

## PATH TO THE PERIODIC TABLE

### Group Roles

Facilitator: \_\_\_\_\_ Reporter: \_\_\_\_\_

Materials Manager: \_\_\_\_\_ Communications: \_\_\_\_\_

### **Pre-Activity Questions (Answer on page \_\_\_\_\_ in notebook)**

1. What is an element? How many different kinds of atom is any element made of?
2. What is the atomic number of an element?
3. What is the atomic mass of an element?
4. How many atoms of each element are present in molecules of the following compounds?
  - a. Example:  $\text{CH}_4$  = 1 carbon and 4 hydrogen
  - b. HCl
  - c.  $\text{H}_2\text{O}$

### **During Activity Questions (use complete sentences)**

1. How many groups or families of elements are in your table?
2. What criteria did you use to choose which group or family an element belongs to?
3. Is there a trend in atomic mass going across your table? Is there a trend in atomic mass going from top to bottom?
4. Are there any exceptions to these trends? If so, which elements break the trend? Why did you arrange these elements the way you did?
5. Are there any holes or gaps in your arrangement? Where are they? What do you think these gaps might mean?
6. How did you fit in the second set of cards? Was it easy to do? Why do you think it was easy or hard?
7. How did you fit in the third set of cards? Was it easy to do? Why do you think it was easy or hard?
8. Suppose a new element X is discovered. It forms a compound with chlorine, and the formula of this compound is  $\text{XCl}_4$ . What group or family do you think this element would belong to?