6 · Inheritance, variation and evolution

AQA · GCSE · Biology · Vocabulary in context

Word	Example
sexual reproduction /ˈsekʃuːəl rɪprəˈdʌkʃn/	**Sexual reproduction** needs a male and a female.
gamete /ˈgæmiːt/	A **gamete**, such as a sperm or egg, has half the normal number of chromosomes.
asexual reproduction /eɪˈsekʃuːəl rɪprəˈdʌkʃn/	Strawberry plants can make new plants by **asexual reproduction**.
clone /kləʊn/	A **clone** has exactly the same DNA as its parent. DNA
mitosis /maɪˈtəʊsɪs/	**Mitosis** makes two identical cells.
meiosis /meɪˈəʊsɪs/	**Meiosis** makes sperm and egg cells.
fertilisation /ˌfɜːtɪlaɪˈzeɪʃn/	**Fertilisation** happens when a sperm joins an egg.
polymer /ˈpɒlɪmə/	Poly(ethene) is a **polymer**.
double helix /ˈdʌbl ˈhiːlɪks/	DNA is shaped like a **double helix**: a twisted ladder. DNA
gene /dʒiːn/	A **gene** is a piece of DNA that codes for one protein. DNA
genome /ˈdʒiːnəʊm/	The human **genome** is all of our DNA. DNA
nucleotide /ˈnjuːklɪətaɪd/	A **nucleotide** is made of a sugar, a phosphate and a base.
adenine /ˈædəniːn/	In DNA, **adenine** always pairs with thymine. DNA

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Word	Example
cytosine /ˈsaɪtəsaɪn/	**Cytosine** always pairs with guanine.
guanine /ˈgwɑːnaɪn/	**Guanine** always pairs with cytosine.
thymine /ˈθaɪmaɪn/	**Thymine** is found in DNA but not in RNA. DNA RNA
ribosome /ˈriːbəʊsəʊm/	The **ribosome** builds the protein.
mutation /mjuːˈteɪʃn/	A **mutation** is a change in the DNA. DNA
chromosome /ˈkrəʊməsəʊm/	Each **chromosome** is one long DNA molecule with many genes. DNA
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**.
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
genotype /ˈdʒenətaɪp/	Bb is a **genotype**. Bb
phenotype /ˈfenətaɪp/	Brown eyes are a **phenotype**.
Punnett square /ˈpʌnɪt skweə/	A **Punnett square** shows every possible combination of the parents' alleles.

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Word	Example
polydactyly /ˌpɒlɪ'dæktili/	**Polydactyly** means having extra fingers or toes.
cystic fibrosis /'sɪstɪk fɪ'brəʊsɪs/	**Cystic fibrosis** makes thick mucus that blocks the lungs.
embryo screening /'embrɪəʊ 'skri:nɪŋ/	**Embryo screening** can show whether an embryo has the allele for cystic fibrosis.
sex determination	In humans, **sex determination** depends on the X and Y chromosomes. X Y
variation /ˌveərɪ'eɪʃn/	People's heights show **variation**.
evolution /ɪvə'lu:ʃn/	Darwin explained **evolution** by natural selection.
natural selection /'nætʃərəl sɪ'lekʃn/	**Natural selection** means the best-suited animals survive and have young.
speciation /ˌspi:ʃɪ'eɪʃn/	**Speciation** is the forming of a new species.
selection pressure /sɪ'lekʃn 'preʃə/	Cold winters are a **selection pressure** on animals.
selective breeding /sɪ'lektɪv 'bri:dɪŋ/	Farmers use **selective breeding** to get cows that give more milk.
inbreeding /'ɪnbri:dɪŋ/	**Inbreeding** means breeding closely related animals.
genetic engineering /dʒɪ'netɪk ˌendʒɪ'nɪərɪŋ/	**Genetic engineering** puts a useful gene into another organism.
GM crop /ˌdʒi: 'em krɒp/	A **GM crop** may resist insect attack.

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Word	Example
vector (genetic engineering)	A plasmid is used as a **vector** to carry the gene into bacteria.
plasmid /ˈplæzmɪd/	A **plasmid** is a small ring of DNA in a bacterium.
tissue culture /ˈtɪʃuː ˈkʌltʃə/	**Tissue culture** grows many identical plants from a few cells.
cuttings	Gardeners take **cuttings** to grow copies of a good plant.
embryo transplants	**Embryo transplants** put split embryos into other cows to grow identical calves.
adult cell cloning	Dolly the sheep was made by **adult cell cloning**.
warning colouration	Wasps have bright yellow and black **warning colouration**.
antibiotic resistance /ˌæntɪbaɪˈɒtɪk rɪˈzɪstəns/	**Antibiotic resistance** spreads when resistant bacteria survive and reproduce.
fossil /ˈfɒsl/	We found a **fossil** of a fish in the rock.
trace fossil /treɪs ˈfɒsl/	A footprint in rock is a **trace fossil**.
kingdom /ˈkɪŋdəm/	Animals belong to one **kingdom**, and plants to another.
phylum /ˈfaɪləm/	All animals with a backbone belong to one **phylum**.
class /klæs/	Mammals form a **class**.
order /ˈɔːdə/	Cats, dogs and bears belong to the same **order**.

DNA

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Word	Example
family /ˈfæmɪli/	Lions and tigers belong to the cat **family**.
genus /ˈdʒenəs/	Lions and tigers belong to the same **genus**, Panthera. Panthera
species /ˈspiːsiːz/	Lions and tigers are different **species**.
binomial system /baɪˈnəʊmɪəl ˈsɪstəm/	In the **binomial system**, humans are called Homo sapiens: a two-part name. Homo sapiens
three-domain system /θriː dəˈmeɪn ˈsɪstəm/	The **three-domain system** divides life into archaea, bacteria and eukaryota.
archaea /ɑːˈkɪə/	Many **archaea** live in hot springs and other extreme places.
eukaryota	Plants, animals, fungi and protists are all **eukaryota**.
evolutionary tree	An **evolutionary tree** shows how species are related.
common ancestor /ˈkɒmən ˈænsestə/	Humans and chimps share a **common ancestor**.

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