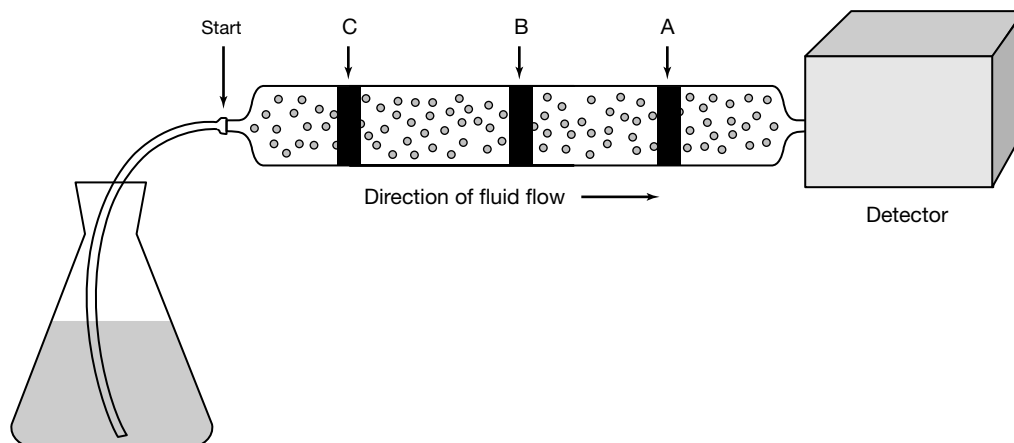


## 1

**INTERPRETING GRAPHICS**

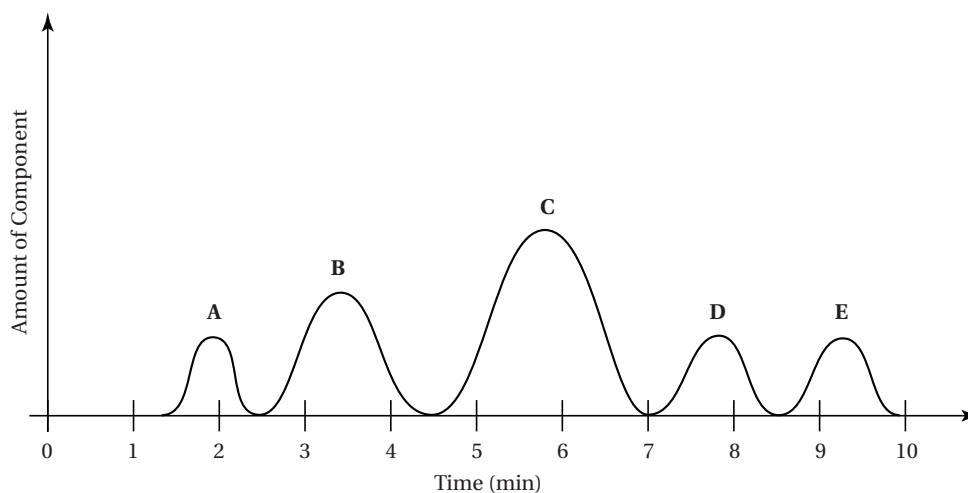
Use with Section 1.1



**Figure 1** Separation of a mixture of chemicals. Component A is moving along the column faster than Component B, which is moving faster than Component C.

Liquid chromatography (LC) is a technique often used by analytical chemists to separate the components of a mixture. In liquid chromatography, a mixture is placed at one end of a long tube, or column, which is packed with microscopic beads. The components in the mixture move from one end of the column to the other by means of a liquid that is flowing through the column. Different substances move along the column at different rates. Each component of a mixture has a characteristic *retention time*, or time it takes the component to cross the column.

When a component reaches the end of the column, it passes through a detector, which plots the amount of material exiting the column against time.



**Figure 2** A typical LC detector plot of a mixture of components.

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

1. How many components were present in the original mixture?

\_\_\_\_\_

2. Which component has a retention time of approximately 8 minutes?

\_\_\_\_\_

3. What is the approximate retention time of Component B?

\_\_\_\_\_

4. Which component crossed the column first (shortest retention time)?

\_\_\_\_\_

5. Which component crossed through the column last?

\_\_\_\_\_

6. Which of the components in the mixture was present in the greatest amount (greatest peak area in the detector plot)?

\_\_\_\_\_