

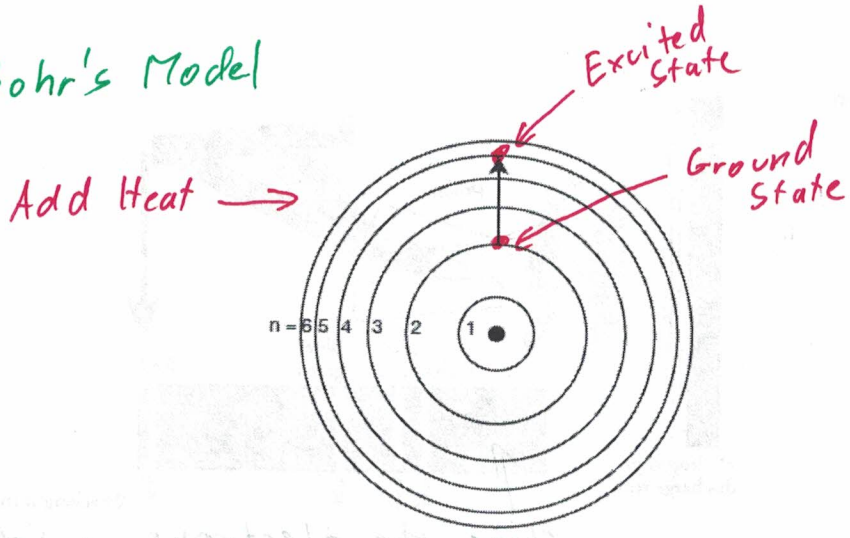
Higher Energy  
Higher Energy  
Higher Energy

<b>Electron Energy and Light</b>	Name:
	Period:
	Date: 8/31/18

Bohr's Theory of the atom states that all electrons in an atom exist in specific Energy levels. *Electrons can never exist between these Energy levels.*

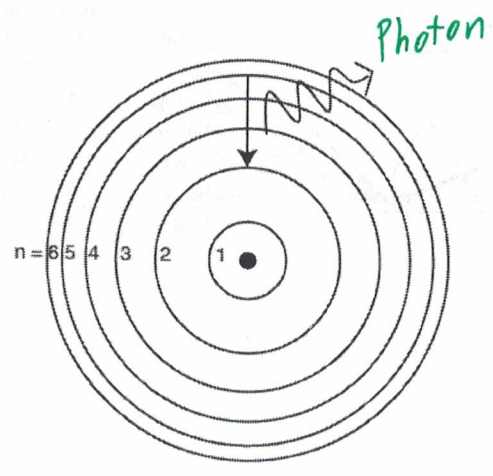
The lowest Energy level in which an electron can exist is called its Ground state.

Bohr's Model



Electrons Absorb Energy (Endothermic)

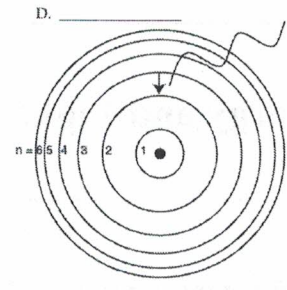
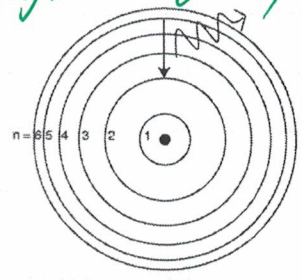
Higher Energy  
Higher Energy  
Higher Energy



Energy Released as Light (Emit)

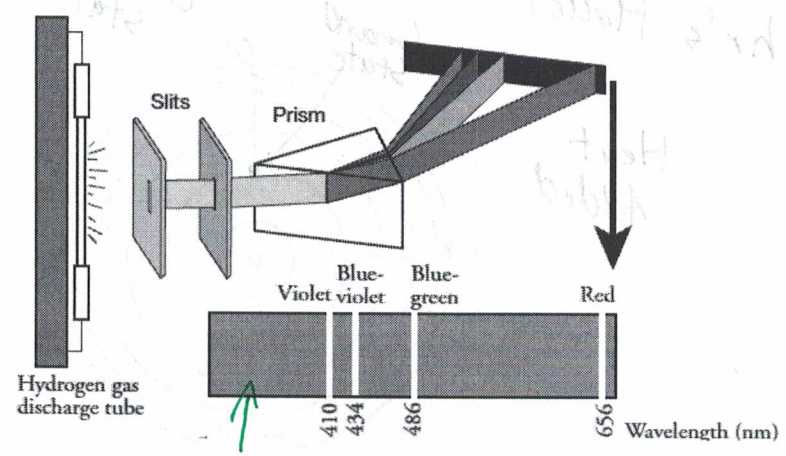
Light Travels as a wave

Bigger Jump  
Higher Energy  
Higher Frequency



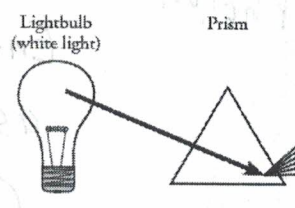
Each element has its own specific Spectral Fingerprint

Hydrogen



Shows Electrons Exist in Specific Energy Levels, but not Between

Model 1



Color	Photon Energy ( $\times 10^{-21}$ ) (J)	Wavelength Range (nm)	Speed (m/s)
Reds	269-318	625-740	$3.00 \times 10^8$
Oranges	318-337	590-625	$3.00 \times 10^8$
Yellows	337-352	565-590	$3.00 \times 10^8$
Greens	352-382	520-565	$3.00 \times 10^8$
Blues	382-452	440-520	$3.00 \times 10^8$
Violets	452-523	380-440	$3.00 \times 10^8$