

## Chapter 2 Exam Review

What happens to different elements physical properties when they form compounds?

What are the three properties of water that make it essential for life?

What happens to an atom's charge if it loses an electron? Gains an electron?

What type of substances will water dissolve? Not dissolve?

What do acids and bases form when dissolved in water? What are the pH numbers associated with each on the pH scale?

What is a buffer?

What is a typical fat made of (on the molecular level)?

Visually recognize the difference between a saturated and unsaturated fat.

Why are fats so rich in NRG?

What determines the function of a protein? What determines a protein's shape?

What is a nucleotide?

What are two differences between DNA and RNA?

How is NRG released from ATP?

Recognize the reactants and products in a chemical reaction.

Know the difference between exothermic and endothermic reactions.

Visually identify exothermic and endothermic reactions using graphs.

Explain how an enzyme reacts with a substrate.

### **Practice Questions**

1. All organic compounds contain the element
  - a. water
  - b. oxygen
  - c. carbon
  - d. nitrogen
  
2. Living things are made of \_\_\_\_\_ compounds.
  - a. nitrogen
  - b. inorganic
  - c. organic
  
3. \_\_\_\_\_ are large organic compounds made of carbon, hydrogen, oxygen, nitrogen, and sulfur.
  - a. Carbohydrates
  - b. Nucleic Acids
  - c. Proteins
  - d. Water Molecules

4. \_\_\_\_\_ are proteins that speed up chemical reactions.
- Lipids
  - Enzymes
  - Catabalases
  - Carbohydrates
5. The building blocks of proteins are \_\_\_\_\_.
- Enzymes
  - Amino Acids
  - Monosaccharides
  - None of the above
6. \_\_\_\_\_ are energy rich compounds containing carbon, hydrogen, and oxygen in a 1:2:1 ratio.
- Nucleic Acids
  - Lipids
  - Proteins
  - Carbohydrates
7. A \_\_\_\_\_ is a compound made of many monosaccharides linked together.
- Disaccharide
  - Polysaccharide
  - Sugar
  - Polygon
8. Carbohydrates are used for \_\_\_\_\_.
- structures in the cell membrane
  - building the cell wall
  - an energy source
  - all of the above

9. \_\_\_\_\_ are very high energy compounds made of carbon, hydrogen, and oxygen.

- a. Lipids
- b. Proteins
- c. Carbohydrates
- d. Nucleic Acids

10. Lipids contain more energy per gram than carbohydrates.

- a. True
- b. False

11. DNA is a molecule shaped like a \_\_\_\_\_.

- a. single strand
- b. triple strand
- c. double strand
- d. none of the above

12. \_\_\_\_\_ is the molecule that contains the instructions for making proteins.

- a. DNA
- b. CNA
- c. RNA
- d. DNA and RNA

13. Water is an inorganic molecule.

- a. true
- b. false

14. Water is important to cells because \_\_\_\_\_.

- a. it retains heat well
- b. helps keep the size and shape of the cell
- c. causes most chemical reactions to occur
- d. all of the above