**Atoms, Elements and Compounds Test Study Guide**

**Vocabulary**: Write your own definition for each of the following vocabulary words.

1. Atom
2. Element
3. Compound
4. Molecule
5. Nucleus
6. Proton
7. Neutron
8. Electron
9. Isotope
10. Atomic number
11. Mass number
12. Atomic mass
13. Ion
14. Covalent bond
15. Ionic bond
16. Oxidation number
17. Bohr model
18. Lewis dot diagram

**Study Questions:**

1. How are atoms organized? What are they made of?
2. Compare electrons, protons and neutrons. (mass and charge)
3. List contributions to the atomic theory of matter by the following people: Democritus, John Dalton, Ernest Rutherford, JJ Thomson, Niels Bohr.
4. Do all isotopes of an element behave the same/have similar properties? Give 2 examples of isotopes.
5. Draw Bohr models for 5 elements of your choice.
6. On the periodic table of elements, what do groups tell you about an element? What do periods tell you about an element? Know the difference between groups and periods.
7. Why are noble gases nonreactive?
8. Why are alkali metals and halogens highly reactive?
9. Why do elements form chemical bonds?
10. Draw the Lewis dot diagram for the following elements/compounds: Na, NaCl, Br2, C, F, CCl4
11. Find the oxidation numbers for the following elements: Ca, K, F, O, N
12. Classify the following compounds as having covalent or ionic bonds. MgS, InP, N2O, NaF and KCl

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**Helpful Videos**:

* Dot Diagrams: <https://www.youtube.com/watch?v=cIuXl7o6mAw>
* Periods & Groups of Periodic Table of Elements: <https://www.youtube.com/watch?v=7mLPC74GHMo>
* Bohr Models: <https://www.youtube.com/watch?v=nblYO205Fno>
* Isotopes: <https://www.youtube.com/watch?v=EboWeWmh5Pg>