Fill in the blank for the following questions:

**Matter**- Anything that has _________ and takes up space.

**Element**- Basic building blocks of matter; composed of chemically identified _________.

**Atoms**- Smallest unit of an __________; composed of subatomic particles.

Understanding the Chemistry of Human life:

Over 90% of the human body is composed of only **four elements**:

Oxygen, __________, __________, __________.

<table>
<thead>
<tr>
<th>Subatomic Particles</th>
<th>Charge</th>
<th>Atomic Mass Unit (AMU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proton</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>Neutron</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Electron</td>
<td>-1</td>
<td></td>
</tr>
</tbody>
</table>

Protons and _________ make up the nucleus. While _________ orbit around the nucleus.

**Atomic Number**- Number of _________ within the nucleus of one atom.

*Each element has its own unique atomic number.

**Atomic Mass**- Sum of the protons & ________ in one atom.
Isotopes/Molecules/Compounds, Select true or false for the following questions:

- Isotopes are atoms of the same element, with a different number of protons. __
- Unstable isotopes emit energy called radiation. __
- Radiation is good for cells, preventing cancer. __
- A molecule is simply atoms bonded together. __
- A compound is when two or more atoms of different elements chemically combine. ___

Atom Bonding, Fill in the blank for the following questions:

- Electrons orbit around the nucleus in __________.
- Atoms are most stable when their outer electron shell, the __________ shell is full.
- For atoms with atomic numbers of 18 elements or less, the first shell can only hold up to __________ electrons. Then the second and third shell can hold up to __________ electrons.
- Ions are __________ charged atoms because it has gained or lost one or more electrons.
- Cations are __________ charged because they have __________ electrons.
- Anions are __________ charged because they have __________ electrons.
- Therefore, an ionic bond is the attraction between a/an __________ and a/an __________. In which electrons are transferred.
- A covalent bond on the other hand, are atoms that __________ electrons to fill their valance shells.
- Polar molecules are a result of __________ bonds. Where electrons are not shared equally.
- Hydrogen bonds are weak attractions between the __________ end of one polar molecule and the __________ end another polar molecule.

Electrolytes, Fill in the blank for the following questions:

- Electrolytes are substances that release ions in __________.
- Acids are substances that dissociate in water, releasing __________ ions (H+).
- Bases are substances that release hydroxide ions (OH-), that can combine with __________ ions.
References