

## Chapter 11

### Answers to Questions

- (a) lithium (b) xenon (c) phosphorus
- (a) magnesium (b) iodide (c) radon
- (a) sodium (b) carbon (c) silicon
- (a) fluorine (b) aluminum (c) sulfur
- (a) This is a single replacement reaction of an element in the top part of the Activity Series. The chemical equation is:  
$$2 \text{Na}(s) + 2 \text{H}_2\text{O}(l) \rightarrow 2 \text{NaOH}(aq) + \text{H}_2(g)$$
  
(b) This is a combination reaction. The chemical equation is:  
$$2 \text{Ca}(s) + \text{O}_2(g) \rightarrow 2 \text{CaO}(s)$$
- (a) This is a single replacement reaction involving the Halogen Replacement series. The chemical equation is:  
$$\text{Cl}_2(aq) + 2 \text{NaI}(aq) \rightarrow \text{I}_2(aq) + 2 \text{NaCl}(aq)$$
  
(b) This is a combination reaction. The chemical equation is:  
$$4 \text{P}(s) + 5 \text{O}_2(g) \rightarrow \text{P}_4\text{O}_{10}(s)$$