Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**GCSE Science**

**10-minute quizzes**

**Higher**

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**Biology Paper 1**

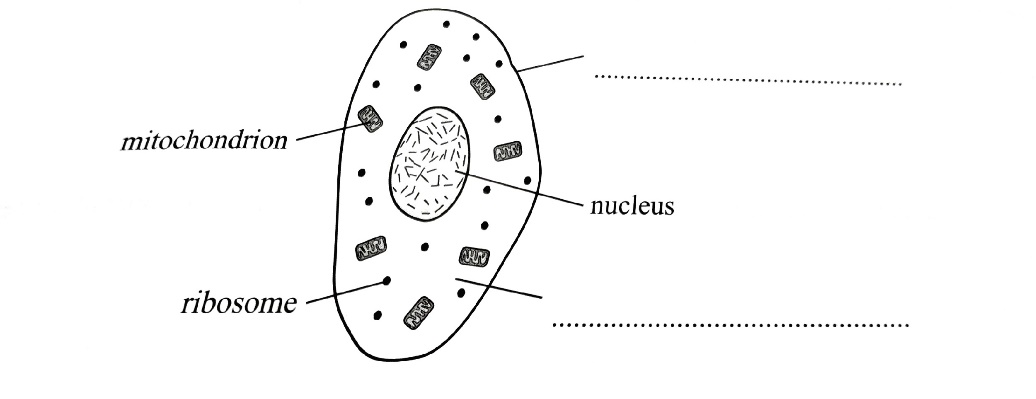
**Quiz 1: Cell Biology**

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| 1. **True or False? “All plant cells lose the ability to differentiate at an early stage”.**   A – True  B – False | 1. **Which of these organelles are not found in a bacterial cell?**   A – Nucleus  B – Cell membrane  C – Cell wall |
| 1. **Diffusion is where particles spread out from…**   A - …an area of lower concentration to an area of higher concentration.  B - …an area of higher concentration to an area of low concentration. | 1. **When using a light microscope to view a slide, which lens should be selected to start with?**   A – Lowest powered objective lens  B – Highest powered objective lens |
| 1. **True or False? “In human body cells, chromosomes usually come in pairs”.**   A – True  B - False | 1. **If the concentration of water inside a cell is lower than outside the cell, what will the net movement of water molecules be?**   A – Into the cell.  B – Out of the cell. |
| 1. **Which of these characteristics makes the alveoli efficient at gas exchange?**   A – They have thick walls.  B – They have a large surface area.  C – They don’t have a good blood supply. | 1. **What happens inside a cell before mitosis takes place?**   A – The number of subcellular structures it has increases.  B – One set of chromosomes is pulled to each end of the cell.  C – The cell membrane divides. |

1. **Explain one way in which a nerve cell is adapted to carry out its specialised function. (1)**

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1. **What is a stem cell? (2)**

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1. **Complete the diagram of the animal cell. (4)**

**Describe the roles of the following parts of the cell:**

**Mitochondria: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Nucleus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 2: Organisation**

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| 1. **What is a tissue?**   A – A collection of different types of cell that work together.  B – A collection of similar cells that work together. | 1. **What colour is iodine solution in the presence of starch?**   A – Blue-black  B – Brown-orange  C – Brick-red |
| 1. **Where is bile produced and stored?**   A – Produced in the liver and stored in the gall bladder.  B – Produced in the gall bladder and stored in the stomach.  C – Produced in the stomach and stored in the pancreas. | 1. **True or False? “People who have problems with their immune system have an increase chance of summering from communicable diseases”.**   A – True  B – False |
| 1. **Which type of tumour is cancerous?**   A – Benign  B - Malignant | 1. **Which of these is NOT a chamber of the heart?**   A – Left ventricle  B – Right atrium.  C- Vena Cava |
| 1. **Which of these aren’t features of arteries?**   A – Elastic fibres  B – Thick walls.  C – Valves. | 1. **What is the function of palisade mesophyll tissue?**   A – It covers the surface of the plant.  B – It’s where photosynthesis happens.  C – It carries substances around a plant. |

1. **What is the role of protease enzymes? (1)**

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1. **Describe the function of phloem tissue. (1)**

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1. **Give two components of the blood that are carried in the blood plasma. (2)**
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3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Describe what happens to an enzyme If the temperature is too high (3)**

