



Atomic Models

Match each scientist with their discovering of the atom and in the box below draw a picture of their model

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|----------------------|--|
| 1. Rutherford _____ | a. named the atom from “atomos” |
| 2. Thomson _____ | b. Plum pudding models/electrons |
| 3. Bohr _____ | c. matter is indivisible/ conservation of mass |
| 4. Dalton _____ | d. Gold foil experiment/positive nucleus |
| 5. Democritus _____ | e. electrons orbit nucleus/electron shells |
| 6. Schrodinger _____ | f. Quantum Mechanical Model |

Dalton	Thomson	Bohr	Rutherford

8. List three limitations for using a model to represent the atom?

9. The 3 particles of the atom with their respective charges are:

- a. _____
 b. _____
 c. _____

10. The number of protons in one atom of an element determines the atom's _____, and the number of electrons determines _____ of an element.

11. The atomic number tells you the number of _____ in one atom of an element. It also tells you the number of _____ in a neutral atom of that element. The atomic number gives the “identity “of an element as well as its location on the Periodic Table. No two different elements will have the _____ atomic number.

12. The _____ of an element is the total number of protons and neutrons in the _____ of the atom.

13. The mass number is used to calculate the number of _____ in one atom of an element. In order to calculate the number of neutrons you must subtract the _____ from the _____.

15. Give the number of protons in one atom of:

Lithium _____

Iron _____

Oxygen _____

Bromine _____

Copper _____

Mercury _____

16. Give the number of electrons in a neutral atom of:

Uranium _____

Boron _____

Antimony _____

Chlorine _____

Iodine _____

Xenon _____

17. Give the number of neutrons in one atom of (Show your calculations):

Barium-139 _____

Carbon-12 _____

Fluorine-18 _____

Bismuth-209 _____

Hydrogen- 3 _____

Magnesium- 22 _____

18. Name the element which has the following numbers of particles:

a. 26 electrons, 29 neutrons, 26 protons _____

b. 53 protons, 74 neutrons _____

c. 2 electrons (neutral atoms) _____

d. 20 protons _____

e. 86 electrons, 125 neutrons, 82 protons (charged atom) _____

f. 0 neutrons _____

19. If you know only the following information can you always determine what the element is?

(Yes/No).

a. number of protons _____

b. number of neutrons _____

c. number of electrons in a neutral atom _____

d. number of electrons _____

20. Complete the following Table

Element	Symbol	Atomic #	Mass #	Protons	Electrons	Neutrons
a. Neon			22			
b.	Ca		46			
c. Oxygen			17			
d.	Fe		57			
e. Zinc			64			
f.	Hg		204			

