The Periodic Table

<table>
<thead>
<tr>
<th>H</th>
<th>Li</th>
<th>Be</th>
<th>Na</th>
<th>Mg</th>
<th>Al</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Cl</th>
<th>Ar</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Ca</td>
<td>Sc</td>
<td>Ti</td>
<td>V</td>
<td>Cr</td>
<td>Mn</td>
<td>Fe</td>
<td>Co</td>
<td>Ni</td>
<td>Cu</td>
</tr>
<tr>
<td>Rb</td>
<td>Sr</td>
<td>Y</td>
<td>Zr</td>
<td>Nb</td>
<td>Mo</td>
<td>Tc</td>
<td>Ru</td>
<td>Rh</td>
<td>Pd</td>
<td>Ag</td>
</tr>
<tr>
<td>Cs</td>
<td>Ba</td>
<td>La</td>
<td>Hf</td>
<td>Ta</td>
<td>W</td>
<td>Re</td>
<td>Os</td>
<td>Ir</td>
<td>Pt</td>
<td>Au</td>
</tr>
<tr>
<td>Fr</td>
<td>Ra</td>
<td>Ac</td>
<td>Rf</td>
<td>Ha</td>
<td>Sg</td>
<td>Uns</td>
<td>Uno</td>
<td>Une</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ce</th>
<th>Pr</th>
<th>Nd</th>
<th>Pm</th>
<th>Sm</th>
<th>Eu</th>
<th>Gd</th>
<th>Tb</th>
<th>Dy</th>
<th>Ho</th>
<th>Er</th>
<th>Tm</th>
<th>Yb</th>
<th>Lu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Th</td>
<td>Pa</td>
<td>U</td>
<td>Np</td>
<td>Pu</td>
<td>Am</td>
<td>Cm</td>
<td>Bk</td>
<td>Cf</td>
<td>Es</td>
<td>Fm</td>
<td>Md</td>
<td>No</td>
<td>Lr</td>
</tr>
</tbody>
</table>

1. The elements in periods 2 through 7 that are to the left of the zigzagged line are metals. List five metals.

2. The elements in periods 1 through 6 that are to the right of the zigzagged line are nonmetals. List five nonmetals.

3. The elements that border either side of the zigzagged line are metalloids. Metalloids have properties of both metals and nonmetals. Name two metalloids.

4. The alkali metals are in group 1. They have only one electron in their outer shell. They are very reactive and have a low melting point. Shade the alkali metals blue.

5. The noble gases are found in group 18. Their outer energy level is filled, and they are very nonreactive, colorless gases. Shade the noble gases red.

6. Halogens have seven electrons in the outer shell. They are located in group 17 on the periodic table. Halogens react with metals to form salts. Shade the halogens green.

7. The transition elements are found in groups 3 through 12 and periods 4 through 7. These elements have either one or two electrons in the outer energy level. They are often used to form alloys because they are hard and have high melting points. Shade the transition elements orange.

8. Alkaline earth metals are located in group 2. They have two electrons in their outer energy level. Shade the alkaline metals purple.
WHO AM I?

These mystery elements are waiting to be identified. The trick is—you'll need the Periodic Table to unmask their identities. Unless you have it memorized, you'll need a copy of the table from your science book or from page 52 of this book. Read the clues about each mystery element, figure out what it is, and then write the name and symbol of the element.

1. Nonmetal halogen family
   atomic mass 35
   25 electrons
   transition element

2. 26 protons
   period 4
   transition element

3. 48 neutrons
   gas
   atomic mass 32
   period 3
   nonmetallic

4. 12 neutrons
   metallic
   period 2
   11 electrons
   transition element

5. 12 neutrons
   metallic
   period 4
   11 electrons
   transition element

6. 29 electrons
   period 4

7. 10. period 5
gas
atomic mass 20

8. atomic mass 51
   transition element
   80 electrons

9. lowest mass in period
   metallic
   period 4
   4 neutrons
   20 electrons

10. 56 protons
    metallic
    period 6

11. 86 protons
    gas
    period 6

12. 15. metallic
    period 4
   27 electrons

13. 18. gas
    atomic mass 16
   8 neutrons

14. mass less than 30
    not neon
    noble gas

15. 19. 16. period 4
   metallic
   4 neutrons
   20 electrons

16. 19.
   metallic
   period 6

17. 19. mass less than 30
   not neon
   noble gas

18. 19.
   gas
   56 protons
   period 6

19. 19.
   metallic
   period 4

20. 20.
   period 5
   metallic
   38 electrons

REMEMBER:
The Atomic number equals the number of protons. Atomic mass equals the number of protons plus neutrons. The number of electrons equals the number of protons.

Name