

Exercise walk-through

Characteristics of living organisms ■ 1.1

eXercise

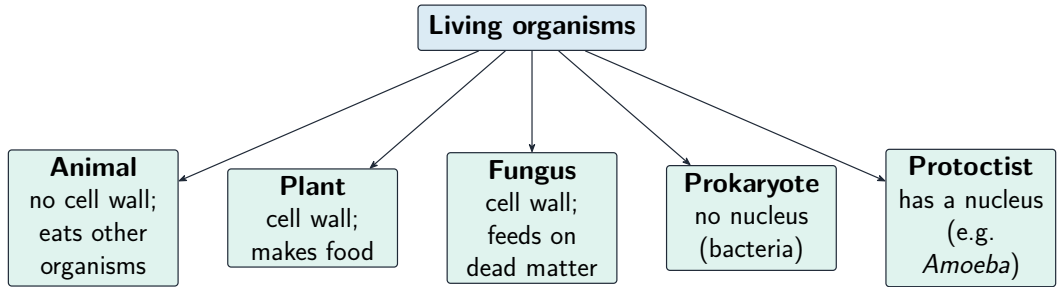
You must be able to

- 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

Method — MRS GREN

- **M**ovement, **R**espiration, **S**ensitivity, **G**rowth, **R**eproduction, **E**xcretion, **N**utrition.
- **respiration:** chemical reactions in cells that break down nutrients to release energy.
- **excretion:** removal of the toxic waste products of metabolism (and excess substances).

Method — MRS GREN



Living organisms sorted into five kingdoms

Practice 2.1 ■ 4 marks

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

Solution 2.1

Worked steps

any four of: Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition **B1** *each, max 4.*

Practice 2.2 ■ 1 mark

Define growth.

Solution 2.2

Worked steps

a permanent increase in size and dry mass **B1**.

Exam-style 3.1 ■ 1 mark

Which is **not** one of the seven characteristics of living organisms?

A respiration

B digestion

C excretion

D sensitivity

Solution 3.1

Method: MRS GREN

A respiration

B digestion 

C excretion

D sensitivity

Worked steps

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

Exam-style 3.2 ■ 2 marks

Give the precise definition of:

- (a) excretion
- (b) sensitivity

Solution 3.2

Worked steps

- (a) the removal of the toxic waste products of metabolism (and excess substances) **B1**.
- (b) the ability to detect and respond to changes in the environment **B1**.

Exam-style 3.3 ■ 2 marks

Explain the difference between nutrition and digestion.

Solution 3.3

Worked steps

nutrition is taking in materials for energy, growth and development **M1**; digestion is just one part of nutrition (breaking food into small molecules) **A1**.