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**Quiz 3: Organisation**

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| 1. **True or False? “Organ systems work together to form organs.”**   A – True  B – False | 1. **What artificial device can be used to keep arteries open and blood flowing?**   A – A ventilator  B – A valve  C – A stent |
| 1. **When breathing in, which structure(s) does air enter first?**   A – Alveoli  B – Trachea  C – Bronchi | 1. **What is the function of white blood cells?**   A – They deliver nutrients around the body.  B – They transport deoxygenated blood around the body.  C – They defend the body against microorganisms. |
| 1. **Why is the shape of an enzyme important for its function?**   A – So it can squeeze through small gaps.  B – So that it can enter the cells of the body.  C – So that it fits the substance involved in the reaction it is catalysing. | 1. **What is the name of the cells that control the opening and closing of the stomata?**   A – Palisade cells  B – Guard cells  C- Meristem cells |
| 1. **True or False? “Blood flows to the organs through the veins.”**   A – True  B – False | 1. **Which of the following would you use to test for the presence of protein?**   A – Biuret solution  B – Benedict’s solution  C – Iodine solution. |

1. **Give one advantage of using an artificial heart rather than transplanting a natural one. (1)**

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1. **Give one risk factor that can increase a person’s chance of developing liver disease. (1)**

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1. **Describe what a benign tumour is. (1)**

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1. **Explain how increasing air movement around a plant’s eaves would affect the rate of transpiration. (4)**

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**Quiz 4: Infection and Response**

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| 1. **What is the first stage of testing a new medicinal drug?**   A – The drug is tested on human cells and tissues in the lab.  B – The drug is tested on human volunteers in a clinical trial. | 1. **How does the stomach help to defend the body against pathogens?**   A – It secretes hydrochloric acid to kill pathogens  B – It contains hairs to trap pathogens  C – It secretes antibodies to kill pathogens |
| 1. **What’s a microorganism that causes disease called?**   A – An antibody  B – An antitoxin  C – A pathogen | 1. **Which type of pathogen causes rose black spot on leaves?**   A – Fungus  B – Bacterium  C - Virus |
| 1. **Which drug was developed by Alexander Fleming?**   A – Penicillin  B – Digitalis  C - Aspirin | 1. **Gonorrhoea is a disease caused by…**   A – …protists.  B - …viruses.  C- …bacteria. |
| 1. **True or False? “Antibiotics can kill viruses.”**   A – True  B – False | 1. **Which type of drugs are used to control HIV?**   A – Antibiotics  B – Antiretrovirals  C – Painkillers. |

1. **Explain why the tobacco mosaic virus (TMV) affects the growth of plants. (2)**

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1. **Explain how mosquito nets help to prevent the spread of malaria. (2)**

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1. **Explain how vaccination can protect against a disease. (3)**

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**Quiz 5: Infection and Response**

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| 1. **What is penicillin?**   A – An antibiotic  B – An anti-viral drug  C – A painkiller | 1. **True or False? “For a large outbreak of an infectious disease to be prevented, everyone must be vaccinated against it.”**   A – True  B – False |
| 1. **Which disease in humans can be partly controlled by vaccinating poultry against the pathogen?**   A – Salmonella food poisoning  B – Gonorrhoea  C - Measles | 1. **Which type of the following diseases is not spread by sexual contact?**   A – HIV  B – Gonorrhoea  C - Measles |
| 1. **What do white blood cells produce to help defend against pathogens?**   A – Antigens  B – Antibiotics  C - Antibodies | 1. **Which of the following diseases is caused by a protist?**   A – Measles  B – Malaria  C - HIV |
| 1. **Which of these statements about bacteria is false?**   A – Bacteria damage cells by living and replicating inside them.  B – Some bacteria reproduce quickly in the body.  C – Bacteria can produce toxins. | 1. **True or False? “Preclinical trials help to find the optimum dose for a drug”.**   A – True  B – False |

1. **How do viruses make you feel ill? (2)**

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1. **How does the nose help to defend the body against disease? (2)**

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1. **What is a double-blind trial and why is it used for clinical trials? (3)**

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**Quiz 6: Bioenergetics**

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| 1. **During exercise, which of the following happens?**   A – Just your breathing rate increases  B – Just your breath volume increases  C – Your breathing rate and breath volume increases | 1. **Which of these is not a limiting factor of photosynthesis?**   A – Light  B – Temperature  C - Oxygen |
| 1. **True or False? “Aerobic respiration occurs in plants and animals all the time”.**   A – True  B – False | 1. **True or False? “The starch in plants that’s created from glucose is insoluble”.**   A – True  B – False |
| 1. **Which type of respiration transfers more energy?**   A – Aerobic  B – Anaerobic | 1. **Respiration is an…**   A – …exothermic reaction  B- …endothermic reaction |
| 1. **Aerobic respiration produces…**   A – …glucose  B - …carbon dioxide only.  C - …water and carbon dioxide. | 1. **What would you expect to happen to the volume of oxygen produced by pondweed if light intensity increased, and it was a limiting factor?**   A – It would increase  B – It would stay the same  C – It would decrease |

1. **Why do muscles start respiring anaerobically during vigorous exercise? (1)**

