

UNIT 02 / 13 • LEARN & TRY

Cell: The Building Block of Life

Name: _____ Date: _____

Learn

Cells are the basic structural and functional units of organisms. A cell membrane separates the cell from its surroundings and regulates exchanges. Cytoplasm contains structures involved in cellular activity. Eukaryotic cells have a nucleus containing genetic material; prokaryotic cells do not have a membrane-bound nucleus. Plant cells typically have a cell wall and large vacuole, and photosynthetic cells contain chloroplasts.

Worked example

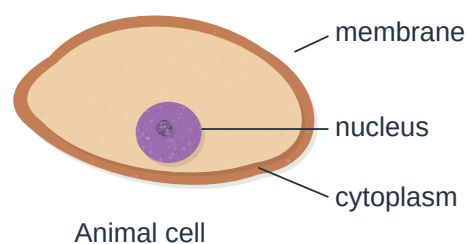
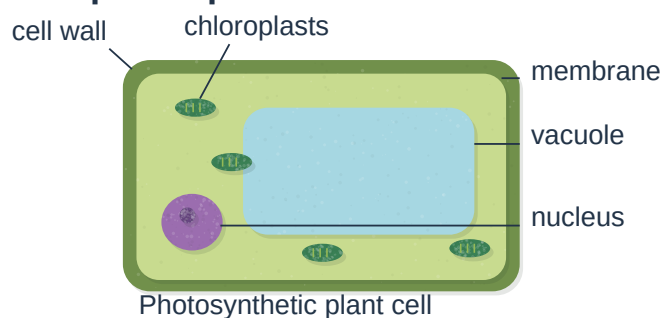
A leaf cell can contain chloroplasts for photosynthesis, while many root cells lack them because they are not exposed to light for that function.

1. What separates a cell from its surroundings?

2. What distinguishes a eukaryotic nucleus?

3. Do all plant cells necessarily contain chloroplasts?

Compare a plant cell and an animal cell



Simplified eukaryotic cells. Many root cells have no chloroplasts; other organelles are omitted.