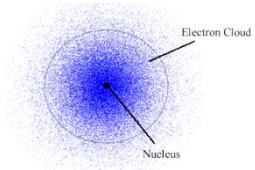


Electron Configuration – an “address” for the electrons in an atom

<p><u>An Orbital is:</u></p> 	<p><u>How do we describe orbitals?</u></p> <ol style="list-style-type: none"> 1. 2. 3. 4.
<p><u>Different orbitals are in different energy levels</u></p>	<p><u>Different orbitals have different shapes</u></p>
<p><u>Different orbitals have different orientations</u></p>	<p><u>Each orbital is only allowed to have two e⁻s</u></p>
<p><u>Where do e⁻ live? What is the address for one?</u></p> <p>State -----> Energy level <input type="text"/></p> <p>City -----> Type/shape of orbital <input type="text"/></p> <p>Street -----> Orientation or orbital <input type="text"/></p> <p>House # -----> Spin up or spin down of e⁻ <input type="text"/></p>	<p><u>They can get REALLY long</u></p> <p>$1s_{+1/2}, 1s_{-1/2}, 2s_{+1/2}, 2s_{-1/2}$</p> <p>$2p_{x+1/2}, 2p_{x-1/2}, 2p_{y+1/2}$</p> <p>$2p_{y-1/2}, 2p_{z+1/2}, 2p_{z-1/2}$</p> <p style="text-align: right;">N-10</p>

<p><u>Want to describe where ALL the e- in an atom were?</u></p> <p>Shrink it down and only list:</p> <ol style="list-style-type: none"> 1. 2. 3. <p>Example:</p>	<p>Steps to finding all the electrons</p> <ol style="list-style-type: none"> 1. Pick an: _____ 2. Find the number of: _____ 3. Start putting electrons into the: _____ 4. Use an: _____ 5. List which: _____ you used and _____ electrons in each one
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Rules for putting electrons in an orbital diagram:

<p>1. <u>Aufbau Principle</u></p> <p><i>An electron occupies the lowest energy orbital that it can.</i></p> <p>Means:</p>	<p>2. <u>Pauli Exclusion Principle</u></p> <p><i>No two e⁻s in the same atom can have the same set of 4 quantum numbers</i></p> <p>Means:</p>	<p>3. <u>Hunds Rule</u></p> <p><i>Orbitals of equal energy are each occupied by one e⁻ before any orbital is occupied by a second e⁻.</i></p> <p>Means:</p>
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Some Terms You Might Hear

