Chapter 21

ENRICHMENT

Use with Section 2

# • Rates of Chemical Reactions

## Combustion Reactions

Combustion reactions are all around us. Anywhere you see a flame, a combustion reaction is taking place. You have learned that a combustion reaction is a reaction in which a substance rapidly combines with oxygen to form one or more oxides. A burning candle is an example of a combustion reaction taking place. Thinking back to when you have seen a candle burning, do you think you can identify the combustion reaction? Below is a list of terms that are used to help describe what is taking place when a candle burns. You should draw a lit candle and then label each part of your drawing with the terms provided.

- dark outer cone (cooled carbon particles)
- glowing outer cone (unburned carbon particles)
- hottest part of the flame (ample supply of oxygen and vaporized wax)
- dark, oxygen-deficient inner cone
- burning wick
- dark, vaporized wax-deficient inner cone
- melted wax
- solid wax

**1.** Describe how you think a candle burning represents a combustion reaction.

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**2.** How would the rate of combustion compare if the candle were burned in a pure oxygen atmosphere?

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