SECTION SUMMARY

Reviewing the Concepts

- **Rain water is naturally acidic, but contaminants in the atmosphere can produce precipitation that is even more acidic than normal.**

1. What is the pH range of
   a. typical rain water?
   b. acid rain?
2. Provide an explanation (including a chemical equation) for why rain is naturally acidic.

- **Sulfur oxides and nitrogen oxides generated from natural and human sources contribute to acid rain.**

3. List two natural sources of sulfur oxides and nitrogen oxides and two human-generated sources of these gases.
4. Through what strategies can humans reduce emissions of sulfur oxides and nitrogen oxides to the atmosphere?
5. Name the major acidic components in acid rain.
6. Write a balanced equation representing what happens when SO_3 is dissolved in water.
7. Carbon dioxide is not a significant contributor to acid rain. Why?

- **Acids produce hydrogen (or hydronium) ions in water, while bases produce hydroxide ions. Strong acids and bases ionize completely; weak acids and bases ionize only partially.**

[illegible] compounds are acids? Which are

10. Explain why the compound referred to by the name "hydrogen hydroxide" has neither acidic