# Corroding Metals

## Grade Levels: 4-9

### Background

Everything has energy. You eat food because its chemical energy gives you energy to run and talk and play. Chemical energy is also stored within the tiny particles, called atoms, within a material. Those atoms are held together in a bond. If a bond is broken or created, chemical energy is transferred in something called a chemical reaction. Sometimes when materials mix together, chemical reactions occur, and energy is released.

### Questions

What types of metal are susceptible to corrosion?

What kinds of liquid promote corrosion?

### Vocabulary

- corrosion: a slow breakdown of a metal

### Possible Hypotheses

_____ will / will not corrode when exposed to _____.

### Materials

- Bowls
- Water
- Orange juice
- 2 Pieces of steel wool
- 2 Stainless steel teaspoons
- 2 Pennies
- 2 Squares of aluminum foil

### Procedure

1. Fill two bowls – one with water and the other with juice.
2. Put one piece of each of the metal objects in each bowl.
3. Leave the metals in the liquids for a week where they will not be disturbed.
4. After one week, take out the metal samples and examine them. Record your observations.

### Analysis and Conclusion

Which liquid caused more corrosion? Which metals were more susceptible to corrosion? Was there a combination of liquid and metal that caused the most corrosion? When can you use metals that corrode and when should you use metals that don't corrode?