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1. **Name the supporting material that plants make using glucose. (2)**

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**Which part of the cell is made using this material?**

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1. **Complete the equation for photosynthesis. (2)**

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**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + oxygen**

1. **Describe how the body gets rid of lactic acid that builds up in the muscles. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 7: Bioenergetics**

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| 1. **True or False? “Anaerobic respiration requires oxygen”.**   A – True  B – False | 1. **Alex walked to catch the bus, but Peter was late so had to run. Whose heart rate will be higher?**   A – Alex  B – Peter |
| 1. **Which of these things are not used by plants to make proteins?**   A – Glucose  B – Nitrate ions  C - Lipids | 1. **Other than oxygen, what does photosynthesis produce?**   A – Carbon dioxide  B – Water  C - Glucose |
| 1. **True or False? “As the level of carbon dioxide increases, the rate of photosynthesis will always increase”.**   A – True  B – False | 1. **Which chemical symbol represents a product of aerobic respiration?**   A – C6H12O6  B – O2  C – CO2 |
| 1. **Which of the following is produced when yeast cells respire anaerobically?**   A – Glucose  B – Ethanol  C – Lactic acid | 1. **What is a single lipid molecule made up of?**   A – One molecule of glycerol and three fatty acids.  B – One fatty acid and three molecules of glycerol.  C – Three molecules of glycerol and three fatty acids. |

1. **What is meant by the term ‘metabolism’? (1)**

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1. **Explain what happens to the rate of photosynthesis if a plant is put in a dark place. (2)**

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1. **Describe what is meant by muscle fatigue and state when it occurs. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. **Give two uses of the energy produced by respiration. (2)**
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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**Quiz 8: Biology 1 Mixed Topics**

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| 1. **True or False? “Increasing the temperature always causes the rate of photosynthesis to increase”.**   A – True  B – False | 1. **Which type of microscope has a higher magnification?**   A – Electron microscope  B – Light microscope |
| 1. **Stem cells from adult bone marrow can turn into…**   A – …any type of cell.  B – …many types of cell.  C - …blood cells only. | 1. **Why is a new drug tested of live animals?**   A – Because its cheaper than testing on humans.  B – To test how well the drug works compared to a placebo.  C – To make sure its safe before testing on humans. |
| 1. **If you place a slide of potato in a solution that has a higher sugar concentration than the fluid into the potato, the potato will…**   A – …release water and decrease in mass.  B – …absorb water and increase in mass. | 1. **True or False? “Severe physical illness can lead to the development of mental illness”.**   A – True  B – False |
| 1. **What is the function of cellulose?**   A – To strengthen the cell walls in plants  B – To make proteins  C – To help with respiration | 1. **Chromosomes are…**   A – …a type of organelle where photosynthesis occurs.  B - …really long molecules of DNA, which contain genes.  C - …a type of cell involved in reproduction. |

1. **Give two ways that an exchange surface in animals may be specialised for its function (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **How do plants make proteins? (2)**

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1. **Malignant tumours are more dangerous than benign tumours. Explain why. (3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 9: Biology 1 Mixed Topics**

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| 1. **Which part of the blood is responsible for blood clotting?**   A – Red blood cells  B – White blood cells  C - Platelets | 1. **True or False? “Vaccinations involve injecting small amount of dead or inactive pathogens into the body”.**   A – True  B – False |
| 1. **True or False? “The DNA in plant cells is found within the nucleus”.**   A – True  B – False | 1. **How are root cells specialised for absorbing water and nutrients?**   A – They are round  B – They have bacteria on their surface  C – The cells are shaped like long hairs. |
| 1. **True or False? “Some types of cancer can be triggered by viral infection”**   A – True  B – False | 1. **What is a cell called when its differentiated?**   A – Unspecialised cell  B – Specialised cell  C – Stem cell |
| 1. **The leaf is an example of a plant…**   A – …tissue.  B - …organ.  C - …organ system. | 1. **What happens to enzymes at high temperatures?**   A – They divide, producing more enzymes.  B – They start to attack the cells in the body.  C – They denature. |

1. **What is the function of xylem vessels? (2)**

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**Give one way in which they’re adapted for its function.**

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1. **A student investigated the effect of pH on the reaction rate of amylase on starch solution. Give one example of a variable that must be controlled in this investigation. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**How could this variable be controlled?**

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1. **Describe what happens in the heart of someone with coronary heart disease. (3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 10: Biology 1 Mixed Topics**

