

Time-Travelers Explore the Microscopic Cell World

Grade 6

science

time-travelers

Students will be able to identify and describe cell structures and their functions

Name: _____

Date: _____

1. Time-travelers discover a tiny structure that controls cell activities. What is this structure called?

2. When time-travelers shrink to visit a cell, what is the cell's outermost protective layer?

3. Time-travelers observe two cell types. Describe how plant cells differ from animal cells.

4. A time-traveler notices mitochondria working inside a cell. Explain what function mitochondria perform.

5. Time-travelers find chloroplasts in a plant cell. What process do chloroplasts carry out for the plant?

6. Time-travelers travel back to observe early life. Why are cells considered the basic unit of all living organisms?

7. Time-travelers observe a cell dividing through mitosis. Explain how daughter cells are similar to parent cells.

8. Time-travelers compare prokaryotic and eukaryotic cells. Analyze why eukaryotic cells are more complex.

Answer Key: Time-Travelers Explore the Microscopic Cell World

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Use a microscope simulation video to engage time-traveler students in observing real cell images before answering questions.

1. Time-travelers discover a tiny structure that controls cell activities. What is this structure called?

Answer: nucleus

2. When time-travelers shrink to visit a cell, what is the cell's outermost protective layer?

Answer: cell membrane

3. Time-travelers observe two cell types. Describe how plant cells differ from animal cells.

Answer: Plant cells have a cell wall, chloroplasts, and large vacuoles; animal cells do not have these structures.

4. A time-traveler notices mitochondria working inside a cell. Explain what function mitochondria perform.

Answer: Mitochondria produce energy for the cell through cellular respiration.

5. Time-travelers find chloroplasts in a plant cell. What process do chloroplasts carry out for the plant?

Answer: Photosynthesis, which converts sunlight into energy for the plant.

6. Time-travelers travel back to observe early life. Why are cells considered the basic unit of all living organisms?

Answer: All living things are made of cells; cells are the smallest structures that perform life functions and reproduce.

7. Time-travelers observe a cell dividing through mitosis. Explain how daughter cells are similar to parent cells.

Answer: Daughter cells have identical genetic information and the same number of chromosomes as parent cells.

8. Time-travelers compare prokaryotic and eukaryotic cells. Analyze why eukaryotic cells are more complex.

Answer: Eukaryotic cells have a membrane-bound nucleus and organelles, allowing specialized functions; prokaryotes lack these structures.