

Grade 6 Microbiome



Review + Hands-On Lessons + Test Prep

The five-step teacher model comes first

A central two-page example shows Read, Annotate, Find evidence, Analyze, and Eliminate and justify. Includes what to mark/say, evidence-based distractor elimination and guided transfer from yeast to plant tissue.

Review and investigate before test practice

Three illustrated lessons/six quick checks; three connected activities: prepared-slide evidence, a revised whole-cell model and paper microbiome community. Preparation, records, roles, limits and paper alternatives supplied.

Inside the 32-page PDF

Cell illustrations, role cards, known-source records; four MC, select-two, dependent/independent pairs, two-point writing, original six-point extended task with teacher criteria; eight task/answer cards and optional six-point digital setup.

Louisiana and NGSS scope

Targets Louisiana 6-MS-LS1-1/2 and corresponding NGSS MS-LS1-1/2. Independent review of the Microbiome topic, not the complete Amplify curriculum. No live culturing or medical recommendations. Actual microscopy requires teacher equipment.

Free study guide available separately

A separate free one-page Microbiome guide connects activities and science. Find it at crackthetestco.com; it is not inside the paid PDF.

Actual sample pages follow

Both teacher-model pages, two student lessons and four task cards. Worked-example answers intentionally shown; other keys/rubrics reserved for the full resource. PDF only; no premade live Form.



Teacher Worked Example Read Annotate Find Evidence

I DO | Central five-step walkthrough Part 1 | Teacher copy

Set the question

Say: "Which evidence best supports the claim that a tiny living organism is made of cells? I must connect an observation with the known source, not guess from size or one missing structure."

Known source	Evidence record
Baking yeast: one-cell fungus (given)	Prepared-slide views show separate bounded cells. Fixed preparations do not show living activity.
Onion: multicellular plant (given)	Prepared tissue slide shows many adjoining cells.
Salt crystals: nonliving comparison	Geometric crystals visible; no cellular organization identified under these conditions.

Model question

Which statement best supports that baking yeast is made of cells?

- A. It is small, so it must be nonliving.
- B. Salt crystals have edges, so every edged object is a cell.
- C. The known yeast source shows bounded cellular units in prepared-slide views.
- D. A cell is alive only if visible without a microscope.

1 READ THE CLUES Teacher says

"I am looking for evidence of cells in the known yeast source. Small does not mean nonliving." Ask students to restate the claim.

2 ANNOTATE Teacher models

Box "known yeast." Underline "separate bounded cells" and the source label. Mark the salt comparison as nonliving; do not treat any visible outline as proof of life.

3 FIND EVIDENCE Teacher points

"The observation record shows cellular units in a source identified as living yeast. The salt sample supplies a comparison. These are supplied model records, not observations our class has made yet."



Teacher Worked Example Analyze Eliminate Justify

I DO Part 2 | Complete explanation then WE DO transfer

4 ANALYZE Think aloud

"The known organism is yeast, and its microscopic units are cells. This evidence supports the claim for yeast. One sample does not by itself prove what every organism is made of. Repeated observations from other known living sources strengthen the broader claim."

Choice	Evidence-based elimination
A eliminate	Size alone does not distinguish living from nonliving.
B eliminate	The nonliving salt comparison shows that edges alone are insufficient.
C keep	Combines the known living source with observations of cellular units.
D eliminate	Many living cells require magnification to observe.

5 ELIMINATE AND JUSTIFY

"C. The prepared-slide record for the known yeast shows bounded cells. This supports that yeast is made of cells. Salt crystals can have edges without being cells, so I use source and internal organization rather than an outline alone."

WE DO Transfer

The onion source is a plant. Its prepared tissue record shows many adjoining cells. Walk through the five steps to explain why this supports that onion tissue is cellular. Does a tissue fragment show every cell in the entire plant? Why eliminate "many adjacent cells mean the plant is one giant cell"?

Expected response

The known plant tissue contains many bounded cells, supporting cellular organization. It is a sample of a multicellular plant, not the entire organism or one giant cell. Other known-source observations extend the evidence; drawings simplify what can be seen.



