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| **John Dalton** | **J.J. Thomson** | **Ernest Rutherford** |
| Proposed the first modern atomic theory | Discovered the electron | Discovered the nucleus |
| Said that atoms were indivisible (which isn’t true) | Proposed the plum pudding model of the atom | Discovered the nucleus was very small in size but contained nearly all of the mass of the atom |
| Said that all atoms of a given element were exactly alike (which is no longer considered true! Why?) | Performed cathode ray tube experiments | Gold foil experiment: He shot alpha particles at gold foil and most went straight through, but a very few were deflected. |
| Said that atoms could be combined in simple whole number ratios to make compounds | Proposed the existence of protons, even though he discovered the electron, since he knew atoms were neutral.  | Proved that most of the volume of the atom is empty space |
| Said that in chemical reactions, atoms are combined, separated, or rearranged. |  | Discovered that the nucleus of the atom is incredibly dense. |
| Said that all matter is composed of extremely small particles called atoms. |  | Discovered the nucleus was positively charged |
| Image result for image, dalton model of atom | Image result for image, plum pudding model | Image result for image of rutherford atomic model |