12.2 Aerobic respiration

Name: _____ Class: _____ Date: _____ **Total: 7 marks**

KEY WORDS aerobic respiration • oxygen • glucose • respiration • energy

Objective

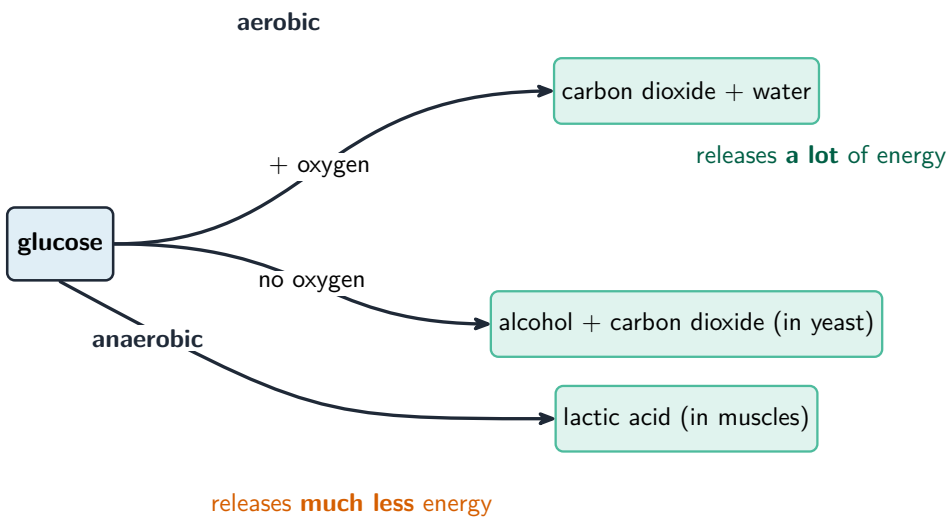
Build the skills to answer exam questions on **aerobic respiration** – the equation and the energy released.

You must be able to:

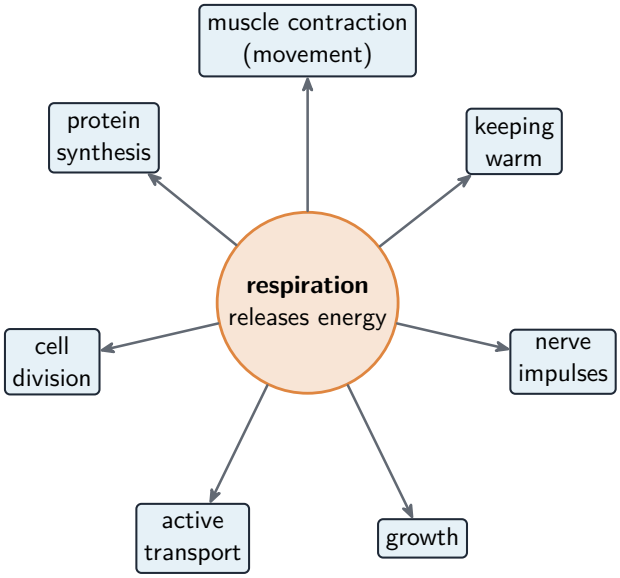
- write the word (and balanced) equation for aerobic respiration
- state that it needs oxygen and releases a lot of energy
- name the products

1 Key knowledge and worked examples

Aerobic respiration



Aerobic respiration needs oxygen and releases a lot of energy



Aerobic respiration releases energy for the cell

$$\text{glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water}$$

Balanced: $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$.

2 Practice

2.1 Write the word equation for aerobic respiration. [2]

2.2 State the gas needed for aerobic respiration. [1]

3 Exam-style questions

3.1 The products of aerobic respiration are: [1]

- ☐ **A** alcohol and carbon dioxide
- **B** lactic acid only
- **C** carbon dioxide and water
- **D** glucose and oxygen

3.2 Aerobic respiration releases energy from glucose.

(a) Write the balanced chemical equation. [2]

(b) State how the energy released compares with anaerobic respiration. [1]