

CORE SCIENCE B1: BIOLOGY

HIGHER content labeled

Video

Exam Q



KEEPING HEALTHY

Describe the components of a balanced diet and say why each is needed.			
Describe the effects of an unbalanced diet – eating too much or too little.			
Describe how exercise affects health.			
Explain metabolic rate and the affect of exercise on metabolic rate.			
State how inherited factors may affect metabolic rate or cholesterol.			
Define pathogen.			
Describe how viruses and bacteria make us ill.			
State some ways the body protects against pathogens.			
Describe the 3 ways white blood cells work.			
Describe how an individual may become immune to a pathogen.			
Describe how vaccinations can protect individuals and populations.			
Describe the work of Semmelweiss and explain its importance.			
State how some different types of medicines work.			
Explain why antibiotics don't work on viral infections, and why treatment is difficult.			
Explain antibiotic resistance. HIGHER			
Give some of the problems with resistance strains of bacteria or viruses. HIGHER			
Write a method for culturing microorganisms in sterile conditions.			
Explain differences in school & industrial conditions for growing microbes.			

NERVES AND HORMONES

State the role of the nervous system in responding to the environment.			
Link some examples of stimuli and receptor cells.			
State some of the features of light receptor cells.			
Describe the pathway of a simple reflex action.			
Explain how water, ions, temperature & blood sugar levels are controlled.			
Describe the general role of hormones in the body.			
Describe the role of hormones in controlling the menstrual cycle.			
Explain the use of hormones in controlling fertility			
Describe how plants are sensitive to light, moisture and gravity.			
Explain how hormones can control growth in plants.			
Give some agricultural uses of hormones.			

USE AND ABUSE OF DRUGS.

Describe the stages in developing and testing new medical drugs.			
State the use of statins.			
Describe the problems, and current use of, thalidomide.			
Describe what a 'drug' is and the problems with dependence and addiction.			
State some of the effects of misuse of legal and illegal recreational drugs.			
Describe some examples of performance enhancing drugs in sport.			

INTERDEPENDENCE AND ADAPTATION			
Describe what animals compete			
Describe what plants compete for			
Explain how particular adaptations help animals to survive in their habitats			
Explain what extremophiles are			
Describe how distribution of organisms can change when the environment changes			
State some examples of changes in the environment			
Explain how lichens and invertebrates can be used as indicator species			
Describe how we can use equipment to measure oxygen levels, temperature and rainfall			
ENERGY AND BIOMASS IN FOOD CHAINS			
State that the sun is the source of energy for living organisms			
Describe the energy transfer that takes place during photosynthesis			
Draw a pyramid of biomass for a food chain			
Explain why the energy and biomass decrease further up the pyramid			
WASTE MATERIALS FROM PLANTS AND ANIMALS			
State that living things remove materials from the environment			
State that when organisms die and decay, materials are returned to the environment			
Define the term 'decay' & describe the conditions that microorganisms grow fastest in			
Explain why decay is important for plant growth			
Describe a stable community in terms of the materials being cycled within it			
State how carbon dioxide is removed from, and released into the atmosphere			
Describe the role of plants, animals and microorganisms in the carbon cycle			
Explain how combustion affects carbon dioxide levels			
GENETIC VARIATION AND ITS CONTROL			
Define the term 'gene' & describe how genes are passed on from parents to offspring			
State that genes control characteristics			
Give reasons to describe why there may be differences in characteristics in organisms			
Describe what sexual reproduction is			
Describe what asexual reproduction is			
Explain if offspring will be identical or different to their parents based the type of			
Describe the process of taking cuttings & state some advantages of taking cuttings			
Describe the stages involved in tissue culture, embryo transplants and adult cell cloning			
Describe what genetic engineering is			
Define what GM (genetically modified) is			
Give examples of ways in which we could modify crops and evaluate GM crops			
EVOLUTION			
Describe Darwin's theory of evolution			
Give three reasons why the theory of natural selection was not accepted at first			
Describe the main stages of natural selection			
State that variation can occur due to mutation			
State the groups that living are classified into			
Interpret evolutionary trees			
Describe Lamarck's theory of evolution			

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