

Name: \_\_\_\_\_

## Structure of Atoms

Drawing on what you know. Going only from your memory (don't consult with others for this), draw a diagram of an atom showing all the parts. Label each part.

To research the answers to these questions, use your textbook, other books in the room, or the internet.

Define each of the following terms.

1. Atom
2. Element
3. Compound
4. Electron
5. Ion
6. Molecule
7. Neutron
8. Nucleus
9. Proton
10. Element Symbol

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Answer the following questions

1. Aristotle and Democritus were "ancient Greek" philosophers. When did they live?

Aristotle

Democritus

2. How many elements did the ancient Greeks think there were?

3. What did the ancient Greeks think these elements were?

4. a) What was Democritus' contribution to science?

b) What was Aristotle's view of this idea?

5. Who was John Dalton?

6. When did he live?

7. What were his contributions to chemistry?

8. List the main points in Dalton's theory.

9. Fill in the following table.

Part of an atom	Discoverer	Experiment	Year Discovered
Proton		XXX	
Electron			
Neutron		XXX	
Nucleus			

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10. How is an atom like a paper clip?

11. Draw a simple sketch showing how Bohr pictured the atom.

12. What is meant by the term atomic number?

13. What is meant by the term mass number?

14. Fill in the following table.

<b>Sub-atomic particle</b>	<b>Charge</b>	<b>Mass-Number</b>	<b>Location in atom</b>
Proton			
Neutron			
Electron			

15. What is meant by the term atomic weight (or atomic mass)?

16. What is an isotope?

17. How are different isotopes of an element similar to each other?

18. How are different isotopes of an element different from each other?

19. Draw pictures of the 3 isotopes of hydrogen: protium, deuterium, and tritium (with mass numbers of 1, 2, & 3). Think about what the mass numbers mean about the number of protons, neutrons, and electrons.