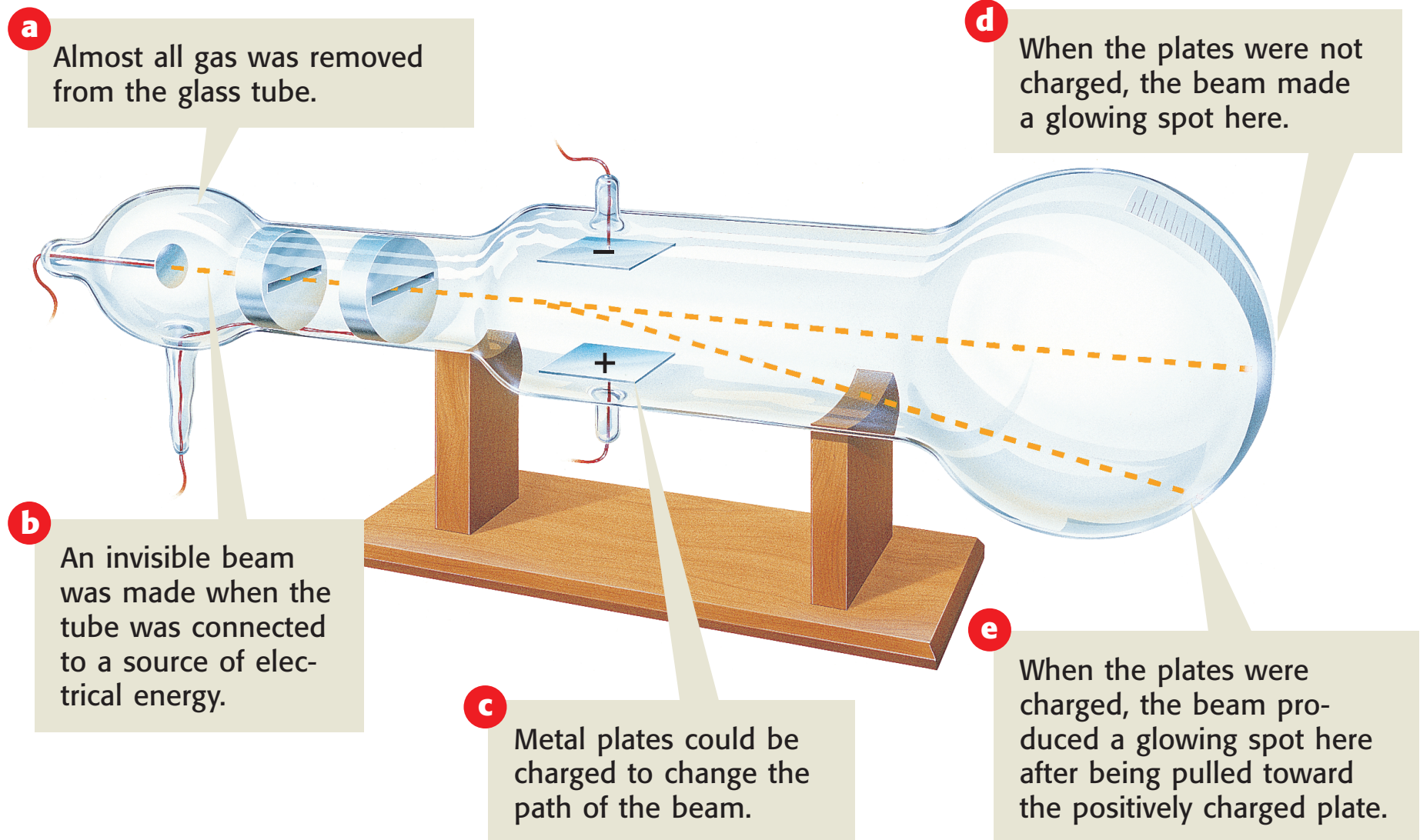
