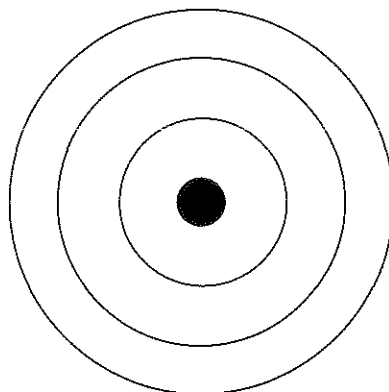
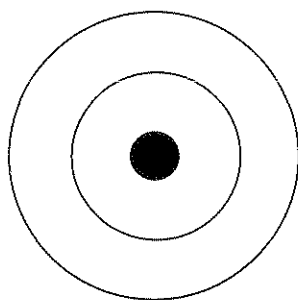


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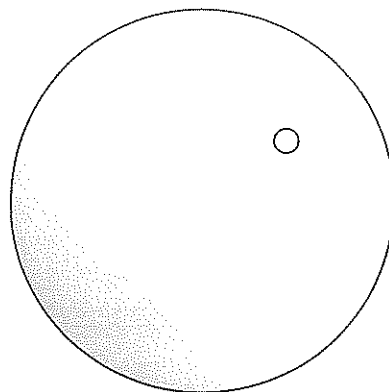
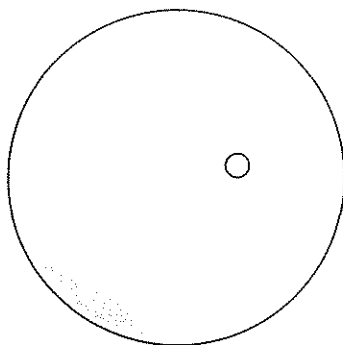
Period:

Valence Electron Structure

A big reason for why chemistry works is because of the valence electron structure of individual atoms. If we look at a diagram of an individual atom, we see a nucleus surrounded by layers of electrons. Below are two atoms. Draw in the electron structure for lithium and sodium. Label each one with the correct symbol.



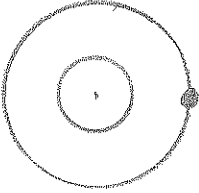
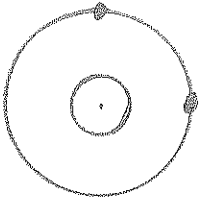

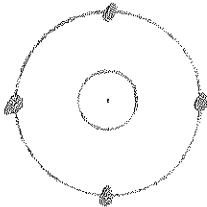
Using this diagram we can see that they are obviously very different. But the valence electron structure (what it looks like from the outside) is very similar. Both lithium and sodium each have one valence electron, making it appear very similar to other chemicals. This similar appearance gives lithium and sodium similar chemical and physical properties. Both are soft, reactive metals.

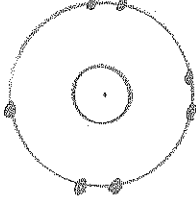
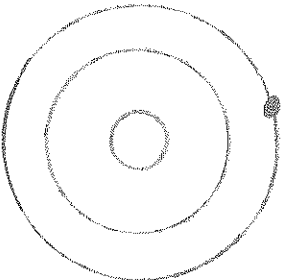


Here we see what lithium and sodium “look like” from the outside. We can see only the valence shell. Each is an atom with a single valence electron. Note that sodium is slightly larger than lithium – this gives the two atoms slightly different properties. But they are still more similar than they are different; this is because they each have only a single valence electron.

Electron Structure Practice Sheet

For each of the following, fill in the missing data.

Valence Electron Diagram	Element	Total # of Electrons	# of Valence Electrons	Group Number	Period Number
	<i>Li</i>	<i>3</i>	<i>1</i>	<i>1</i>	<i>2</i>
		<i>4</i>			<i>2</i>
					<i>1</i>
					
	<i>B</i>				

Valence Electron Diagram	Element	Total # of Electrons	# of Valence Electrons	Group Number	Period Number
					
				16	2
		10			
					3
			3		3
	Mg				