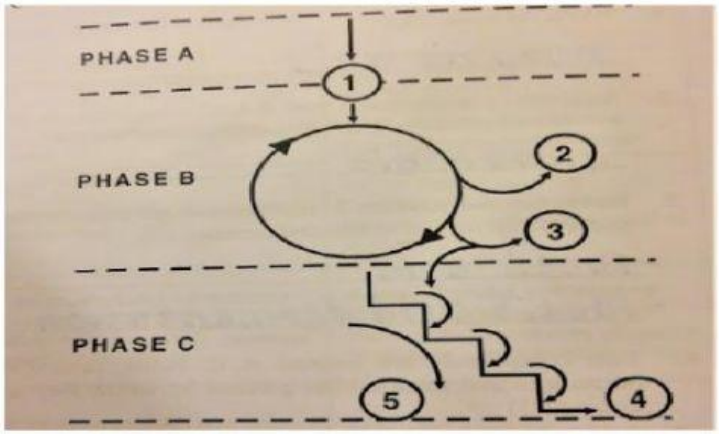
5. Cellular Respiration

1. Which statement best describes respiration? *

- ◯ the release of energy from energy-rich organic compounds in animal and plant cells
- ◯ the taking in of oxygen and the release of carbon dioxide
- ◯ the taking in of oxygen for the oxidation of food molecules with the release of energy
- ◯ the release of energy, either as a result of oxidation using absorbed oxygen, or anaerobically, from energy-rich organic compounds such as food molecules, in all living cells

Questions 2 to 6 refers to the diagram below.



2. In which part of the cell does the phase A take place? *

- ◯ Chloroplast
- ◯ Mitochondrion
- ◯ cytosol
- ◯ Golgi apparatus

3. The 3-carbon compound, labelled 1 is: *

- ◯ acetaldehyde
- ◯ ethanol
- ◯ lactic acid
- ◯ pyruvic acid

4. Which of the following is represented by phase B? *

- ◯ Light-independent phase
- ◯ Kreb's cycle
- ◯ oxidative phosphorylation
- ◯ Light-dependent phase

5. The two compounds released (numbers 2 and 3) during phase B are: *

- ◯ ATP and carbon dioxide
- ◯ carbon dioxide and water
- ◯ carbon dioxide and hydrogen
- ◯ carbon dioxide and NAD

6. In phase C two products are formed, numbers 4 and 5. These are: *

- ◯ oxygen and ADP
- ◯ water and ATP
- ◯ water and oxygen
- ◯ ATP and oxygen

7. The final hydrogen acceptor during oxidative phosphorylation is: *

- ◯ oxygen
- ◯ ADP
- ◯ ATP
- ◯ water

8. During strenuous exercise which of the following substances are depleted (become less) from the muscle cells? *

1 ATP
2 lactic acid
3 oxygen
4 carbon dioxide

- ◯ 1 and 2
- ◯ 3 and 4
- ◯ 1 and 3
- ◯ 1, 2 and 3

9. Aerobic and anaerobic respiration have which one of the following statements in common? *

- ◯ carbon dioxide is used
- ◯ carbon dioxide and water are released
- ◯ energy is released by oxidation of organic compounds
- ◯ oxygen is necessary for all the reactions

10. The muscles of a tennis player get tired at the end of a match. Which of the following chemical substances have increased in concentration in the muscles to cause this feeling? *

- ◯ ethanol
- ◯ ATP
- ◯ glycogen
- ◯ lactic acid