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| 1. **What is the function of cellulose?**   A – To strengthen the cell walls in plants  B – To make proteins  C – To help with respiration | 1. **True or False? “The DNA in plant cells is found within the nucleus”.**   A – True  B – False |
| 1. **The leaf is an example of a plant…**   A – …tissue.  B - …organ.  C - …organ system. | 1. **What happens to enzymes at high temperatures?**   A – They divide, producing more enzymes.  B – They start to attack the cells in the body.  C – They denature. |
| 1. **True or False? “An organ is a group of similar cells that work together to carry out a particular function”.**   A – True  B – False | 1. **The right ventricle pumps blood to…**   A – …the lungs.  B – …the brain.  C – …the muscles. |
| 1. **Which of the following plant tissues can differentiate into lots of different types of cell?**   A – Epidermal tissue  B – Mesophyll tissue  C – Meristem tissue | 1. **Oxygen debt is the amount of extra oxygen…**   A – …taken in during exercise because the breathing rate increases.  B – …needed to react with the build up of lactic acid and remove it from cells. |

1. **Explain what is meant by the term ‘cell differentiation’. (1)**

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1. **Name a bacterial disease and give one symptom of this disease. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **What is the function of xylem vessels? (2)**

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**Give one way in which they’re adapted for this function. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **What is osmosis? (2)**

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**Quiz 11: Biology 1 Mixed Topics**

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| 1. **Palisade mesophyll cells are adapted for photosynthesis. Which of these characteristics would help them to carry out this specialised function?**   A – Having a thick cell wall.  B – Containing lots of chloroplasts.  C – Being situated at the bottom of the leaf. | 1. **What happens at the end of mitosis?**   A – The cell grows and increases its number of sub-cellular structures.  B – The cytoplasm and cell membrane divide to form two identical cells.  C – DNA is replicated to form two copies of each chromosome. |
| 1. **Where in a cell do most of the reactions involved in aerobic respiration take place?**   A – Cytoplasm  B - Nucleus  C - Mitochondria. | 1. **True or False? “Some drugs have been made from chemicals originally found in plants”.**   A – True  B – False |
| 1. **Some of the glucose from photosynthesis is used for…**   A – …transpiration.  B – …respiration. | 1. **If you place a slice of potato in a solution that has a higher sugar concentration that the fluid inside the potato, the potato will…**   A – …release water and decrease in mass.  B – …absorb water and increase in mass. |
| 1. **The ‘lock and key’ model is used to describe…**   A – …the way cells divide in mitosis.  B – …the rate of diffusion.  C – …the action of enzymes. | 1. **True or False? “Respiration provides the energy needed for cell metabolism”.**   A – True  B – False |

1. **What happens when a heart valve becomes leaky? (1)**

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1. **Explain how having a large surface area affects the rate of diffusion across an exchange surface. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **Name the blood vessel that carries blood from the lungs to the heart. (2)**

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**Name the blood vessel that carries blood from the heart to the organs. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **What is a hybridoma cell? (TRIPLE) (2)**

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**Quiz 12: Biology 1 Mixed Topics**

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| 1. **Which process allows glucose to move from a higher concentration in the gut to a lower concentration in the blood?**   A – Active transport  B – Osmosis  C - Diffusion | 1. **True or False? “The inheritance of faulty genes is the only risk factor for cancer”.**   A – True  B – False |
| 1. **The human heart pumps blood around the body in a …**   A – …single circulatory system  B - …double circulatory system  C - …triple circulatory system | 1. **True or False? “Active transport means that cells can absorb minerals against the concentration gradient”.**   A – True  B – False |
| 1. **What is the correct equation for anaerobic respiration in muscles?**   A – glucose + oxygen 🡪 carbon dioxide + water  B – glucose 🡪 lactic acid  C – glucose 🡪 ethanol + carbon dioxide | 1. **(TRIPLE) It is possible to detect a plant with nitrate deficiency because it will…**   A – …show stunted growth.  B – …have patches of decay.  C - …have abnormal growths. |
| 1. **True or False? “Stems, roots and leaves are all plant organs”.**   A – True  B – False | 1. **Health is…**   A – …the state of physical well-being only.  B – …the state of mental and emotional well-being only.  C - …the state of physical and mental well-being. |

1. **Complete the equation for magnification. (1)**

1. **Give two examples of diseases that can be caused directly by smoking. (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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4. **A student investigates the effect of pH on the reaction rate of amylase on starch solution. Give one example of a variable that must be controlled in this investigation. (2)**

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**How could this variable be controlled? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **A bacterial cell undergoes binary fission every 20 minutes. If there was a single cell to begin with, how many cells will there be after 2 hours? (TRIPLE) (2)**

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**Quiz 13: Homeostasis and Response**

