

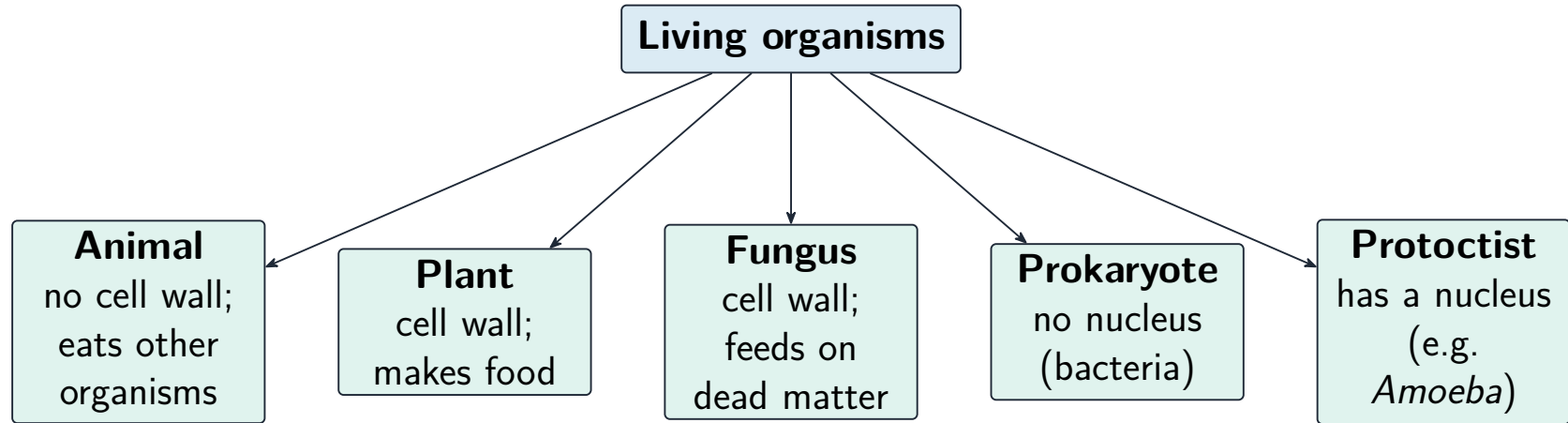
Exercise walk-through

1.1

Characteristics of living organisms

IGCSE Biology

The five kingdoms, in detail



Living organisms are sorted into five kingdoms by their main features

Exam tips

- Learn the **seven characteristics** by heart, with their exact definitions. Write them as clear, full sentences.
- **Digestion** is *not* one of the seven characteristics – it is just one part of nutrition. “Breathing” is not one of the seven either.
- In a scientific name, the genus starts with a capital letter and the species with a small letter, and both are in italics.
- To use a dichotomous key, start at the first pair of choices and follow the route step by step. Do not jump ahead.
- More similar DNA base sequence → the organisms are more closely related (they share a more recent ancestor).

Topic 1 – key takeaways

1

MRS GREN

the seven characteristics of living things

2

Naming

binomial: capital genus, small species, italics

3

Kingdoms

animal, plant, fungus, prokaryote, protocist

4

Groups

vertebrates (backbone),
arthropods (exoskeleton)

Exercises 2.1·2.2

2.1 State what the letters MRS GREN stand for (any four). [4]

2.2 Define growth. [1]

Exercises 2.1·2.2

2.1 State what the letters MRS GREN stand for (any four). [4]

2.1

- MRS GREN names the seven life processes
 - any **four** of: **Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition**
-

2.2 Define growth. [1]

2.2

- growth is a **permanent increase in size and dry mass**

Exercise 3.1

3.1 A student lists four things a mouse does. Which one is the characteristic **excretion**?^[1]

☐

A it breaks down food in its gut into small soluble molecules

B it removes carbon dioxide made by its own respiration

C it moves away from a bright light

D it takes in oxygen through its lungs

Exercise 3.1

3.1 A student lists four things a mouse does. Which one is the characteristic **excretion**?[1]

☐

A it breaks down food in its gut into small soluble molecules

B it removes carbon dioxide made by its own respiration

C it moves away from a bright light

D it takes in oxygen through its lungs

3.1 B

- excretion is the **removal of toxic waste** the organism's own metabolism made
- A is digestion; C is sensitivity; D is gas exchange, not waste removal

Exercise 3.2 (a)

3.2 Give the precise definition of:

[2]

(a) excretion

Exercise 3.2 (a)

3.2 Give the precise definition of:

[2]

(a) excretion

(a)

- **removal of the toxic waste products of metabolism** (and excess substances)

Exercise 3.2 (b)

3.2 Give the precise definition of:

[2]

(b) sensitivity

Exercise 3.2 (b)

3.2 Give the precise definition of:

[2]

(b) sensitivity

(b)

- the ability to **detect and respond** to changes in the environment

Exercise 3.3

3.3 Explain the difference between nutrition and digestion.

[2]

Exercise 3.3

3.3 Explain the difference between nutrition and digestion.

[2]

3.3

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