

<p style="text-align: center;">ADDITIONAL SCIENCE B2: BIOLOGY Higher content in bold</p>	Video	Exam Q	☺ ☹ ☹ ☹
B2.1 – CELLS AND SIMPLE TRANSPORT			
Label an animal cell and a plant cell.			
Give the functions of each of the part of a cell.			
Label a bacterial cell and a yeast cell.			
Give examples of specialised cells and explain how they are adapted to their function.			
Define diffusion.			
Give a factor that affects the rate of diffusion.			
Explain why diffusion is important for respiration.			
B2.2 – TISSUES, ORGANS AND ORGAN SYSTEMS			
Describe what organisms are made up of in terms of cells, tissues, organs & systems.			
Give functions of muscular tissue, glandular tissue and epithelial tissue in the stomach.			
Label the digestive system.			
Describe the role of the main organs in the digestive system.			
Give examples of plant organs.			
Describe the role of plant tissues (mesophyll, xylem, phloem, epidermis).			
Label the internal structure of the leaf.			
B2.3 – PHOTOSYNTHESIS			
Describe the process of photosynthesis.			
Explain how the rate of photosynthesis can be limited by different factors.			
Evaluate the pros and cons of artificially manipulating conditions within a greenhouse.			
State what plants use glucose and nitrate ions for.			
B2.4 – ORGANISMS AND THEIR ENVIRONMENT			
Be able to calculate the mean, median and mode.			
Describe how to collect <i>valid</i> data on distribution of organisms & check reproducibility.			
State some physical factors that can affect the distribution of organisms.			
Evaluate the methods used to collect environmental data.			
B2.5 – PROTEINS FUNCTIONS AND USES			
Describe what proteins are made up of.			
State some types of proteins in the body.			
Describe the role of catalysts.			
Describe factors that affect the shape of an enzyme.			
Name enzymes involved in digestion, & name the substrate & products of breakdown.			
Explain how hydrochloric acid and bile help enzymes in digestion.			
Describe the role of enzymes in the home and industry.			
Evaluate the role of enzymes in the home and industry.			

B2.6 – AEROBIC AND ANAEROBIC RESPIRATION			
State where respiration takes place.			
Give the word equation for aerobic respiration.			
Describe what the energy released is used for in plants and animals.			
Explain changes that take place to the heart rate & breathing rate during respiration.			
Describe what anaerobic respiration is and why it happens.			
Compare anaerobic and aerobic respiration in terms of the energy released			
Explain what 'oxygen debt' means			
Explain why muscles become fatigued after long periods of exercise.			
B2.7 – CELL DIVISION AND INHERITANCE			
Describe where, why and how mitosis takes place.			
Describe where and why meiosis takes place.			
Describe the process of meiosis.			
Describe what happens during fertilisation.			
Describe what stem cells are.			
Evaluate the use of stem cells in research and medicine.			
Explain how sexual reproduction leads to genetic variation.			
Define the terms gene, allele, chromosome and DNA.			
State the sex chromosomes in males and in females.			
Explain the link between genes, amino acids and proteins.			
Describe what genetic fingerprinting could be used for.			
Describe what polydactyl is.			
Draw and interpret genetic diagrams for the inheritance of polydactyly.			
Describe what cystic fibrosis is.			
Draw and interpret genetic diagrams for the inheritance of cystic fibrosis.			
Construct genetic diagrams using heterozygous, homozygous, genotype, phenotype.			
Evaluate embryo screening.			
B2.8 – SPECIATION			
Describe how fossils are formed.			
Explain why some organisms did not leave fossils behind.			
Explain how fossils can be used to help us find out about changes to organisms.			
State factors that can cause extinction.			
Describe the process of speciation.			

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