Part 1: Building a Nuclide

Helpful Information:
- Mass of a proton in amu = 1.00727647
- Mass of a neutron in amu = 1.00866490

The element I select is: __________
The Nuclide can be represented as follows:

```
A
X

Z
```

To build the nuclide I need:
- ____ protons (_____ color used)
- ____ neutrons (_____ color used)

Once built, there will be ____ nucleons.

Collect the correct number of protons and neutrons you need to build your nuclide. Before assembling the nuclide, draw the nucleons individually below. Next, assemble your nuclide and draw your finished product below:

<table>
<thead>
<tr>
<th>Individual Nucleons</th>
<th>Nuclide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate the total mass of all individual nucleons:</td>
<td>What is the atomic mass of your nuclide?</td>
</tr>
<tr>
<td>Protons =</td>
<td>Atomic mass = ______________ amu</td>
</tr>
<tr>
<td>Neutrons =</td>
<td></td>
</tr>
<tr>
<td>Combined Mass =</td>
<td></td>
</tr>
</tbody>
</table>

Compare the combined mass of your nucleons with the atomic mass of the nuclide. Explain what you observe:

Does your observation make sense? Why or why not?