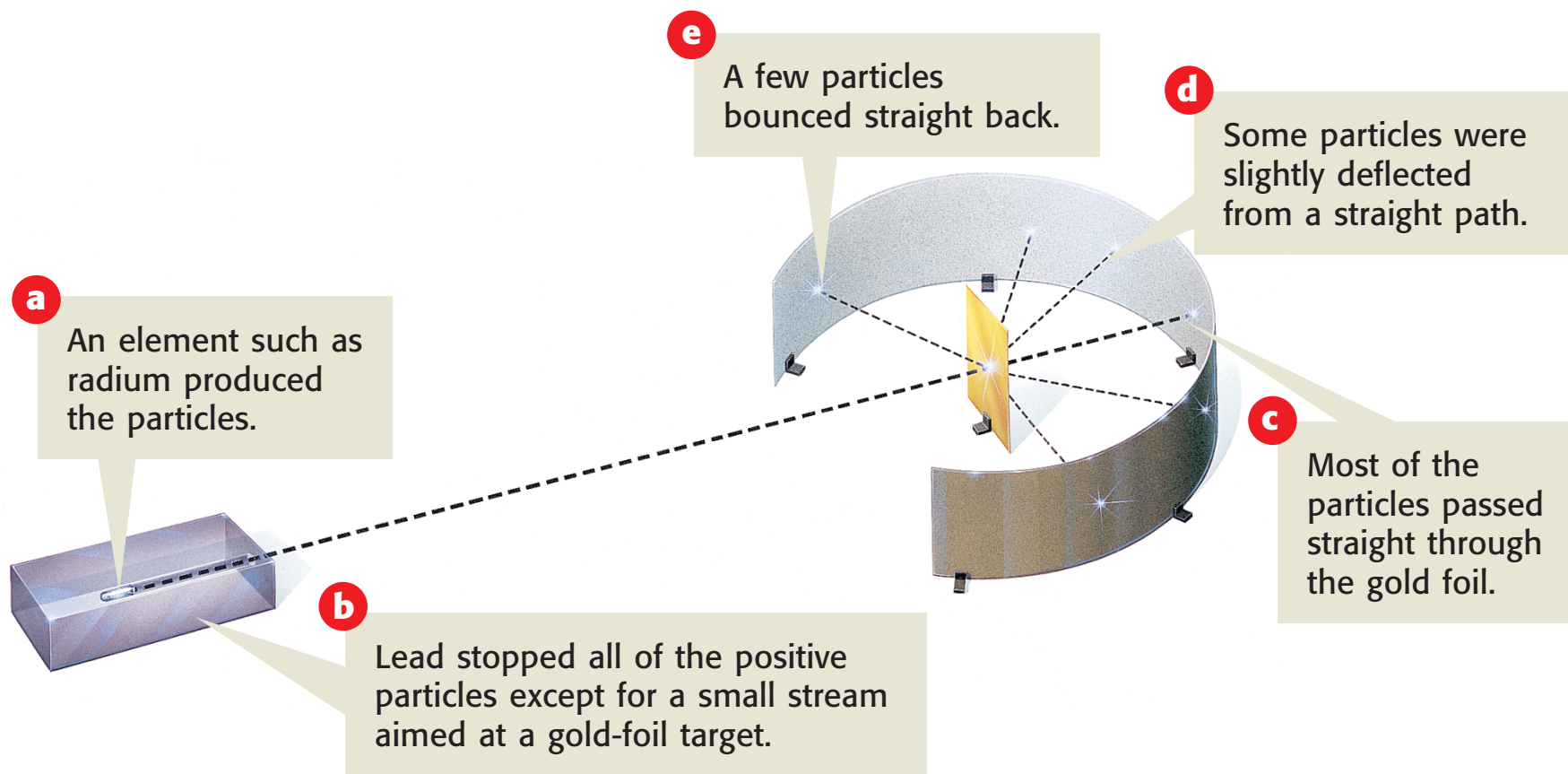


