4 · Bioenergetics

AQA · GCSE · Biology · Vocabulary in context

Word	Example
photosynthesis /ˌfəʊtəʊˈsɪnθəsɪs/	Plants make sugar by **photosynthesis**.
chloroplasts /ˈklɔːrəʊplæsts/	**Chloroplasts** make the leaf green.
chlorophyll /ˌklɔːrəʊˈfɪl/	**Chlorophyll** makes leaves green.
glucose /ˈgluːkəʊs/	Cells use **glucose** for energy.
endothermic /ˌendəʊˈθɜːmɪk/	Melting ice is **endothermic**: it takes in heat.
starch /stɑːtʃ/	Potatoes contain a lot of **starch**.
light intensity /laɪt ɪnˈtensɪti/	Photosynthesis is faster at a higher **light intensity**.
limiting factor /ˈlɪmɪtɪŋ ˈfæktə/	On a dark day, light is the **limiting factor** for photosynthesis.
optimum /ˈɒptɪməm/	Above the **optimum** temperature, the rate of photosynthesis falls.
denature /ˈdenətʃə/	High heat can **denature** an enzyme, so its active site loses its shape.
inverse square law	The **inverse square law** says doubling the distance from a lamp gives a quarter of the light.
pondweed	Count the oxygen bubbles given off by the **pondweed**.
sodium hydrogencarbonate	**Sodium hydrogencarbonate** solution supplies carbon dioxide to the pondweed.

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independent variable /ˌɪndɪˈpendənt ˈveərɪəbl/	The **independent variable** is the one you change.
dependent variable /dɪˈpendənt ˈveərɪəbl/	The **dependent variable** is the one you measure.
wavelength /ˈweɪvleŋθ/	The **wavelength** is the distance from one crest to the next.
cellulose /ˈseljuːləʊs/	Plant cell walls are made of **cellulose**.
amino acids /əˈmiːnəʊ ˈæsɪdz/	Proteins are made of **amino acids**.
nitrate ions /ˈnaɪtreɪt ˈaɪɒnz/	Plants need **nitrate ions** to make proteins.
respiration /ˌrespɪˈreɪʃn/	**Respiration** releases energy from glucose.
exothermic /egzəˈθɜːmɪk/	Burning is **exothermic**: it gives out heat.
aerobic respiration /eəˈrəʊbɪk ˌrespɪˈreɪʃn/	**Aerobic respiration** uses oxygen to release energy from glucose.
mitochondria /ˌmaɪtəˈkɒndrɪə/	**Mitochondria** release energy from food.
anaerobic respiration /ˌænəˈrəʊbɪk ˌrespɪˈreɪʃn/	**Anaerobic respiration** releases energy without oxygen.
cytoplasm /ˈsaɪtəplæzəm/	Chemical reactions happen in the **cytoplasm**.
lactic acid /ˈlæktɪk ˈæsɪd/	Hard exercise makes **lactic acid** in your muscles.
yeast /jiːst/	**Yeast** makes bread rise.

Word	Example
ethanol /ˈeθənɒl/	Shake the food with **ethanol** to test for fat.
fermentation /fɜːmənˈteɪʃn/	Yeast makes alcohol by **fermentation** when there is no oxygen.
decomposers /ˌdiːkəmˈpəʊzəz/	Bacteria and fungi are **decomposers**.
heart rate /hɑːt reɪt/	Exercise raises your **heart rate**.
breathing rate /ˈbriːðɪŋ reɪt/	**Breathing rate** is counted in breaths per minute.
breath volume	Deeper breaths increase the **breath volume**.
fatigued	After long exercise the muscles become **fatigued**.
oxygen debt /ˈɒksɪdʒn det/	You keep breathing hard after a race to repay the **oxygen debt**.
liver /ˈlɪvə/	The **liver** makes bile.
haemoglobin /ˌhiːməˈgləʊbɪn/	**Haemoglobin** in red blood cells carries oxygen.
metabolism /məˈtæbəlɪzəm/	The scan shows where **metabolism** is fast.
glycogen /ˈglaɪkədʒn/	The liver stores **glycogen**.
glycerol /ˈglɪsərɒl/	A fat molecule contains one **glycerol**.
fatty acids /ˈfæti ˈæsɪdz/	A fat is made of glycerol and **fatty acids**.
lipid /ˈlɪpɪd/	Fats and oils are **lipids**, and they do not mix with water.

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Word	Example
urea /juːˈrɪə/	The liver makes **urea**.
excretion /ekˈskreʃn/	The kidneys carry out **excretion** of urea.