrəʊmə/	The **centromere** is where the two chromatids are held together.

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bivalent	A **bivalent** is a pair of matching chromosomes lying together in meiosis.
chiasmata	**Chiasmata** are the places where chromosomes cross over.
equator /ɪˈkweɪtə/	The **equator** goes round the middle of the Earth.
crossing over /ˈkrɒsɪŋ ˈəʊvə/	In **crossing over**, matching chromosomes swap pieces.
independent assortment /ˌɪndɪˈpendənt əˈsɔːtmənt/	**Independent assortment** means each pair of chromosomes is shared out randomly.
fertilisation /ˌfɜːtɪlaɪˈzeɪʃn/	**Fertilisation** happens when a sperm joins an egg.
protein /ˈprəʊtiːn/	Meat, eggs and beans are rich in **protein**.
locus /ˈləʊkəs/	A **locus** is the place of a gene on a chromosome.
allele /əˈliːl/	The gene for eye colour has a brown **allele** and a blue allele.
dominant /ˈdɒmɪnənt/	The brown-eye allele is **dominant**.
recessive /rɪˈsesɪv/	The blue-eye allele is **recessive**.
codominant /ˈkəʊdəmɪnənt/	In **codominant** alleles, both show in the offspring, such as blood group AB. AB
genotype /ˈdʒenətaɪp/	Bb is a **genotype**. Bb
phenotype /ˈfenətaɪp/	Brown eyes are a **phenotype**.

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homozygous /ˌhɒməˈzɪgəs/	A **homozygous** plant has two identical alleles, such as TT. TT
heterozygous /ˌhetrəˈzɪgəs/	A **heterozygous** plant has two different alleles, such as Tt. Tt
test cross /test krɒs/	A **test cross** uses a homozygous recessive parent.
Punnett square /ˈpʌnɪt skweə/	Use a **Punnett square** to predict the offspring.
monohybrid cross /ˈmɒnəʊhaɪbrɪd krɒs/	A **monohybrid cross** follows only one gene.
dihybrid cross /daɪˈhaɪbrɪd krɒs/	A **dihybrid cross** follows two genes at once.
multiple alleles /ˈmʌltɪpl əˈliːlz/	Blood groups come from **multiple alleles**: A, B and O. A、B O
sex linkage /seks ˈlɪŋkɪdʒ/	Colour blindness shows **sex linkage** because the gene is on the X chromosome. X
linkage /ˈlɪŋkɪdʒ/	Genes close together on one chromosome show **linkage**: they are passed on together.
autosome /ˈɔːtəʊsəʊm/	Each **autosome** is a chromosome that is not X or Y. X Y
epistasis /ɪpɪˈstɑːsiz/	In **epistasis**, one gene can hide the effect of another gene.
chi-squared test /kaɪ skweəd test/	A **chi-squared test** checks whether our counts are close to the expected counts.
enzyme /ˈenzaɪm/	The **enzyme** speeds up the reaction.

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albinism /ˈælbɪnɪzəm/	People with **albinism** have very pale skin and hair.
haemoglobin /ˌhiːməˈgləʊbɪn/	**Haemoglobin** in red blood cells carries oxygen.
sickle cell anaemia /ˈsɪkl sel əˈniːmɪə/	In **sickle cell anaemia**, red blood cells bend into a curved shape and carry less oxygen.
haemophilia /ˌhiːməˈfɪlɪə/	In **haemophilia**, the blood does not clot properly.
Huntington's disease /ˈhʌntɪŋtnz dɪˈziːz/	**Huntington's disease** is caused by a dominant allele and damages the brain.
gibberellin /ˌdʒɪbəˈrelɪn/	**Gibberellin** makes stems grow taller.
elongation /iːˌlɒnˈgeɪʃn/	Auxin causes the **elongation** of cells, so the shoot grows longer.
structural gene /ˈstrʌktʃərəl dʒiːn/	A **structural gene** codes for a protein, such as an enzyme.
regulatory gene /ˌregjʊˈleɪtəri dʒiːn/	A **regulatory gene** controls whether other genes are switched on.
inducible enzyme /ɪnˈdjuːsɪbl ˈenzaɪm/	An **inducible enzyme** is only made when its substrate is present.
repressible enzyme /rɪˈpresɪbl ˈenzaɪm/	A **repressible enzyme** stops being made when there is enough of its product.
prokaryote /ˈprɒkərɪəʊt/	A bacterium is a **prokaryote**: it has no nucleus.
lac operon /læk ˈɒpərən/	The **lac operon** lets bacteria make lactose-digesting enzymes only when lactose is present.

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Word	Example
repressor /rɪ'presə/	The **repressor** binds to DNA and switches the genes off. DNA
transcription /træn'skrɪpʃn/	In **transcription**, the DNA code is copied into RNA. DNA RNA
transcription factor /træn'skrɪpʃn 'fæktə/	A **transcription factor** can switch a gene on.
gene expression /dʒi:n ek'spreʃn/	**Gene expression** decides which proteins a cell makes.

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