Thomson's Cathode-Ray Tube Experiment

P19

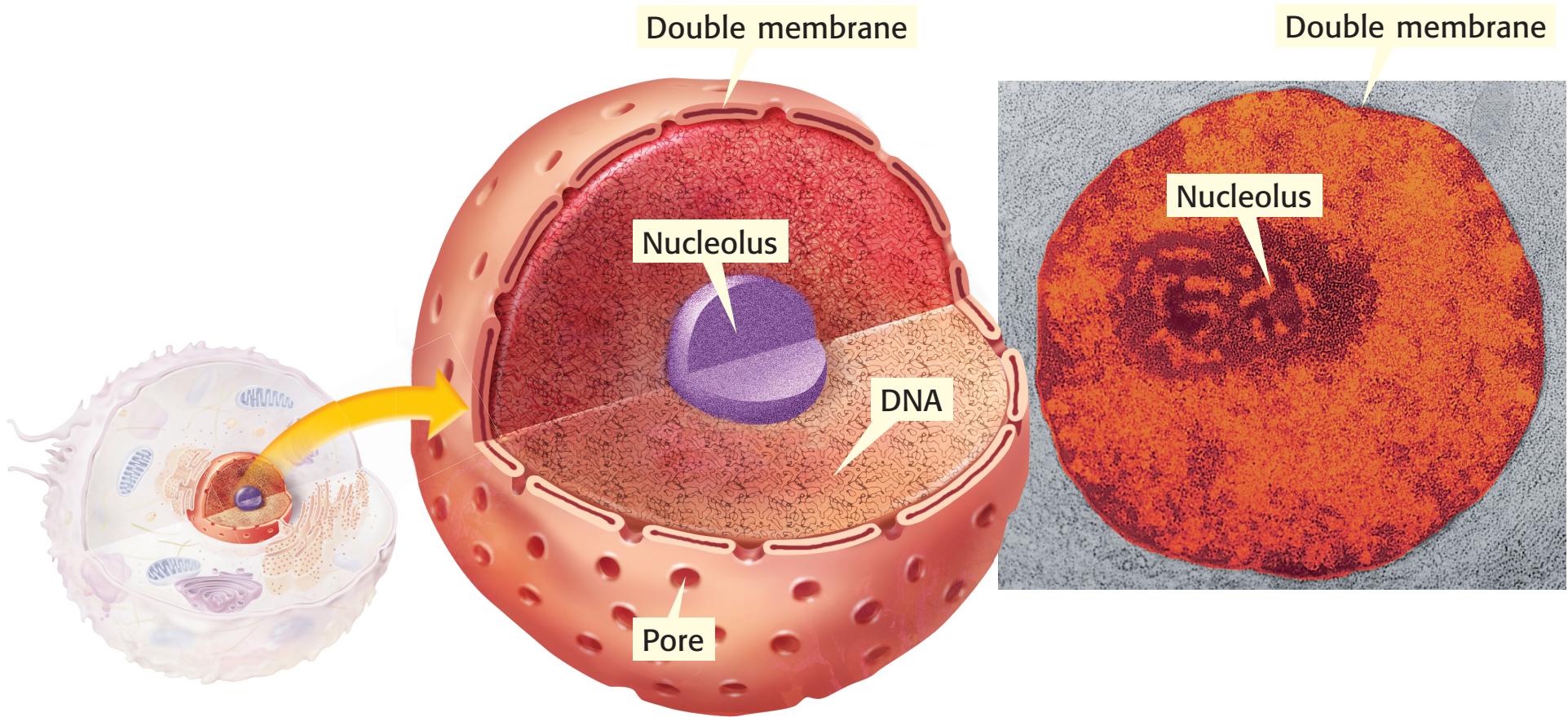


Rutherford's Gold-Foil Experiment



The Nucleus

L14



Parts of an Atom

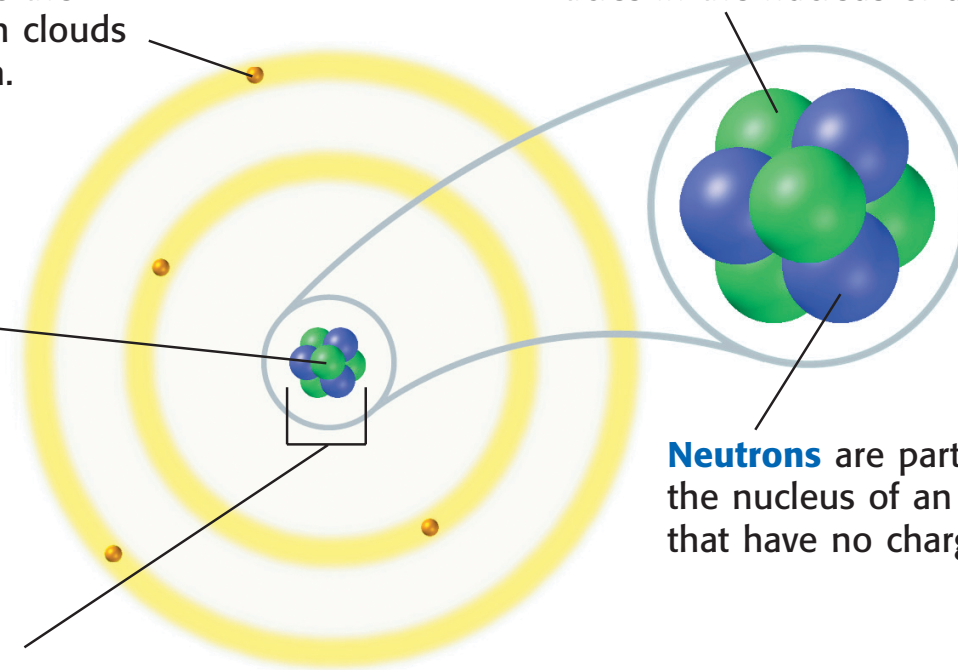
Electrons are negatively charged particles found in electron clouds outside the nucleus. The size of the electron clouds determines the size of the atom.

