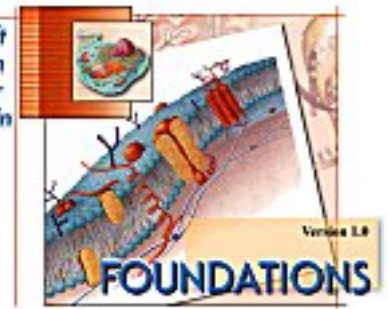


# Types of Reactions and Equilibrium

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## Directions:

Insert and install your Interactions: Foundations CD.

- Click the "Contents" button.
- Open the *Chemistry Level of Organization* file.
- Click on *Animations*.
- Work through *Chemical Bonding*.

## Introduction

- Describe the relationship between chemical bonds and chemical reactions. How is energy involved?



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- Define *reactants* and *products* of a chemical reaction. Use water production as an example.

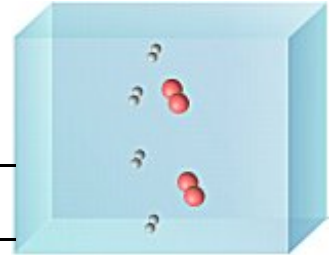
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## Factors Influencing Bond Formation

- Explain how these two factors affect bond formation.

*temperature* - \_\_\_\_\_

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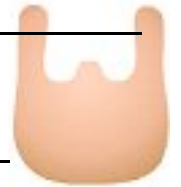
*concentration* - \_\_\_\_\_

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## Enzymes

- What type of molecule are enzymes? What is their function?

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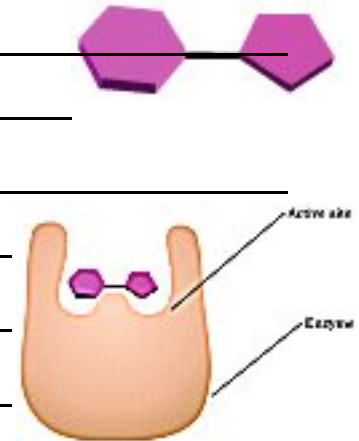
- Define *substrate* and *product*.

- What is the enzyme *active site*?

- Describe enzymatic breakdown of sucrose.

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## Types of Reactions - Synthesis

- a. What occurs during a *synthesis reaction*?

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b. Use *dipeptide synthesis* as an example. \_\_\_\_\_

\_\_\_\_\_

c. Why is this called a *dehydration synthesis*? \_\_\_\_\_

\_\_\_\_\_

### Types of Reactions - Decomposition

10. a. What occurs during a *decomposition reaction*?  $AB \rightarrow A + B$  \_\_\_\_\_

\_\_\_\_\_

b. Use dipeptide decomposition as an example. \_\_\_\_\_

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c. Why is this called *hydrolysis*? \_\_\_\_\_

\_\_\_\_\_

### Hydrolysis of ATP

11. Use the  $ATP \rightarrow ADP$  reaction as an example. (The key is what happens to the water molecule.)

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### Reversible Reactions and Equilibrium

12. a. What occurs during a reversible reaction?  $AB \rightleftharpoons A + B$  \_\_\_\_\_

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b. What is *equilibrium*? \_\_\_\_\_

\_\_\_\_\_

c. Use carbon dioxide and carbonic acid in solution as an example of equilibrium.

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