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| 1. **When a woman has a low level of FSH, her…**   A – …uterus lining is not maintained.  B - …eggs do not mature.  C - …mature eggs are not stimulated to release. | 1. **How many days does the menstrual cycle usually last for?**   A – 52 days  B – 7 days  C – 28 days |
| 1. **Reaction time is the time it takes for someone to…**   A – …detect a stimulus  B – …respond to a stimulus  C - …remember something. | 1. **Which of the following is an example of a coordination centre?**   A – Skin  B – Pancreas  C - Muscle |
| 1. **Which of the following is a barrier method of contraception?**   A – Diaphragm  B – Contraceptive patch  C – Intrauterine device | 1. **The gland which releases thyroxine is…**   A - …the pituitary gland  B - …the adrenal gland  C - …the thyroid gland |
| 1. **Which is the central nervous system made up of?**   A – The brain and receptors  B – The brain and spinal cord  C – The spinal cord and receptors | 1. **Which is the correct pathway for stimuli along the reflex arc?**   A – Relay neurone 🡪 sensory neurone🡪 motor neurone.  B – Sensory neurone 🡪motor neurone 🡪relay neurone.  C- Sensory neurone🡪 relay neurone🡪 Motor neurone |

1. **Give two roles that thyroxine has in the body. (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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4. **Explain what Type 1 diabetes is, and why is it dangerous. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **List three internal conditions that your body needs to keep constant to survive. (3)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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**Quiz 14: Homeostasis and Response**

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| 1. **What is the hormone that controls the ‘fight or flight’ response?**   A – Thyroxine  B – Adrenaline  C - Glucagon | 1. **True or False? “Caffeine can affect a person’s reaction time”.**   A – True  B - False |
| 1. **The contraceptive implant continuously releases progesterone, which…**   A – …stimulates the production of FSH.  B – …stops the ovaries releasing eggs.  C - …acts as a spermicidal agent. | 1. **In the menstrual cycle, what effect does the release of oestrogen have on LH and FSH?**   A – It stimulates the release of LH and FSH.  B – It inhibits the release of LH and stimulates the release of FSH.  C – It stimulates the release of LH and inhibits the release of FSH. |
| 1. **Where in the body would you find the adrenal gland?**   A – Neck  B – Brain  C – Just above the kidneys. | 1. **True or False? “The blood sugar level of someone with Type 1 diabetes is always dangerously low”.**   A – True  B - False |
| 1. **What is secreted by the pancreas when blood glucose levels fall?**   A – Glucose  B – Insulin  C - Glucagon | 1. **True or False? “Hormones have longer-lasting effects than nervous impulses”.**   A – True  B - False |

1. **What is the role of LH in the menstrual cycle? (1)**

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1. **What type of neurone transmits impulses to an effector in the nervous system? (3)**

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**Give an example of an effector and describe how it responds to a stimulus.**

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1. **What is meant by the term homeostasis? (3)**

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**Quiz 15: Inheritance, Variation and Evolution**

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| 1. **True or False? “Selective breeding can happen without human intervention”.**   A – True  B - False | 1. **What effect do mutations have on variation?**   A – They decrease it.  B – They increase it.  C – There is no effect. |
| 1. **When an individual has one dominant and one recessive allele…**   A – …the recessive allele is expressed.  B – …both alleles are expressed.  C - …the dominant allele is expressed. | 1. **True or False? “Fossils can be formed from an organisms footprints and burrows that have been preserved over time”.**   A – True  B - False |
| 1. **How many chromosomes does a human gamete have?**   A – 46  B – 12  C – 23 | 1. **What sex chromosomes does someone who is biologically male have?**   A – XY  B – XXX  C - XX |
| 1. **What is the main idea behind Darwin’s theory of evolution by natural selection?**   A – There is variation in a population. Those more suited to the environment will be more likely to survive and pass on their characteristics.  B – individuals develop characteristics during their lifetimes, which make them more suited to their environment. They pass these onto their offspring. | 1. **How are genes ‘cut out’ from chromosomes in genetic engineering?**   A – Using enzymes  B – Using bacteria  C – Using a knife |

