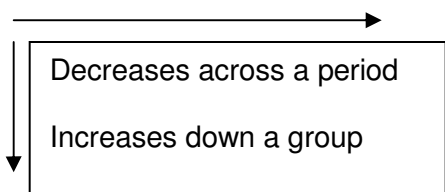
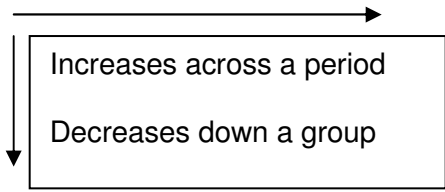
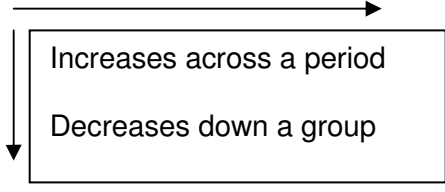


Periodic Trends

<u>Term</u>	<u>Definition</u>	<u>Trend on the Periodic Table</u>	<u>Why?</u>
Atomic Radius	The radius of an atom (since the electron cloud accounts for the volume of the atom, this is primarily the radius of the electron cloud)		<p><u>Across:</u> Electrons added to the same energy level experience increasing attraction to the nucleus due to successive addition of protons</p> <p><u>Down:</u> Each period on the table adds a new energy level to the electron cloud.</p>
Ionization Energy	The energy required to remove an electron from an atom: $\text{Na} + 496 \text{ kJ} \rightarrow \text{Na}^+ + \text{e}^-$ Ionization energy increases for successive electrons removed from an atom: $\text{Na}^+ + 4562 \text{ kJ} \rightarrow \text{Na}^{2+} + \text{e}^-$		<p><u>Across:</u> Electrons are harder to remove from small atoms because they are closer to the nucleus</p> <p><u>Down:</u> Electrons are easier to remove from large atoms because they are farther from the nucleus</p>
Electronegativity	A measure of the ability of an atom in a chemical compound to attract electrons		<p><u>Across:</u> Shared electrons are closer to the nucleus in small atoms</p> <p><u>Down:</u> Shared electrons are farther from the nucleus in large atoms</p>
Cation	A positively charged ion, formed when an atom loses one or more electrons	Cations are smaller than the atom from which they were formed	<u>Losing electrons</u> decreases the size of the electron cloud, which reduces the radius of the atom
Anion	A negatively charged ion, formed when an atom gains one or more electrons	Anions are larger than the atom from which they were formed	<u>Gaining electrons</u> increases the size of the electron cloud, which increases the radius of the atom