Name ……………………………………………………………………… Class: ………………………………… Date / /

Objectives: After the lesson the students should be able to:

1. **Students** recall that enzymes are proteins and are biological catalysts.
2. **Students** explain enzyme action as a substrate–enzyme complex reaction.
3. **Students** know that enzymes lower the activation energy for a reaction and that their function depends on their structure.
4. **Students** distinguish between competitive and non-competitive enzyme inhibition.

# Activity 1:

1. What are the main function of enzymes **catalysis the reactions inside the living organisms bodies**
2. What is the main structure of enzymes **proteins**

# Activity 2:

1. Explain enzyme action. **It forms temp enzyme substrate complex with the substrate which gives back the enzyme and the results.**

# Activity 3:

Put T in front of the true statement and F in front of the false one:

1. Enzymes increase the activation energy for a reaction **F**
2. Enzymes function depends on their structure. **T**
3. Enzymes are found in all living organisms **T**

# Activity 4:

***1-Use the following table to compare between enzymatic and non-enzymatic reactions:***

|  |  |  |
| --- | --- | --- |
| ***Property*** | 1. *Enzymatic reactions* | 1. *Non enzymatic reactions* |
| * + - 1. **Mostly in living organisms** | ***Yes*** | ***no*** |
| * + - 1. **Have narrow limits** | ***Yes*** | ***No*** |
| * + - 1. **Affected by temperature** | ***Yes*** | ***Yes*** |
| * + - 1. **Affected by PH** | ***Yes*** | ***Yes*** |
| * + - 1. **Can be repeated many times using same enzyme** | ***Yes*** | ***No*** |
| * + - 1. **Very specialized** | ***Yes*** | ***No*** |
| * + - 1. **Most of them can be reversed.** | ***yes*** | ***No*** |

**Homework due date next period**

Put T in front of the true statement and F in front of the false one:

1. Enzymes are proteins and are biological catalysts. **T**
2. Enzyme action as a substrate–enzyme simple reaction. **T**
3. Enzymes lower the activation energy for a reaction and that their function depends on their structure **T**.
4. Competitive and non-competitive enzyme inhibition are exactly the same. **F**

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