

Name _____

Period _____

PERIODIC TABLE WORKSHEET #1

A. Fill in the missing words or numbers below.

- The number of protons ^{or} electrons in an atom is equal to the atomic number.
- The number of neutrons in an atom is equal to the atomic mass minus the atomic number.
- The number of energy levels in an atom is equal to the period number on the Periodic Table.
- The number of electrons in the outermost energy level of an atom is equal to the group number on the Periodic Table.
- The maximum number of electrons that can fit in the first energy level is 2, the second is 8, and the third is 18.

B. What is the **chemical symbol** for each of the following elements?

- | | |
|-----------------------|------------------------|
| 1. Calcium <u>Ca</u> | 6. Carbon <u>C</u> |
| 2. Nitrogen <u>N</u> | 7. Sodium <u>Na</u> |
| 3. Potassium <u>K</u> | 8. Phosphorus <u>P</u> |
| 4. Oxygen <u>O</u> | 9. Hydrogen <u>H</u> |
| 5. Chlorine <u>Cl</u> | 10. Sulfur <u>S</u> |

C. What is the **atomic number** for each of the following elements?

- | | |
|------------------------|-------------------------|
| 1. Calcium <u>20</u> | 6. Carbon <u>6</u> |
| 2. Nitrogen <u>7</u> | 7. Sodium <u>11</u> |
| 3. Potassium <u>19</u> | 8. Phosphorus <u>15</u> |
| 4. Oxygen <u>8</u> | 9. Hydrogen <u>1</u> |
| 5. Chlorine <u>17</u> | 10. Sulfur <u>16</u> |

D. What is the **atomic weight** of each of the following elements? (Round off answer to a whole number!)

- | | |
|-------------------------|-------------------------|
| 1. Calcium <u>40</u> | 6. Carbon <u>12</u> |
| 2. Nitrogen <u>14</u> | 7. Sodium <u>23</u> |
| 3. Potassium <u>39</u> | 8. Phosphorus <u>31</u> |
| 4. Oxygen <u>16</u> | 9. Hydrogen <u>1</u> |
| 5. Chlorine <u>35.5</u> | 10. Sulfur <u>32</u> |

(OVER)

Don't add together or
E. How many protons and electrons does each of the following elements contain?

- | | |
|------------------------|-------------------------|
| 1. Calcium <u>20</u> | 6. Carbon <u>6</u> |
| 2. Nitrogen <u>7</u> | 7. Sodium <u>11</u> |
| 3. Potassium <u>19</u> | 8. Phosphorus <u>15</u> |
| 4. Oxygen <u>8</u> | 9. Hydrogen <u>1</u> |
| 5. Chlorine <u>17</u> | 10. Sulfur <u>16</u> |

F. How many neutrons does each of the following elements contain?

- | | |
|------------------------|-------------------------|
| 1. Calcium <u>20</u> | 6. Carbon <u>6</u> |
| 2. Nitrogen <u>7</u> | 7. Sodium <u>12</u> |
| 3. Potassium <u>20</u> | 8. Phosphorus <u>16</u> |
| 4. Oxygen <u>8</u> | 9. Hydrogen <u>0</u> |
| 5. Chlorine <u>18</u> | 10. Sulfur <u>16</u> |

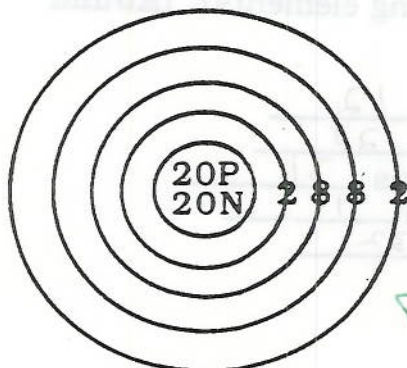
G. Does the number of protons and electrons always equal the number of neutrons? (Compare answers in F with answers in E.) NO

H. How many energy levels does each of the following elements contain?

- | | |
|-----------------------|------------------------|
| 1. Calcium <u>4</u> | 6. Carbon <u>2</u> |
| 2. Nitrogen <u>2</u> | 7. Sodium <u>3</u> |
| 3. Potassium <u>4</u> | 8. Phosphorus <u>3</u> |
| 4. Oxygen <u>2</u> | 9. Hydrogen <u>1</u> |
| 5. Chlorine <u>3</u> | 10. Sulfur <u>3</u> |

I. How many electrons are in the outermost energy level of each of the following elements?

- | | |
|-----------------------|------------------------|
| 1. Calcium <u>2</u> | 6. Carbon <u>4</u> |
| 2. Nitrogen <u>5</u> | 7. Sodium <u>1</u> |
| 3. Potassium <u>1</u> | 8. Phosphorus <u>5</u> |
| 4. Oxygen <u>6</u> | 9. Hydrogen <u>1</u> |
| 5. Chlorine <u>7</u> | 10. Sulfur <u>6</u> |



Calcium

J. The diagram to the left is of a Calcium atom showing the proper number of protons, neutrons, and electrons in their proper energy levels. On a separate sheet of paper, draw diagrams of nitrogen, potassium, oxygen, chlorine, carbon, sodium, phosphorus, hydrogen, and sulfur. Follow the rules in your Chemistry Notes and use your Periodic Table.



Write electron configuration next to each drawing

Show main-levels only, not sublevels or orbitals