

## Review Questions: Corrosion

SCH4U\_06 - 07

1. Rusting of iron in an oxygenated environment was discussed in class.
  - a. Show the chemical equation for rusting of iron without oxygen.
  - b. Will iron rust (to  $\text{Fe}^{+2}$ ) in the absence of oxygen under standard conditions? (Note: you need to use  $E^0$  values to explain.)
  - c. What will happen as the pH becomes more acidic?
2. Describe how cathodic protection works. Which of the following metals can cathodically protect iron? Mg, Zn, Cu, Pb.
3. Why is corrosion faster in the presence of salts or acids?
4. If a galvanized iron object is scratched, exposing the underlying iron to oxygen and water, the object still will not corrode. Why not?
5. During the corrosion of a piece of iron, the loss of iron metal may occur at a different place than the deposition of iron oxide. Why can this occur?
6. How does a sacrificial anode work to prevent corrosion?
7. Name three ways to prevent or slow the corrosion of an object made of iron metal.