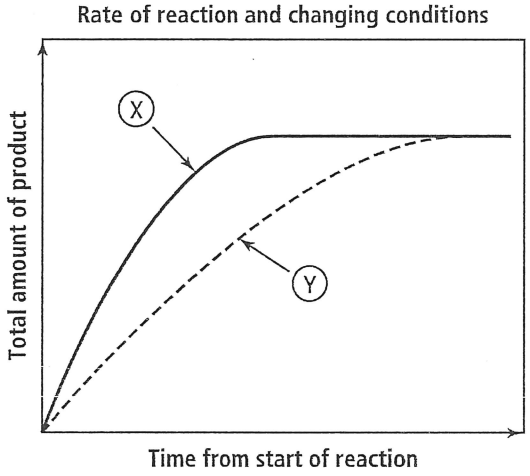
Use with textbook pages 272–277.

Four factors affecting the rate of reactions

Use the following graph to answer question 1.



1. The graph above shows the differences in the rate of reaction at different temperatures, concentrations, surface area, and the presence or absence of a catalyst. A steeper line represents a greater rate of reaction. Indicate which line (X or Y) each of the following are associated with.

   (a) lower temperature _____ (b) higher temperature _____

   (c) lower concentration _____ (d) higher concentration _____

   (e) absence of a catalyst _____ (f) presence of a catalyst _____

   (g) larger pieces (small surface area) _____

   (h) smaller pieces (large surface area) _____

2. Which of the four factors affecting reaction rate is most important in each of the following examples? Choose from concentration, temperature, surface area, and catalyst.

   (a) Raw carrots are cut into thin slices for cooking. _____

   (b) Protein is broken down in the stomach by the enzyme pepsin. _____

   (c) A woolly mammoth is found, perfectly preserved, near the Arctic. _____

   (d) More bubbles appear when a concentrated solution of hydrochloric acid is added to a magnesium strip than when a dilute solution of the acid is added. _____

