

Name \_\_\_\_\_

**AP Biology**

**TEXT: *Biology, Campbell and Reece***

**7<sup>th</sup> Edition**

**Chapter 2 and 3**

**Biochemistry  
Thematic Review Guide**

1. What are the most common elements in the human body?

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2. Helium has an atomic number of 2 and atomic mass of 4. **Explain.**

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3. Define isotope and give several examples.

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4. How are isotopes used in biology?

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5. What happens when electrons change levels?

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6. What is the significance of valence numbers?

7. Why do atoms form covalent vs. ionic bonds?

8. How do non-polar covalent bonds differ from polar covalent bonds?

9. What is a hydrogen bond? How does it form and how is it different from a covalent bond?

10. Sketch a few molecules of water, indicate their polarity, and where H bonds form.

11. Why is H-bonding so important to water's properties?

12. List the "special" properties of water and give an example of why the property may be important to living things.

a.

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b. \_\_\_\_\_

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c. \_\_\_\_\_

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d. \_\_\_\_\_

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### **AP Biology Exam Checkpoint**

**Directions:** The group of questions below consists of five lettered choices followed by a list of numbered phrases or sentences. For each numbered phrase or sentence, select the one choice that is most closely related to it. Each choice may be used once, more than once, or not at all.

#### *Questions 1-5*

- (A) Lipids
- (B) Peptide bonds
- (C) Alpha helix
- (D) Unsaturated fatty acids
- (E) Cellulose

1. contain one or more double bonds

2. the major class of biological molecules that are not polymers
3. linkages between the monomers of proteins
4. a secondary structure of proteins
5. a structural carbohydrate found in plants