Discovering Cells and Cell Theory

Unit 1, Lesson 1 — Comprehension Check Worksheet (ICQ)

Name: _____ Class: 7___ Date: _____

Part A — True or False

Circle TRUE or FALSE for each sentence.

1. A cell is the smallest unit that can carry out the processes necessary for life. **TRUE / FALSE**

2. A unicellular organism is made of many cells that work together. **TRUE / FALSE**

3. A prokaryote has a membrane-bound nucleus. **TRUE / FALSE**

4. Robert Hooke was the first person to observe living cells moving. **TRUE / FALSE**

5. All new cells come from pre-existing cells. **TRUE / FALSE**

Part B — Multiple Choice

Circle the letter of the best answer.

1. What is a cell?

- **A.** A tool used to magnify objects
- **B.** The smallest unit that can carry out the processes necessary for life
- **C.** A type of organism found only in plants
- **D.** A large structure made of tissues

2. Which of the following is an example of a unicellular organism mentioned in the lesson?

- **A.** A mushroom
- **B.** A sequoia tree
- **C.** A Paramecium
- **D.** A ghost plant

3. What is the key structural difference between a prokaryotic cell and a eukaryotic cell?

- **A.** Prokaryotic cells are always larger
- **B.** Eukaryotic cells contain a membrane-bound nucleus; prokaryotic cells do not
- **C.** Prokaryotic cells contain organelles; eukaryotic cells do not
- **D.** Only eukaryotic cells are made of cells

4. Who first observed cells while examining thin slices of cork?

- **A.** Antonie van Leeuwenhoek
- **B.** Matthias Schleiden
- **C.** Robert Hooke
- **D.** Rudolf Virchow

5. Why couldn't scientists develop cell theory before the invention of the microscope?

- **A.** Cells are too small to be seen with the unaided eye
- **B.** Cells did not exist yet
- **C.** Scientists were not interested in living things
- **D.** Microscopes were not needed to study cells

Part C — Fill in the Blank

Use the key vocabulary words from the lesson to complete each sentence: cell, organism, unicellular, multicellular, cell theory, microscope, prokaryote, eukaryote.

1. A(n) _____ organism is made of exactly one cell.

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2. A(n) _____ organism is made of many cells that work together.

3. A _____ is an instrument that uses lenses to produce a magnified image of a small object.

4. A(n) _____ is an organism whose cells do not contain a membrane-bound nucleus.

5. _____ states that all living things are made of cells, the cell is the basic unit of structure and function, and all cells come from pre-existing cells.

Part D — Matching

Match each scientist to their discovery by writing the correct letter next to each number.

Scientists	Discoveries
1. ___ Robert Hooke	A. Added the idea that all cells come from pre-existing cells
2. ___ Antonie van Leeuwenhoek	B. First observed and named cells in cork
3. ___ Schleiden and Schwann	C. First observed living, moving unicellular organisms
4. ___ Rudolf Virchow	D. Gathered evidence that all plants and animals are made of cells

Part E — Short Answer

Answer in one or two complete sentences.

1. Explain why the ghost plant's leaf looks smooth and featureless to the unaided eye, even though it is made of many cells.

_____

2. State the three statements of cell theory.

_____

3. Explain the structural difference between a prokaryotic cell and a eukaryotic cell.

_____

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Answer Key (Teacher Copy)

Part A — True or False

1. TRUE 2. FALSE (unicellular = one cell) 3. FALSE (prokaryote has no membrane-bound nucleus) 4. FALSE (this was Leeuwenhoek) 5. TRUE

Part B — Multiple Choice

1. B 2. C 3. B 4. C 5. A

Part C — Fill in the Blank

1. unicellular 2. multicellular 3. microscope 4. prokaryote 5. Cell theory

Part D — Matching

1. B 2. C 3. D 4. A

Part E — Short Answer (sample answers)

1. Its cells are too small to see with the unaided eye (below about 100 µm), so at that scale the leaf looks solid; a microscope reveals the repeating cellular units.

2. (1) All living things are made of one or more cells. (2) The cell is the basic unit of structure and function in all living organisms. (3) All cells come from pre-existing cells.

3. In a prokaryotic cell the genetic material floats freely in the cytoplasm; in a eukaryotic cell it is enclosed inside a membrane-bound nucleus.

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