Biotechnology and genetic modification

IGCSE Biology · Vocabulary in context

Word	Example
biotechnology /ˌbaɪəʊtekˈnɒlədʒi/	**Biotechnology** uses living things to make useful products.
enzymes /ˈenzaɪmz/	**Enzymes** speed up reactions in the body.
bacteria /bækˈtɪərɪə/	Chlorine kills **bacteria** in drinking water.
rate /reɪt/	The **rate** of reaction is faster when it is warm.
molecules /ˈmɒlɪkjuːlz/	Water is made of **molecules**.
ethical /ˈeθɪkl/	Some people have **ethical** concerns about changing genes.
plasmids /ˈplæzmɪdz/	Bacteria have small rings of DNA called **plasmids**.
yeast /jiːst/	**Yeast** makes bread rise.
anaerobic respiration /ˌæneəˈrəʊbɪk ˌrespɪˈreɪʃn/	**Anaerobic respiration** releases energy without oxygen.
ethanol /ˈeθənɒl/	Shake the food with **ethanol** to test for fat.
biofuel /ˌbaɪəʊˈfjuːəl/	Ethanol made from sugar cane is a **biofuel**.
renewable /rɪˈnjuːəbl/	Wood is a **renewable** resource if we plant new trees.
pectinase /ˈpektɪneɪs/	**Pectinase** helps get juice out of apples.
pectin	**Pectin** holds plant cells together.

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washing powders /ˈwɒʃɪŋ ˈpaʊdəz/	Many **washing powders** contain enzymes.
lactase /ˈlækteɪs/	**Lactase** breaks down the sugar in milk.
lactose /ˈlæktəʊs/	**Lactose** is the sugar in milk.
proteases /ˈprəʊteɪsɪz/	**Proteases** in washing powder remove egg stains.
lipases /ˈlɪpeɪsɪz/	**Lipases** in washing powder remove greasy stains.
galactose	Lactose breaks down into glucose and **galactose**.
fermenter /fɜːˈmentə/	A **fermenter** is a big tank for growing microorganisms.
insulin /ˈɪnsjuːlɪn/	**Insulin** lowers the level of sugar in the blood.
penicillin /ˌpenɪˈsɪlɪn/	**Penicillin** was the first antibiotic.
mycoprotein /ˈmaɪkəprəʊtiːn/	**Mycoprotein** is a meat-free food made from fungi.
temperature /ˈtemprɪtʃə/	The thermometer shows the water's **temperature**.
oxygen /ˈɒksɪdʒn/	Your cells need **oxygen** to release energy.
contamination /kənˌtæmɪˈneɪʃn/	Keep the fermenter clean to stop **contamination**.
sterilised	The fermenter is **sterilised** before use.
genetic modification /dʒɪˈnetɪk ˌmɒdɪfɪˈkeɪʃn/	**Genetic modification** can give crops new genes.

Word	Example
genes /dʒi:nz/	**Genes** control your eye colour.
genetic material /dʒɪ'netɪk mə'tɪərɪəl/	DNA is the **genetic material** of a cell.
protein /'prəʊti:n/	Meat, eggs and beans are rich in **protein**.
restriction enzymes /rɪ'strɪkʃn 'enzaɪmz/	**Restriction enzymes** cut DNA at special places.
sticky ends /'stɪki endz/	**Sticky ends** help two pieces of DNA join.
ligase /'lɪgeɪs/	**Ligase** joins pieces of DNA together.
recombinant plasmid /ˌri:'kɒmbɪnənt 'plæzmɪd/	A **recombinant plasmid** carries a new gene.
express /ek'spres/	The bacteria **express** the human insulin gene.
crop plants /krɒp plænts/	Wheat and maize are **crop plants**.
resistance /rɪ'zɪstəns/	Some crops have **resistance** to insects.
herbicides /'hɜ:bɪsaɪdz/	**Herbicides** kill weeds.

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