

## 8.5 Acid deposition

### Understandings:

- Rain is naturally acidic because of dissolved  $\text{CO}_2$  and has a pH of 5.6. Acid deposition has a lower pH, usually below 5.0.
- Acid deposition is formed when nitrogen or sulfur oxides dissolve in water to form  $\text{HNO}_3$ ,  $\text{HNO}_2$ ,  $\text{H}_2\text{SO}_4$  and  $\text{H}_2\text{SO}_3$ .
- Sources of the oxides of sulfur and nitrogen and the effects of acid deposition should be covered.

### Applications and skills:

- Balancing the equations that describe the combustion of sulfur and nitrogen to their oxides and the subsequent formation of  $\text{H}_2\text{SO}_3$ ,  $\text{H}_2\text{SO}_4$ ,  $\text{HNO}_2$  and  $\text{HNO}_3$ .
- Distinction between the pre-combustion and post-combustion methods of reducing sulfur oxides emissions.
- Deduction of acid deposition equations for acid deposition with reactive metals and carbonates.