Lesson 3.1 – Living Things Are Made of Cells

Quarter 3 · Plant Biology: Cells, Energy & Inheritance · Week 19

Name: _____ Partner: _____ Date: _____ Period: _____

Big Question: What evidence shows that the plants in our garden, and all living things, are made of cells?

Word Bank: cell · cell theory · microscope · magnification · wet mount · specimen · unicellular · multicellular

Safety: Wear goggles and gloves with iodine, and report broken glass.

My Task

Sketch the onion and leaf cells at two magnifications.

Specimen	Magnification	Sketch	Structures seen
Onion (low)			
Onion (medium)			
Leaf (low)			
Leaf (medium)			

Support: Provide a microscope diagram and a sketch template with circles and label lines.	**Challenge:** Measure or estimate the size of one cell in your sketch and calculate its actual size. Explain why the leaf cells look different from the onion cells.

Think & Respond

1. State cell theory in your own words.

_____

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_____

2. How do your sketches support cell theory?

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PRACTICE ITEM — answer the item for your grade

Grade 6: Which statement is part of cell theory? A) Only animals are made of cells. B) All cells come from existing cells. C) Cells are made of organs. D) Cells form from nonliving matter.

Grade 7: A microscope has a 10× eyepiece and a 40× objective. What is the total magnification? A) 50× B) 140× C) 400× D) 4,000×

Grade 8: An onion cell appears 20 mm long at 100× magnification. What is its actual length? (Illustrative data.) A) 0.02 mm B) 0.2 mm C) 2 mm D) 2,000 mm

My grade: ____ My answer: ____ Why: _____

EXIT TICKET

1. State the three parts of cell theory.

_____

_____

2. What total magnification did you use for your best sketch?

3. Name one observation that shows the leaf is made of cells.