1. **What is a fossil? (1)**

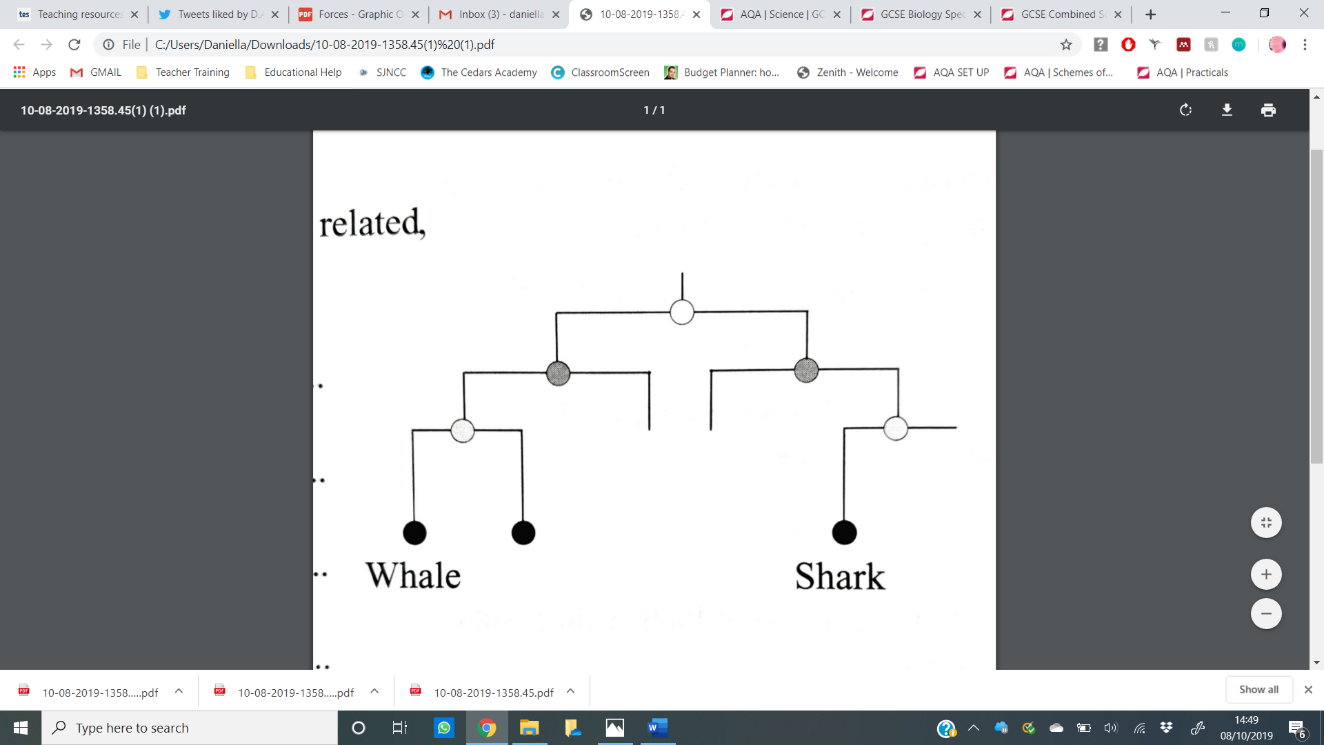
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1. **Give two pieces of evidence that support Darwin’s theory of evolution. (2)**
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **Suggest two reasons why someone may be against embryonic screening. (2)**
5. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
6. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
7. **Briefly describe the role of a vector in genetic engineering and give one example of a vector used. (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 16: Inheritance, Variation and Evolution**

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| 1. **True or False? “The alleles for cystic fibrosis and polydactyly are both dominant”.**   A – True  B - False | 1. **If a farmer wants to increase the meat yield of his cows, he would breed together…**   A – …the biggest cows.  B - …those that produced the most milk.  C - …those with a gentle temperament. |
| 1. **What is an organism’s genotype?**   A – The characteristics that the organism has.  B – The alleles that the organism has. | 1. **How often do mutations result in a new phenotype?**   A – Always  B – Often  C – Very rarely. |
| 1. **What do evolutionary trees show?**   A – Evolutionary relationships  B – Parental relationships  C – Genetic disorders | 1. **What is a problem that could result from patients not finishing a course of antibiotics?**   A – Antibiotic resistance increases in bacteria.  B – Antibiotic resistance increases in viruses.  C – Immunity to disease increases in humans. |
| 1. **How many cell divisions occur during meiosis?**   A – 1  B – 2  C - 4 | 1. **What is the correct order of classification groups?**   A – Kingdom, genus, class, order, family, phylum, species.  B – Family, phylum, species, order, kingdom, genus, class.  C – Kingdom, phylum, class, order, family, genus, species. |

1. **A tall pea plant with two dominant ‘T’ alleles and a dwarf pea plant with two recessive ‘t’ alleles are crossed to produce a pea plant with the genotype Tt. What will the new plant’s phenotype be? Explain your answer. (2)**

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1. **The diagram shows a simple evolutionary tree. Use it to describe how the whale and shark are related in terms of distant and recent ancestors. (2)**

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1. **Explain how sexual reproduction produces variation. (3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz 17: Ecology**

