## A Periodic Table Logic Problem

**Procedure:**
- Enter the letters from the clues in the corresponding elements place on the periodic table.
- Every letter below goes in one of the boxes below. Only use one letter once and the letter will not be the same as the element symbol.
- Some clues may seem like more than one answer. You may have to skip and answer the ones you are sure about.

<table>
<thead>
<tr>
<th>1A</th>
<th>2A</th>
<th>3A</th>
<th>4A</th>
<th>5A</th>
<th>6A</th>
<th>7A</th>
<th>8A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td></td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td></td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

**Clues:**
- **A** This element has been placed inside public drinking water to help fight tooth decay
- **B** Has one electron in a $3p$ orbital
- **C** Has five electrons in the second energy level (second row)
- **D** Its most abundant isotope has a mass of 9
- **E** Is in the 7A (or 17$^{th}$) column shown above
- **F** Electronic configuration is $1s^2 2s^2 2p^6 3s^2 3p^3$
- **G** This element makes up approximately 21% of the Earth’s atmosphere when in a molecule
- **H** This neutral element has 20 electrons
- **I** Is in the Alkali Metal family (look on your chart)
- **J** This element has all its electrons paired up in its orbital (boxes)
- **K** This nonmetal is in the 5A (or 15$^{th}$) column shown above
- **L** This metal in the 1A (or 1$^{st}$) column has the greatest atomic mass
- **M** This element has 22 neutron on its most abundant isotope
- **N** Has the smallest atomic mass in its column or family
- **O** The first element with an electron in the second energy level (second row)
- **P** The only element without a need for a neutron
- **Q** Has eight fewer protons than clue #H
- **R** What makes Superman cry
- **S** This element has 31 protons
- **T** This element was founded in Germany
- **U** Has 16 electrons on this neutral atom
- **V** Atomic number is 34
- **W** This element is exactly like English class (it just so ______) – hint: this is a pun.
- **X** This element has an average atomic mass of 79.904
- **Y** Has 4 valence electrons
- **Z** What gas do you fill balloons with?