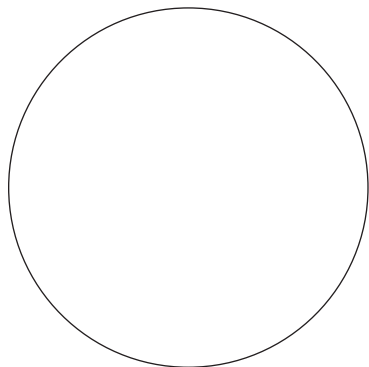


Creating Elements Worksheet

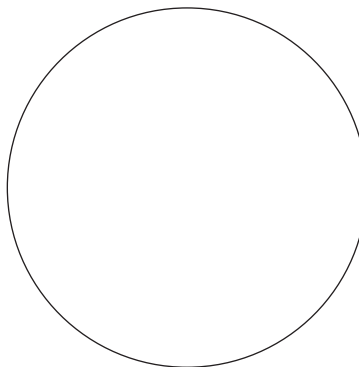
Creating Tin

The original conducting solution contains tin(II) chloride (SnCl_2). The products of the electrolysis reaction are tin(0) and tin(IV) chloride.

1. Draw two sketches representing your observations during the first and second parts of this demonstration. Indicate the sign of each electrode.



First Demonstration



Second Demonstration

2. How did the two products differ in appearance?
3. Identify the product that was obtained at the anode and at the cathode, respectively.
4. The electric current causes an oxidation–reduction reaction within the conducting solution.
 - a. Which product results from reduction of tin(IV) ions?
 - b. Which product results from oxidation of tin(IV) ions?
5. What was observed when the “sign” or polarity of the electrodes was switched?

Creating Silver

1. Describe what happened in this demonstration.
2. Write a balanced chemical equation showing the oxidation–reduction reaction of copper metal and silver ions.

Creating Carbon

1. Describe what happened in this demonstration.
2. Write a balanced chemical equation for the dehydration of sucrose ($C_{12}H_{22}O_{11}$).
3. Sucrose is a form of stored energy used by plants. How does this demonstration show what happens to that energy when the “food” is consumed?