Enzymes

Coloring Worksheets

8 Different Versions Included

Enzymes Answer Key

1. **Active Site**
   - The active site is the region of the enzyme where the substrate binds and the reaction occurs.
   - In the reaction, the active site catalyzes the reaction by lowering the activation energy of the substrate.

2. **Substrate**
   - The substrate is the molecule that interacts with the enzyme and undergoes a chemical change.
   - In the active site, the substrate is cleaved into smaller fragments.

3. **Enzyme Substrate Complex**
   - The enzyme-substrate complex is the transient state formed when the enzyme and substrate bind together.
   - This complex is essential for the catalytic reaction to occur.

4. **Product**
   - The product is the molecule that is produced as a result of the enzymatic reaction.
   - In the presence of an enzyme, the substrate is transformed into the product, which can be a different state or form of the substrate.

**Directions:**

- Choose a color and color the pieces below.
- Write a brief description of the process as spaces provided.

- **Active Site:**
  - The enzyme active site is where the reaction occurs. It is a region of the enzyme's protein structure that binds the substrate and catalyzes the reaction.

- **Substrate:**
  - The substrate is a molecule that the enzyme binds to and modifies. It is the input molecule that undergoes a chemical change.

- **Enzyme Substrate Complex:**
  - The enzyme-substrate complex is the intermediate state formed when the enzyme and substrate bind together, facilitating the reaction.

- **Product:**
  - The product is the molecule produced as a result of the reaction. It is the output molecule that is formed after the substrate has been modified by the enzyme.
Directions: Choose a color and color the pieces below. Write a brief description of the process in spaces provided.

- Enzyme
- Substrate
- Active site
- Enzyme substrate complex
- Product
Enzymes

Directions: Choose a color and color the pieces below.

- Enzyme
- Substrate
- Active site
- Enzyme substrate complex
- Product

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Directions: Color the enzyme, substrate, enzyme-substrate complex, and the product. In the space below, write a description of the process shown.

___________________________
___________________________
___________________________
___________________________
___________________________
___________________________

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Enzymes

1. Enzyme-substrate complex

2. Enzyme-product complex

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Enzymes

1. Enzyme-substrate complex

2. Enzyme

- The protein which controls reactions in living things.
- The reactant of an enzyme catalyzed reaction.
- The location where the enzyme and the substrate bind together.
- What is formed when the enzyme and substrate bind together (when the reaction will take place).
- What the substrate is changed into.

Directions: Match the descriptions below with the appropriate structure. Color the structure and the matching description the same color.
Enzymes

- The protein which controls reactions in living things.
- The reactant of an enzyme catalyzed reaction.
- The location where the enzyme and the substrate bind together.
- What is formed when the enzyme and substrate bind together (when the reaction will take place).
- What the substrate is changed into.

Directions: Match the descriptions below with the appropriate structure. Color the structure and the matching description the same color.
Enzymes

Directions: Color the structures below the appropriate color.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enzyme</td>
<td>Yellow</td>
</tr>
<tr>
<td>Substrate</td>
<td>Green</td>
</tr>
<tr>
<td>Enzyme substrate complex</td>
<td>Blue</td>
</tr>
<tr>
<td>Active Site</td>
<td>Black</td>
</tr>
<tr>
<td>Product</td>
<td>Red</td>
</tr>
</tbody>
</table>

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Directions: Using the chart below, color the structures the appropriate color. In the space provided, write a brief description of the process that is occurring.

<table>
<thead>
<tr>
<th>Structure</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Enzyme</td>
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<td>Enzyme substrate complex</td>
<td>Blue</td>
</tr>
<tr>
<td>Active Site</td>
<td>Black</td>
</tr>
<tr>
<td>Product</td>
<td>Red</td>
</tr>
</tbody>
</table>
The substrate binds to the enzyme at the active site, lowering the activation energy of the enzyme-catalyzed reaction. When the enzyme and substrate bind together, the enzyme substrate complex is formed and the reaction begins.

Directions: Choose a color and color the pieces below. Write a brief description of the process in spaces provided.

The substrate is changed into the product and the product is released. The shape of the enzyme is unchanged so that it continue to carry out enzymatic reactions.
Thank you for your download!
If you have any questions or concerns, please do not hesitate to contact me at sciencefromthesouth@gmail.com. Your 100% satisfaction is valued. Feedback and ratings are also greatly appreciated.

Teacher’s Notes:
Use this download as a pre-assessment, review, or assessment of your students’ understanding of the basic concept of enzymes and how they work to control reactions in living things.
• Use it as a pre-assessment to see what you students know.
• Assign it as an individual or group work practice assignment.
• Use it review/reinforcement.
• Use it as a part of a station activity.
• Make it a race to complete activity for fun. You can even give bonus points to the winning groups or individuals.
• Use it as an interactive notebook entry.
• Use it as a differentiated assignment.
• Choose which version works best for you and your students.

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