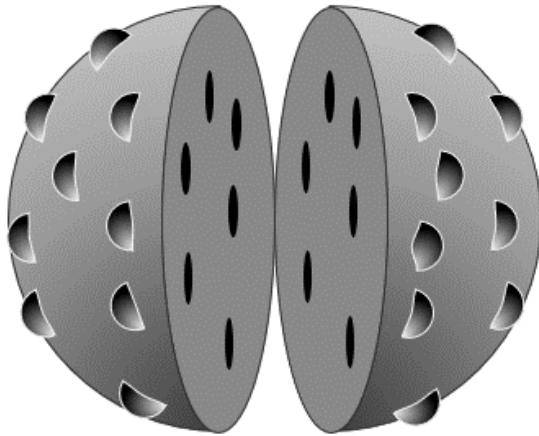


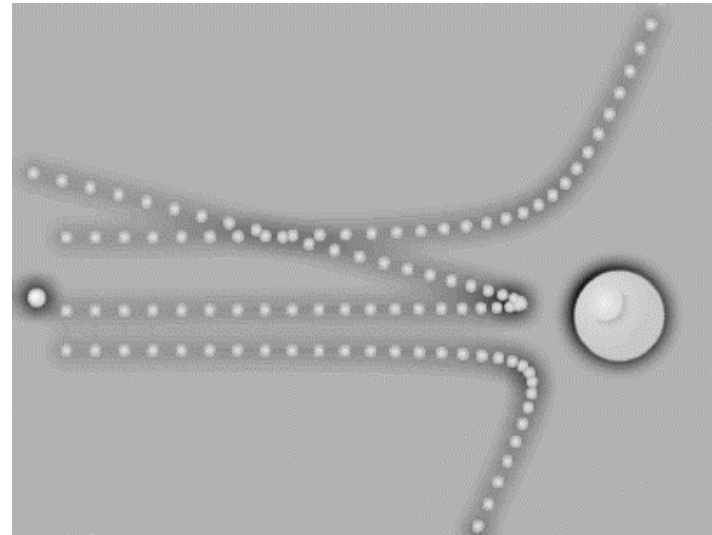
2.1 The plum pudding model

- Experiments suggested that atoms contained very small negatively charged particles
- These came to be known as electrons
- The first guess was that the negative electrons were embedded in an even sphere of equal positive charge
- This was known as the plum pudding model



2.2 Rutherford and alpha scattering

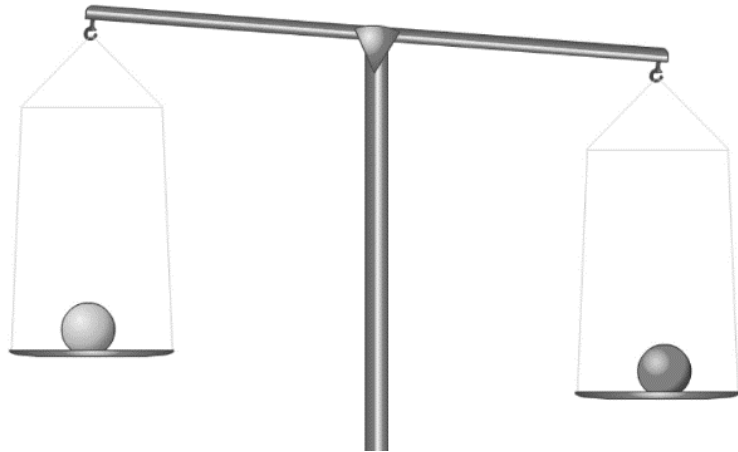
- The plum pudding model couldn't account for why alpha particles very occasionally bounced back from very thin metal foils
- Ernest Rutherford guessed that this must be because atoms had a very small, positively charged nucleus where almost all the mass of an atom was concentrated



Alpha particles bouncing off a nucleus when the direction is exactly right

2.3 Protons and neutrons

- Further experiments with alpha radiation suggested that the nucleus of an atom was made from smaller particles that came to be called protons and neutrons



Neutrons were found to have a slightly bigger mass than protons