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| 1. **What type of compost should people choose to avoid contributing to global warming?**   A – Peat-free compost  B – Compost made using peat. | 1. **True or False? “In the water cycle, water falls from clouds in the process called evaporation”.**   A – True  B - False |
| 1. **Which is the best definition of an extremophile?**   A – An organism that can live in only one type of environment.  B – An organism that is adapted to living in very extreme conditions.  C – An organism that is adapted to living in safe conditions. | 1. **What does a change in the distribution of an animal mean?**   A – A change in its numbers.  B – A change in where it lives.  C – A change in the food it eats. |
| 1. **Which of the following factors do plants compete for?**   A – Light, space, water and mates.  B – Water, mates, space and mineral ions.  C – Space, water, mineral ions and light. | 1. **True or False? “Global warming could reduce the Earth’s biodiversity”.**   A – True  B - False |
| 1. **Biodiversity is…**   A – …all the organisms of one species living in a habitat.  B – …the interaction of a community of living organisms with the abiotic parts of their environment.  C – …the variety of different species on Earth. | 1. **How do the population sizes of predators and prey change in a stable community?**   A – The size of the predator population continuously increases.  B – The size of the prey population continuously decreases.  C – The sizes of both populations rise and fall in cycles. |

1. **What is meant by the term ‘adaptation’? (1)**

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1. **Give two reasons why large-scale deforestation has occurred in tropical areas. (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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4. **Give two ways that land can be polluted by humans. (2)**
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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7. **Explain how draining peat bogs to produce compost contributes to global warming. (2)**

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**Quiz 18: Ecology**

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| 1. **How can you study the distribution of organisms in a way that will give reproducible results?**   A – Always take the sample from the same place.  B – Use a small sample size  C – Use a large sample size | 1. **What is global warming?**   A – An increase in the level of oxygen within the Earth’s atmosphere.  B – A decrease in the level of carbon dioxide within the Earth’s atmosphere.  C – An increase in the average global temperature. |
| 1. **True or False? “To study the effect of an abiotic factor on the distribution of an organisms, you could use a transect”.**   A – True  B - False | 1. **A species being outcompeted by another species is an example of…**   A – …a biotic factor  B - … an abiotic factor |
| 1. **Which of the following is an abiotic factor?**   A – Temperature  B – New predators arriving  C – New pathogens arriving | 1. **A producer…**   A – …is eaten by secondary consumers.  B - …makes glucose from photosynthesis  C - …is also a primary consumer |
| 1. **True or False? “Sewage produced by humans can pollute lakes, rivers and oceans”.**   A – True  B - False | 1. **If a new predator arrives in an area, will the size of the prey population increase or decrease?**   A – Increase  B - Decrease |

1. **What is interdependence? (1)**

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1. **How does respiration contribute to the carbon cycle? (1)**

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1. **Give two types of programme that people have set up to protect ecosystems and biodiversity. (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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4. **Suggest three biotic factors that might cause a decrease in the population of a species. (3)**
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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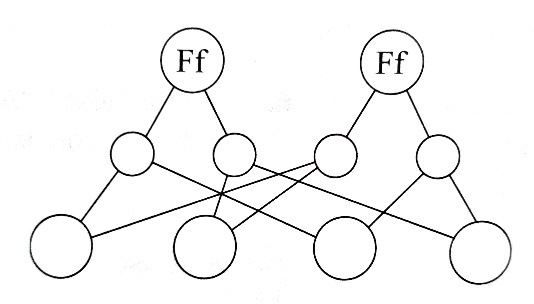
**Quiz 19: Biology 2 Mixed Topics**

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| 1. **Which of the following may be used to control Type 2 diabetes?**   A – Taking injections of glucagon  B – Avoiding all forms of exercise  C – Eating a carbohydrate-controlled diet | 1. **True or False? “An organism’s characteristics can only be determined by the genes it has inherited”.**   A – True  B - False |
| 1. **Which of the following is the main reproduction hormone in men?**   A – Oestrogen  B – Progesterone  C - Testosterone | 1. **What is a gene?**   A – An amino acid  B – A protein  C – A small section of DNA |
| 1. **Who developed the three-domain classification system?**   A – Carl Linnaeus  B – Carl Woese  C – Charles Darwin | 1. **True or False? “Some gametes are genetically identical to each other”.**   A – True  B - False |
| 1. **What is meant when a reflex arc is described as ‘automatic’?**   A – It only involves the brain  B – It only involves the conscious part of the brain  C – It doesn’t involve the conscious part of the brain | 1. **An ecosystem is the interaction…**   A – …between the individuals of a species that live in a habitat.  B - …between the community of living organisms  C - …between the community of living organisms and the non-living parts of their environment. |

1. **Why is it important for your body temperature to be maintained at a certain level? (1)**

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1. **Suggest two reasons why it is important to understand the human genome. (2)**
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Mary and Sam are about to have a child. Both carry the cystic fibrosis allele, but do not have the disease. Complete the genetic diagram to show the possible genotypes of the child.**

