

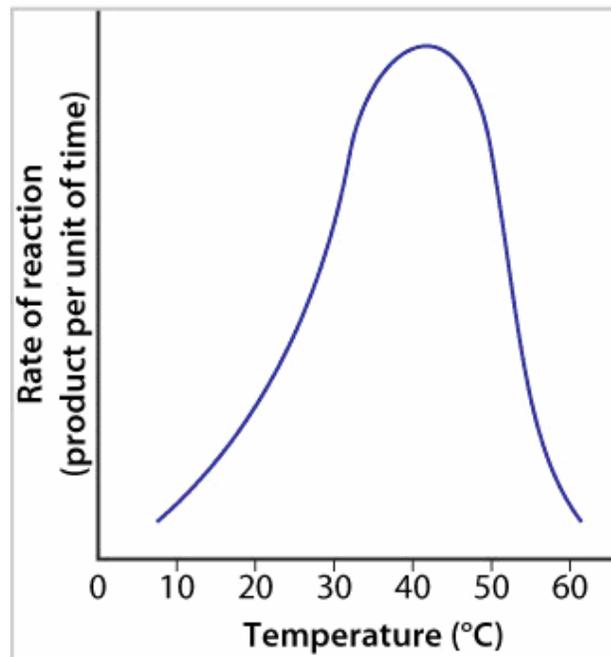
# Factors Affecting Enzyme Activity

The rate of an enzyme-catalyzed reaction is affected by the concentration of substrate and the concentration of the enzyme that works on it.

In addition, any chemical or physical factor that alters the enzyme's three-dimensional shape—such as temperature and pH—can affect the enzyme's ability to catalyze the reaction.

1. Study the graph of Enzyme Rate of Reaction vs. Temperature

**Enzyme reaction rate by temperature**



2. Based on the graph above, predict the optimal temperature for this enzyme.

---

3. Explain why the rate of this reaction is lower at temperatures between 25 °C and 30 °C than it is at 40 °C.

---

---

4. Explain why the rate of this reaction is lower at 50 °C than it is at 40 °C.

---

---