

Name _____

Period _____

AP Biology

Date _____

CHAPTER 1 GUIDED NOTES: THE SCIENCE OF BIOLOGY

Section 1.1 pp 2-3.

1. List and briefly explain the characteristics that define life.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

2. List and briefly describe the 3 hierarchical levels of organization of the biological world.

a. _____

b. _____

c. _____

3. For each biological level in Figure 1.2, write a sentence that describes the level by referring to the level “below” it. An example is given to start you off.

a. Macromolecules: Macromolecules are built of smaller molecules bonded together.

b. Organelles: _____

c. Cells: _____

d. Tissues: _____

e. Organs: _____

f. Organ Systems: _____

g. Organisms: _____

h. Populations: _____

i. Species: _____

j. Community: _____

k. Ecosystem: _____

4. What is the basic unit of life? _____

5. Explain what is meant by **emergent properties** when explaining how a beaker full of chemicals is different than an animal made of that same mix of chemicals.

Section 1.2 pp 4-7:

6. Contrast deductive reasoning with inductive reasoning. _____

7. What is a hypothesis? _____

8. What is the role of controlled experiments in scientific inquiry? _____

9. Explain the statement: "Science does not prove that certain explanations are true; rather, it proves that others are not."

10. Contrast the use of the term “theory” in science to its use by the general public.

11. Explain the critical role of “peer review” in scientific research.

Section 1.3 pp 8-14:

This section has been intentionally omitted here. It will be read at a later time.

Section 1.4 pp 15-16:

12. List and briefly explain the four themes that unify biology as a science.

a. _____

b. _____

c. _____

d. _____
