

# Periodic Trends Activity:

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### Students' Guide

#### Goals

- To learn to organize and classify the elements
- To build the periodic table of the elements from scratch

#### The Activity

In this activity, you will use "Element Cards" to learn about the periodicity of the elements. Each card represents an element, with many of its properties listed, and you will organize several of the properties into graphs vs. the atomic mass of the elements.

#### Materials for Each Group

Element Cards—cards which include data about elements 1-30.

Go to <http://www.dgs.oxon.sch.uk/depts/science/elements/data.htm>.

#### SAFETY

No special safety considerations are required.

#### Instructions

1. Read the characteristics of the elements on the cards.
2. Pick one of the cards in front of you and write down the following:

Element Name: \_\_\_\_\_

Atomic Mass: \_\_\_\_\_

Melting Point: \_\_\_\_\_

Boiling Point: \_\_\_\_\_

Density: \_\_\_\_\_

3. Spread the cards out on your table, so you can see them.

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4. (About 20 minutes) Organize the cards by MP, BP, atomic mass, and density, from the lowest to the highest values (one property for each student). Draw a table in your notebook and write down the values you find (see example):

Name of Element	Atomic Mass (AMU)
copper	63.54

5. Graph the boiling point, melting point, and density against atomic mass of all of the elements.

### Summary

Describe the periodic trends that you see in your graphs. Note discrepancies, if any exist. What did you learn about the periodicity of the elements? \_\_\_\_\_

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Compare to the Web site <http://chemlab.pc.maricopa.edu/periodic/periodic.html>, a searchable periodic table. Clicking on an element produces a list of its properties.

Write your comments: \_\_\_\_\_

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