

## Graphing Enzyme Activity

The following table shows the relative activity of two digestive enzymes, pepsin and salivary amylase, at various pH levels.

pH	Enzyme Activity (% of maximum)	
	Pepsin	Salivary amylase
0	0	0
1	37	0
2	100	0
3	67	0
4	33	0
5	19	19
6	5	58
7	0	100
8	0	40
9	0	13
10	0	0

1. Plot the data for both enzymes on the same graph and draw lines of best fit. Make sure to label the two curves.
2. According to these data, what is the optimal pH of each enzyme? How can you tell?
3. How does the optimal pH relate to the environment each enzyme works in?
4. Why does a change in the pH affect the enzyme activity?
5. Salivary amylase breaks down starch into glucose. The digestion of starch by salivary amylase begins in the mouth, ceases in the stomach, and resumes in the small intestine. Use the graph to explain why.
6. Draw a graph showing the activity of a typical human enzyme as the temperature is increased from 0°C to 50°C.