Review Lesson 1 Evidence That Organisms Have Cells

6-MS-LS1-1 | Review before test practice

Name _____ Date _____

Compare cells using evidence and whole-organism information

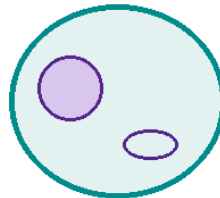
Bacterium: one-cell organism



DNA not in a nucleus

No mitochondria

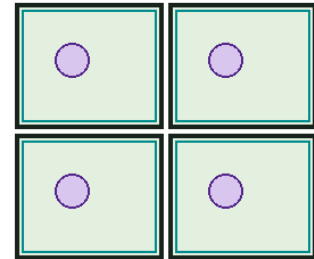
Yeast: one-cell fungus



Nucleus present

Mitochondria present

Onion tissue: part of a plant



Many cells in the plant

Simplified models, not microscope photographs; cell sizes, shapes and counts are not to scale.

Key idea

Yeast and bacteria are examples of one-cell organisms. Onion tissue contains many cells from one multicellular plant. Use source information with observations: a single view cannot always tell whether an isolated cell is a whole organism or part of one.

Quick check 1

How does finding cells in a known yeast sample support a claim about that living organism?

Quick check 2

Why is seeing one isolated cell not enough to decide that an entire organism is unicellular?

Review Lesson 2 A Cell Works as a Whole

6-MS-LS1-2 | Connect each part to the functioning cell

Name _____ Date _____

A cell works as a system: model of a typical animal cell

Cell membrane

Controls entry / exit

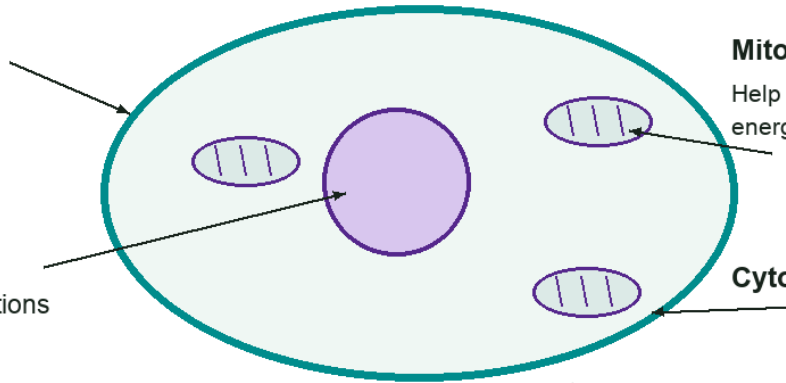
Nucleus

Contains DNA instructions

Mitochondria

Help release usable energy from food

Cytoplasm



Model omits many structures; arrows are labels, not a pathway. Not to scale.

Key idea

Cell parts contribute together. The membrane controls exchange with the environment; the nucleus contains instructions; mitochondria help release usable energy from food. Energy changes form rather than being created. Bacteria function without nuclei or mitochondria.

Quick check 3

Explain how the membrane contributes to the whole cell, rather than merely naming it.

Quick check 4

A model gives a bacterium a nucleus and mitochondria. What needs correcting?



Task Cards 1 to 4

Use the five steps; answer cards kept separate

CARD 1 Cell evidence

Known yeast source shows bounded cellular units. Best conclusion?

- A. All tiny things are dead.
- B. Evidence supports cellular organization in yeast.
- C. Salt crystals are cells.
- D. This proves every specimen in the world.

CARD 2 One cell or many

An onion tissue sample has many adjacent cells. Which fits?

- A. Each is a whole onion.
- B. Plant is one giant cell.
- C. Many-cell tissue is part of the plant.
- D. No cells are present.

CARD 3 Membrane role

Which function contributes to whole-cell operation?

- A. Regulate entry/exit of materials.
- B. Create energy.
- C. Replace all internal parts.
- D. Photosynthesize in every animal cell.

CARD 4 Typical animal model

Which placement is accurate?

- A. Wall replaces membrane.
- B. Chloroplasts in every animal cell.
- C. Nucleus outside membrane.
- D. Nucleus and mitochondria inside membrane.