

B2 – Respiration Quiz

1. Give the equation for aerobic respiration.

Glucose + oxygen → carbon dioxide + water (+ energy)

2. Give the equation for anaerobic respiration in humans.

Glucose → lactic acid + carbon dioxide (+ less energy)

3. Give three reasons for respiration.

Cells need energy to build proteins and carry out other functions of life; energy is used to make muscles contract; to keep body temperature constant

4. Which two substances are needed by muscles during vigorous exercise?

Oxygen and glucose for respiration.

5. Why do athletes breathe faster than normal for two minutes after a race?

There is an oxygen debt and oxygen is needed to oxidise the lactic acid that has built up during the race.

6. Describe the process of anaerobic respiration.

In the mitochondria glucose decomposes to lactic acid which causes pain. This leaves an oxygen debt. This type of respiration provides energy quickly but is less efficient than aerobic respiration.

7. What is an oxygen debt?

The amount of oxygen needed after exercise to break down lactic acid.

8. Describe the body changes that occur during exercise.

Heart rate and breathing rate increase to deliver glucose to muscle cells; to increase the supply of oxygen to muscle cells and remove any carbon dioxide.

9. What is glycogen?

A carbohydrate that is stored by muscle cells. Glycogen can be quickly converted to glucose during exercise.