| Science 9<br>Atomic Theory    |                                  | Name:<br>Date:<br>Block:               |  |  |
|-------------------------------|----------------------------------|--|--|--|
| 1.5                           | Subatomic Particles              |  |  |  |
| Subatomic Particles           |                                  |  |  |  |
| In an atom, there are three s | subatomic particles.             |  |  |  |
| 1.                            |                                  | 6 protons<br>+ 6 neutrons              |  |  |
| 2.                            |                                  |  |  |  |
| 3.                            |                                  | Gelectron<br>Generation<br>Carbon atom |  |  |
| The proton:                   |                                  |  |  |  |
| • This is found in the        |                                  |  |  |  |
| • It has a charge of          | ·                                |  |  |  |
| Its mass is                   |                                  |  |  |  |
| • The                         | represents the number of         | of                                     |  |  |
| Practice! Find the number of  | protons for the following eleme  | ents!                                  |  |  |
| 1. Sodium:                    | 2. Neon:                         | 3. Einsteinium:                        |  |  |
| 4. Chlorine                   | 5. Tin:                          | 6. Platinum                            |  |  |
| 7. Tungsten:                  | 8. Copper:                       | 9. Gold:                               |  |  |
| <u>The electron:</u>          |                                  |  |  |  |
| • This is found in the        |                                  |  |  |  |
| • It has a charge of          | In a neutral atom, th            | e overall charge is                    |  |  |
| • Example: If an atom h       | as 17 protons, it must have      | electrons.                             |  |  |
| • Its mass is                 | <u> </u>                         |  |  |  |
| Practice! Find the number of  | electrons for the following elen | nents!                                 |  |  |
| 1. Silver:                    | 2. Palladium:                    | 3. Gallium:                            |  |  |
| 4. Fluorine                   | 5. Cesium:                       | 6. Krypton                             |  |  |
| 7. Lead:                      | 8. Actinium:                     | 9. Vanadium:                           |  |  |

## The neutron:

- This is found in the\_\_\_\_\_.
- It has a charge of \_\_\_\_\_.
- Its mass is\_\_\_\_\_.
- The \_\_\_\_\_ represents the number of \_\_\_\_\_ and \_\_\_\_\_.
- Example.
  - Fluorine has a mass number of \_\_\_\_\_ and an atomic number of \_\_\_\_\_. Therefore the number of neutrons is \_\_\_\_\_.

Practice! Find the number of neutrons for the following elements! (Round up or down!)

| 1. Manganese: | 2. Bismuth:  | 3. Osmium: |
|---------------|--------------|------------|
| 4. Potassium  | 5. Sulfur:   | 6. Arsenic |
| 7. Zinc:      | 8. Scandium: | 9. Helium: |

Fill in the following table:

| Element<br>Symbol | Element<br>Name | Atomic<br>Number | Atomic<br>Mass | Number of<br>Protons | Number of<br>Electons | Number of<br>Neutrons |
|-------------------|-----------------|------------------|----------------|----------------------|-----------------------|-----------------------|
| Ne                |                 |                  |                |                      |                       |                       |
|                   | Calcium         |                  |                |                      |                       |                       |
|                   |                 | 73               |                |                      |                       |                       |
|                   |                 |                  | 197.0          |                      |                       |                       |
|                   |                 |                  |                | 86                   |                       |                       |
|                   |                 |                  | 168.9          |                      |                       | 100                   |
|                   |                 |                  |                |                      | 5                     |                       |