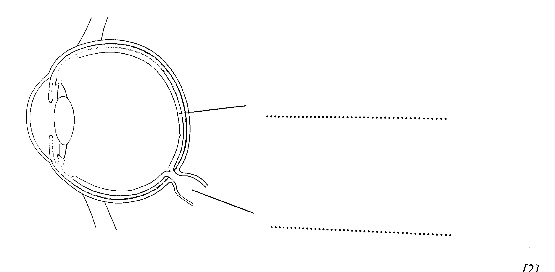
**What is the chance that their child will have cystic fibrosis? Explain your answer. (4)**

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**Quiz 20: Biology 2 Mixed Topics**

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| 1. **(TRIPLE) How many bases are needed to code for one amino acid?**   A – 1  B – 3  C - 6 | 1. **True or False? “An organism’s characteristics can only be determined by the genes it has inherited”.**   A – True  B - False |
| 1. **Which of the following may be used to control Type 2 diabetes?**   A – Taking injections of glucagon  B – Avoiding all forms of exercise  C – Eating a carbohydrate-controlled diet. | 1. **(TRIPLE) What is *Fusarium*?**   A – A fungus  B – A bacterium  C – A plant |
| 1. **(TRIPLE) True or False? “Embryo transplants can be used to clone plants”.**   A – True  B - False | 1. **(TRIPLE) Alfred Russel Wallace came up with the idea of…**   A – …classifying living things into groups.  B - …the inheritance of ‘hereditary units’.  C - …evolution by natural selection. |
| 1. **What is meant when a reflex arc is described as ‘automatic’?**   A – It only involves the brain  B – It only involves the conscious part of the brain  C – It doesn’t involve the conscious part of the brain | 1. **An ecosystem is the interaction…**   A – …between the individuals of a species that live in a habitat.  B - …between the community of living organisms  C - …between the community of living organisms and the non-living parts of their environment. |

1. **Which gas is biogas mainly made up of? (TRIPLE) (1)**

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1. **Complete the diagram of an eye. (TRIPLE) (2)**
2. **Give two examples of hormonal contraceptive. (2)**
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. **Explain why new, antibiotic-resistant strains of bacteria can quickly spread. (2)**

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**Quiz 21: Biology 2 Mixed Topics**

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| 1. **Which of these is a problem caused by rapid rise in the world’s population?**   A – Less carbon dioxide in the atmosphere  B – More waste is being produced  C – More diversity amongst people | 1. **True or False? “Surgical sterilisation in males involves cutting the sperm duct and so is a permanent method of contraception”.**   A – True  B - False |
| 1. **Deforestation is…**   A – …growing crops in forests.  B - …renaming forests.  C - …cutting down trees. | 1. **What combination of hormones can be given to a woman to improve her fertility?**   A – Oestrogen and progesterone  B – FSH and LH  C – Oestrogen and LH |
| 1. **True or False? “The pituitary gland secretes hormones that act on other glands to trigger the release of other hormones”.**   A – True  B - False | 1. **Which of these things do animals not compete for in order to survive?**   A – Food  B – Light  C - Space |
| 1. **The level of glucose in the blood is monitored by the …**   A – …pancreas.  B - …thyroid gland.  C - …pituitary gland. | 1. **What is the male gamete in plants called?**   A – Egg  B – Stamen  C - Pollen |

1. **Give one use of genetically engineered bacteria in medicine. (1)**

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1. **Explain why new, antibiotic-resistant strains of bacteria can quickly spread (2)**

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1. **Describe the process of *in vitro* fertilisation (IVF). (4)**

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**Quiz 22: Biology 2 Mixed Topics**

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| 1. **True or False? “The theory of evolution says that all living species have evolved from simple life forms”.**   A – True  B - False | 1. **Who developed the three-domain classification system?**   A – Carl Linnaeus  B – Carl Woese  C – Charles Darwin |
| 1. **How could a farmer grow crops which are resistant to insect attacks and herbicides?**   A – By planting the crops in winter  B – By putting a large fence around their field.  C – By growing GM crops  . | 1. **True or False? “Synapses connect receptors”.**   A – True  B - False |
| 1. **What are alleles?**   A – Male sex chromosomes  B – Two gametes fused together  C – Different versions of the same gene | 1. **In what type of reproduction do gametes fuse together?**   A – Asexual  B – Sexual |
| 1. **(TRIPLE) What do receptors in the thermoregulatory centre detect?**   A – Temperature of the skin  B – Temperature of the blood.  C – Temperature of the air. | 1. **What is the male gamete in plants called?**   A – Egg  B – Stamen  C - Pollen |

1. **What does an effector do? (1)**

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1. **Suggest two reasons why it is important to understand the human genome. (2)**
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3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Describe the process of *in vitro* fertilisation (IVF). (4)**

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