

1.1 Characteristics of living organisms

Name: _____ Class: _____ Date: _____

Total: 10 marks

Objective

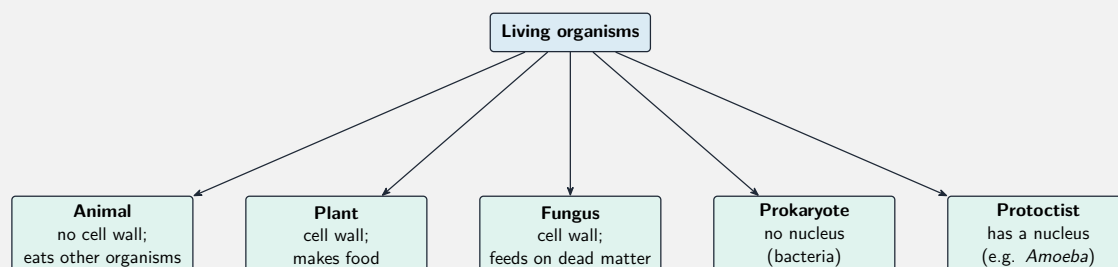
Build the skills to answer exam questions on the **characteristics of living organisms** 生物的特征—the seven life processes (**MRS GREN**).

You must be able to:

- list the seven characteristics with their exact definitions
- define respiration, excretion, sensitivity and nutrition precisely
- recognise that digestion and breathing are **not** in the list

1 Worked examples

■ MRS GREN



All living organisms carry out the seven life processes

- **Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition.**
- **respiration:** chemical reactions in cells that break down nutrients to release energy.
- **excretion:** removal of the toxic waste products of metabolism (and excess substances).

2 Practice

2.1 State what the letters MRS GREN stand for (any four).

[4]

2.2 Define growth. [1]

3 Exam-style questions

3.1 Which is **not** one of the seven characteristics of living organisms? [1]

- **A** respiration
 - **B** digestion
 - **C** excretion
 - **D** sensitivity
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3.2 Give the precise definition of: [2]

(a) excretion

(b) sensitivity

3.3 Explain the difference between nutrition and digestion. [2]

4 Go further

You are now ready for the real exam questions on this subtopic. Open the **1.1 Characteristics of living organisms** past-paper sheet in the Library, or try these in **Practice mode**:

- 0610/21 N25 —Q1 (characteristics of living organisms)
- 0610/23 N25 —Q1 (life processes)

Solutions

2.1 any four of: Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition.

2.2 a permanent increase in size and dry mass.

3.1 B. Digestion is part of nutrition, not one of the seven.

3.2 (a) the removal of the toxic waste products of metabolism (and excess substances).

(b) the ability to detect and respond to changes in the environment.

3.3 nutrition is taking in materials for energy, growth and development; digestion is just one part of nutrition (breaking food into small molecules).