1. **500 BC**: Democritus, a Greek philosopher, proposed that all matter was composed of indivisible particles called atoms (Greek for uncuttable).

2. **1803 “Billiard Ball Model”**: John Dalton viewed the atom as a small solid sphere.

   - Each element was composed of the same kind of atoms.
   - Different elements have different kinds of atoms.
   - Compounds are composed of atoms in specific ratios.
   - Chemical reactions are rearrangements of atoms (mass is conserved).

3. **1897 “Plumb Pudding Model”**: Joseph John Thomson proposed that the atom was a sphere of positive electricity (which was diffuse) with negative particles imbedded throughout. He discovered the electron, a discovery for which he was awarded the Nobel Prize in physics in 1906.
4. 1908-1913 “Solar System Model”: Ernest Rutherford discovered that the atom is mostly empty space with a dense positively charged nucleus surrounded by negative electrons. Rutherford received the Nobel Prize in chemistry in 1908 for his contributions into the structure of the atom. In 1913 Neils Bohr proposed that electrons traveled in circular orbits and that only certain orbits were allowed. This model of the atom helped explain the emission spectrum of the hydrogen atom. He received the Nobel Prize in physics in 1922 for his theory.

5. 1920: “Electron Cloud Model”: An atom consists of a dense nucleus composed of protons and neutrons surrounded by electrons that exist in different clouds at the various energy levels. Erwin Schrodinger and Werner Heisenburg developed probability functions to determine the regions or clouds in which electrons would most likely to be found.