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| How to draw electron configurations the third wayCλeMis+ry: http://genest.weebly.com Stop in for help every day at lunch and Tues, Weds., &Thurs after school!After-hours question? Email me at home: eagenest@madison.k12.wi.us | **bohr.jpg** | Name\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_ |

*Assume all atoms*

1. For an atom with 24 electrons,
	1. Fill the electron boxes

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|  | 1s |  | 2s |  | 2p |  | 3s |  | 3p |
|  | *Increasing energy* 🡪 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 4s |  | 3d |  | 4p |

1. If one electron moves from n=2 to n=4 the atom will ( emit / absorb ) a photon
2.  Lines 1, 2, and 3 all represent an electron dropping down. When this happens the atom will
	1. Emit a photon
	2. Absorb a photon
	3. Emit a proton
	4. Absorb a proton
3. Of these three electron movements, which is the highest energy?
	1. transition❶
	2. transition ❷
	3. transition ❸
4. If transition ❶ and transition❷ make an orange photon and a green photon, respectively, what color photon might transition ❸ make? \_\_\_\_\_\_\_\_\_\_\_\_ (I will accept any reasonable answer).
5. For an atom with 20 electrons,
	1. Fill the electron boxes

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|  | 1s |  | 2s |  | 2p |  | 3s |  | 3p |
|  | *Increasing energy* 🡪 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 4s |  | 3d |  | 4p |

1. For a neutral atom of oxygen [in the ground state],
	1. How many electrons should it have? \_\_\_\_\_\_\_\_\_\_
	2. Fill the electron boxes

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|  | 1s |  | 2s |  | 2p |  | 3s |  | 3p |

1. For an atom with 17 electrons,
	1. Fill the electron boxes

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| 1s |  | 2s |  | 2p |  | 3s |  | 3p |

1. For an atom with 7 electrons,
	1. Fill the electron boxes

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| 1s |  | 2s |  | 2p |  | 3s |  | 3p |