

Chapter 1 The Science of Biology **Section Review 1-4**

Reviewing Key Concepts

Short Answer *On the lines provided, answer the following questions.*

- 1. What system of measurement is universal among scientists?

- 2. What are the two main types of electron microscopes?

Identification *On the lines provided, identify each description as light microscope, electron microscope, or both.*

- _____ 3. can be used to view living samples

- _____ 4. can be equipped to produce real-time images of movements of cells

- _____ 5. used to view dead and preserved cells

- _____ 6. can produce 3-D images of the surfaces of objects

Reviewing Key Skills

- 7. **Inferring** If a scientist wanted to study cell responses under varying environmental conditions, what laboratory technique would be appropriate to use? Explain your answer.

- 8. **Evaluating** If each scientist used a different system of measurement and invented his or her own tools of measurement, what problems might arise?

- 9. **Comparing and Contrasting** Cell fractionation and light microscopy can be used to study various organelles. What types of information could each technique provide?

- 10. **Calculating** Which value is greater, 10,000 centimeters or 1 kilometer? Explain your answer.

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Chapter 1 The Science of Biology **Section Review 1-3**

Reviewing Key Concepts

Classifying *On the lines provided, list eight characteristics that classify a mushroom as a living thing.*

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

Completion *The following table describes the different systems, or levels, at which life can be studied. On the lines provided, fill in the missing descriptions.*

Level	Description
Biosphere	The part of Earth that contains all ecosystems
Ecosystem	9. _____
Community	10. _____
Population	11. _____
Organism	Individual living thing
Groups of cells	12. _____
Cells	13. _____
Molecules	Groups of atoms; smallest unit of most chemical compounds

Reviewing Key Skills

14. Making Connections Explain one way a human being responds to an environmental change in a way that maintains homeostasis.

15. Comparing and Contrasting Describe a similarity and a difference between unicellular and multicellular organisms.

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