Enzyme Review Sheet Answer Key

1. Enzymes are important because they speed up metabolic reactions in living organisms. Otherwise, they would occur too slowly to sustain life.

2. No, because each enzyme has an optimum pH. pH 10 is very basic and pH 2 is very acidic. The enzyme's active site would denature.

3. No, because enzymes denature at high temperatures.

4. E
5. E
6. N
7. E
8. N
9. E
10. N
11. E
12. N

Labeling
A – enzyme
B – active site
C – substrate
D – enzyme substrate complex
E – product

1. This enzyme is putting together (creating a new molecule).

2. It does not change during the course of the reaction and it is the same at the finish of the reaction.

Fill in the Blank:
1. active site
2. lock
3. No because the enzyme's active site is very specific for the substrate.
4. The active site can become damaged due to high temperatures and change in pH because the active site/enzyme will become denatured.

Choose…
Enzymes speed up chemical reactions and reduce the activation energy.

Enzymes are "typically" named for the substrate it works on.

Maltase

Active site is the location on the enzyme that binds the substrate.

True

The rate of enzyme action will increase until it reaches the optimum temperature, after which, it will quickly decrease due to denaturing.

Denaturation: An enzyme/enzyme's active site changes due to change in pH and increase in temperature.

Acid: 1-6.9 Base 7.1-14 Neutral 7

The stomach and digestive tract.