

PiXL6 Challenge Quiz 1 – A Level Biology

(To take part in this quiz using an interactive Google Doc please click on the following link: [Biology Google Quiz](#))

Name :

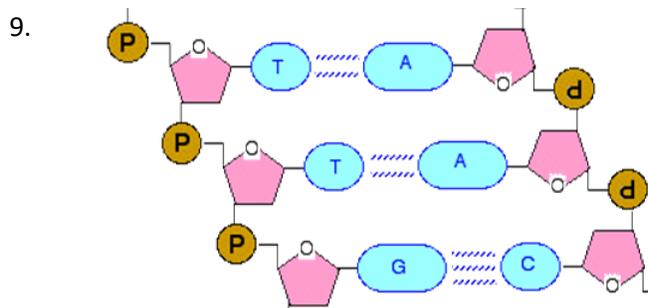
Score: /20

INSTRUCTION

- Read the question carefully.
 - Circle the correct letter.
 - Answer all questions
-

1. What will happen to an animal cell placed in a salt water solution?
 - a. the cell will expand
 - b. the cell will divide
 - c. the cell will burst
 - d. the cell will shrink
2. Fatty acids that are unsaturated have
 - a. a double bond
 - b. an amino group
 - c. an excess of protons
 - d. a carboxyl group
3. The cohesion of water is caused by:
 - a. hydrophobic compounds
 - b. hydrogen bonds
 - c. ionic bonds
 - d. covalent bonds
4. Enzymes are specific. This means:
 - a. the substrate has a specific active site the enzyme will bind to
 - b. the substrate and enzyme have an active site which bind together
 - c. the enzyme has an active site and only one specific substrate can bind
 - d. only one specific substrate will bind to an enzyme at a time
5. The main component of a biological membrane is a phospholipid bilayer. This is formed due to:
 - a. hydrophobic heads of the phospholipid bilayer facing inwards
 - b. hydrophobic tails of the phospholipid bilayer facing inwards
 - c. hydrophilic heads of the phospholipid bilayer facing inwards
 - d. hydrophilic tails of the phospholipid bilayer facing outwards

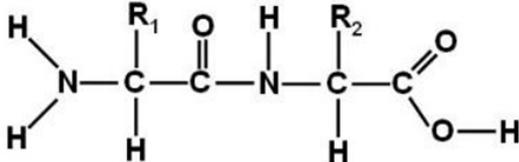
6. α -glucose
- has a hydrogen atom positioned 'up' on carbon 1 when in a ring structure
 - is a pentose sugar
 - has a hydrogen atom positioned 'down' on carbon 1 when in a ring structure
 - is the monomer that makes up cellulose
7. DNA replicates by a process called semi-conservative replication. It is called this because:
- one DNA molecule retains all the original nucleotides and a complete new molecule is made
 - only part of the DNA molecule is replicated
 - each replicated DNA strand contains nucleotides from both the original parent strand and new nucleotides
 - the new DNA molecules contain one original strand and one newly synthesised strand
8. The temperature of an enzyme catalysed reaction was increased from 20°C to 35°C. The rate of reaction increased because:
- there are more successful collisions between the enzyme and the substrate
 - the substrate has more kinetic energy
 - the size of the active site has increased so more substrate can fit in
 - the enzyme is becoming denatured



DNA is a polynucleotide.
The bond which holds the nucleotide monomers together is a:

- peptide bond
 - glycosidic bond
 - phosphodiester bond
 - hydrogen bond
10. If a photograph taken down the lens of a microscope shows a plant cell at 15cm diameter and the actual cell has a diameter of 150 μ m, the magnification of the microscope is:
- X100
 - X0.1
 - X1000
 - X10

11. As a cell gets larger:
- the surface area to volume ratio decreases
 - diffusion of materials stops
 - the surface area to volume ratio increases
 - osmosis stops
12. Facilitated diffusion is **best** described as:
- the passive movement of molecules from an area of higher to lower concentration
 - the active movement of molecules against a concentration gradient
 - the movement of water from an area of higher water potential to an area of lower water potential across a partially permeable membrane
 - a form of diffusion which is helped by carrier or channel proteins
13. In an open circulatory system:
- blood is pumped at high pressure around the body in a continuous system of vessels
 - exchange of materials takes place across thin walled capillaries
 - blood is forced back into the heart when the pressure in the arteries increases
 - blood empties into a series of body cavities and bathes surrounding cells
14. During ventricular systole:
- the AV valves and the semi-lunar valves are open; the volume of the ventricles decrease
 - the AV valves are shut and the semi-lunar valves are open; the volume of the ventricles decrease
 - the AV valves are open and the semi-lunar valves are shut; the volume of the ventricles increase
 - the AV valves are shut and the semi-lunar valves are open; the volume of the ventricles increase

15.  Two amino acids join to form a dipeptide. The bond that is formed is a:
- glycosidic bond
 - phosphodiester bond
 - peptide bond
 - hydrogen bond

16. Translocation is the movement of organic molecules through the phloem of plants. The **best** description of this is:
- an active process caused by a hydrostatic pressure gradient
 - passive diffusion down the phloem
 - active transport down the phloem

- d. a passive process caused by a hydrostatic pressure gradient
17. Which statement about water movement in a plant is **NOT** correct?
- a. water evaporates from the mesophyll cells in the sub-stomatal space
 - b. water molecules are cohesive due to covalent bonding
 - c. tension created by transpiration is only effective because of the cohesive property of water
 - d. cohesion causes water to fill the xylem and maintains a continuous column
18. Breathing in (inspiration) is made possible by:
- a. internal intercostal muscles contracting; diaphragm relaxing
 - b. internal intercostal muscles contracting; diaphragm contracting
 - c. external intercostal muscle contracting; diaphragm contracting
 - d. external intercostal muscles contracting; diaphragm relaxing
19. Biodiversity is important to ecosystems because:
- a. it increases at each level of the food chain
 - b. it helps populations adapt to ecological change
 - c. it reduces the number of pests
 - d. it prevents competition
20. Choose the **best** response. Tissue fluid contains:
- a. ions, glucose, amino acids, oxygen
 - b. plasma proteins, red blood cells, glucose, ions
 - c. oxygen, hormones, plasma proteins, ions
 - d. hormones, ions, oxygen, red blood cells