|  |  |
| --- | --- |
| **Science 8**  **Atomic Theory Practice Test** | **Name: Date: Block:** |

1. What is an element?
2. Classify the following as an element, compound or mixture:

|  |  |
| --- | --- |
| Fluorine: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Sandwich: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Coffee: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | CO2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Water: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Computer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

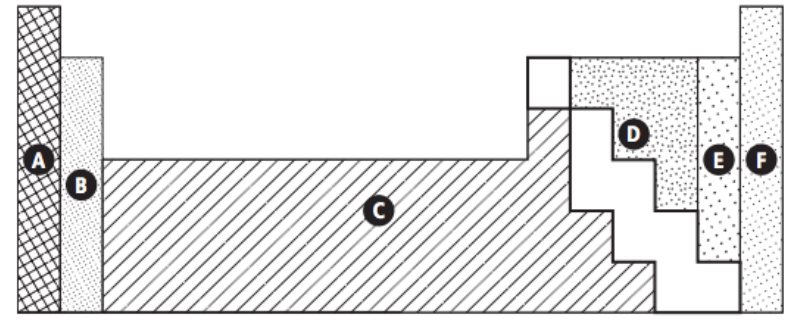
1. What is the lightest element?
2. Which family is the following element a part of?

|  |  |
| --- | --- |
| Radium: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Sodium: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Mg: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Neon: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | I: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Xenon: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Nickel: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Ba: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. What is an atom?
2. Give three examples of elements in substances or objects that you use:
3. How is the Periodic Table organized?
4. What is one property/characteristic of alkali metals?
5. What does the atomic number represent?
6. What does the atomic mass measure?
7. What are the three subatomic particles?
8. Complete the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| Subatomic Particle | Charge | Location in the atom | Mass |
|  | neutral |  |  |
|  | negative |  |  |
|  | positive |  |  |

1. Determine the subatomic particle(s) described by the following statements:
2. Has a charge: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Has the heaviest mass: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Does not have a charge: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Has the lightest mass: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Is found in the nucleus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Has equal masses: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Gives the nucleus a positive charge: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Is found in shells that surround the nucleus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Have equal quantities in all **neutral** atoms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Why does the nucleus of an atom have a positive charge?
12. Where is most of the volume found in the atom? Explain with your answer with a diagram.
13. Use the periodic table below to help answer these questions:



|  |  |
| --- | --- |
| 1. Argon: \_\_\_\_\_\_\_\_\_ 2. Sulfur: \_\_\_\_\_\_\_\_\_ 3. Silver: \_\_\_\_\_\_\_\_\_ 4. Tungsten: \_\_\_\_\_\_\_\_\_ 5. Alkaline Earth Metals: \_\_\_\_\_\_\_\_\_ | 1. Calcium: \_\_\_\_\_\_\_\_\_ 2. Most reactive metals: \_\_\_\_\_\_\_\_\_ 3. Least reactive: \_\_\_\_\_\_\_\_\_ 4. Halogens: \_\_\_\_\_\_\_\_\_ 5. Transition metals: \_\_\_\_\_\_\_\_\_ |

1. Complete the following table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element Name | Element Symbol | Atomic Number | Atomic Mass | # of protons | # of neutrons | # of electrons |
|  | Ti |  |  |  |  |  |
|  |  | 35 |  |  |  |  |
|  | Au |  |  |  |  |  |
|  |  |  |  |  |  | 83 |
|  |  |  |  |  | 8 |  |

1. What does a Bohr model represent?
2. In a Bohr Diagram, what is the maximum number of electrons allowed in the:
   1. Innermost (first) shell? \_\_\_\_\_\_\_\_\_\_
   2. Second shell? \_\_\_\_\_\_\_\_\_\_
   3. Third shell? \_\_\_\_\_\_\_\_\_\_
3. Identify the element represented by the following Bohr Diagram:

|  |  |
| --- | --- |
| Macintosh HD:Users:teacher:Desktop:Screen Shot 2018-10-19 at 11.49.51 AM.png | Macintosh HD:Users:teacher:Desktop:Screen Shot 2018-10-19 at 11.51.46 AM.png |
| Element: | Element: |
| Macintosh HD:Users:teacher:Desktop:Screen Shot 2018-10-19 at 11.54.10 AM.png | Macintosh HD:Users:teacher:Desktop:Screen Shot 2018-10-19 at 11.55.37 AM.png |
| Element: | Element: |

1. Draw the Bohr diagram for the following elements:

|  |  |  |
| --- | --- | --- |
| Lithium | Neon | Calcium |
| Chlorine | Argon | Sulfur |