Atom Theory Timeline Organizer

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scientist | Date | Observations/Experiments/Evidence | Conclusions | Diagram |
| Democritus | 465 B.C | “The universe is composed of two elements: the atoms and the void in which they exist and move.” According to Democritus atoms were miniscule quantities of matter. | Democritus hypothesized that atoms cannot be destroyed, differ in size, shape and temperature, are always moving, and are invisible. He believed that there are an infinite number of atoms. | demo__atom_model.gif It was simply a round sphere with no electrons, protons, or neutrons. |
| Rutherford | 1911 | Rutherford had designed an experiment to use the alpha particles emitted by a radioactive element as probes to the unseen world of atomic structure. | Rutherford only committed himself to a small central region of very high positive or negative charge in the atom. | Atoms have a small charged nucleus surrounded by largely empty space, and are circled by tiny electronshttps://upload.wikimedia.org/wikipedia/commons/thumb/d/d8/Atom_diagram.png/230px-Atom_diagram.png |
| Thomson | 1897 | Thomson performed experiments demonstrating that cathode rays were unique particles, rather than waves | Thomson proposed that the atom is composed of electrons surrounded by a soup of positive charge to balance the electrons’ negative charges. | imageThe atom is composed of electrons surrounded by a soup of positive charge to balance the electrons’ negative charges, like negatively charged “plums” surrounded by positively charged “pudding”. |
| Dalton | 1803 | Experiments with gases that first became possible at the turn of the nineteenth century led John Dalton in 1803 to propose a modern theory of the atom based on the following assumptions. | Matter is made up of atoms that are indivisible and indestructible. | Image result for dalton atom­­­Compounds are formed by a combination of two or more different kinds of atoms. |
| Schrodinger | 1926 | Schrödinger used mathematical equations to describe the likelihood of finding an electron in a certain position. | The atom was believed to be composed of a positively charged nucleus surrounded by negatively charged electrons. | He proposed that electrons are arranged in concentric circular orbits around the nucleus. Bohr model |