Characteristics of living organisms

Teacher / technician

YEAR 10 / LESSON 1 / BIOLOGY + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Paper and model activity. No live culture, specimen collection or clinical interpretation.

Coverage and delivery

Shared Biology / Double Award: 1.1. Eight characteristics, including control of internal conditions.

Allow about 60 minutes. Follow the student sequence and use the answers to check reasoning.

Requisition • class of 30, working in 15 pairs

Item	Per pair / setup	Class total
Student booklets	1 per learner	30 copies
Paper / model sets	1 per pair	15 sets
Writing tools / rulers	1 per learner	30 sets

Immediate safety

Use paper or clean reusable models. No body samples, microbial cultures or unknown biological material are handled.

Preparation and delivery

Read alongside the student method

YEAR 10 / LESSON 1 / BIOLOGY + SCIENCE (DOUBLE AWARD)

1. Provide 30 student booklets and 15 sets of reusable models or blank paper cards. All examples needed are supplied in the task text.

2. Allow 10 minutes recall, 25 minutes pair reasoning, 15 minutes explanation and 10 minutes corrections. Keep answers separate until discussion.

3. Do not require every individual to reproduce: sterile individuals are still alive.

4. Correct the misconception that respiration occurs only in animals or only when breathing is visible.

Close of lesson

• Return reusable materials and retain your corrected reasoning.

Check before teaching

Check the cards, reference data and quantities against this requisition. Keep the staff answer guide separate until the checking stage. Supplied numerical practice datasets are labelled examples; they are not class measurements.

Answers and teaching notes

Expected explanations • do not give as experimental observations

YEAR 10 / LESSON 1 / BIOLOGY + SCIENCE (DOUBLE AWARD)

- Nutrition, respiration, excretion, sensitivity, movement, homeostasis, reproduction, growth/development.
- Growth or changes in cell water content can move plant parts without moving the entire plant.
- Respiration transfers energy through cellular chemical reactions; breathing ventilates gas-exchange surfaces.
- Excretion removes metabolic waste; egestion removes undigested material.
- It retains living cells and the capacity to resume development under suitable conditions; visible activity may be slow.
- Movement and fuel use alone do not establish the full suite of cellular life processes.

References and provenance

Pearson Biology specification

Prepared 22 November 2026. Original wording, tables and questions. Sources inform the concepts and technique; the lesson scope and classroom quantities are explicitly described here. No laboratory trial or final school risk approval is claimed.