The **nucleus** is the small, dense, positively charged center of the atom. It contains most of the atom's mass.

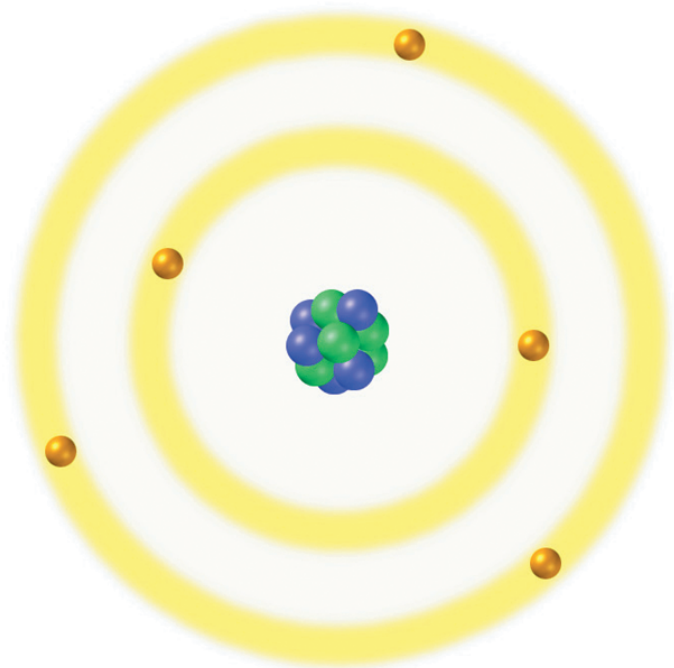
The diameter of the nucleus is $1/100,000$ the diameter of the atom.

Protons are positively charged particles in the nucleus of an atom.

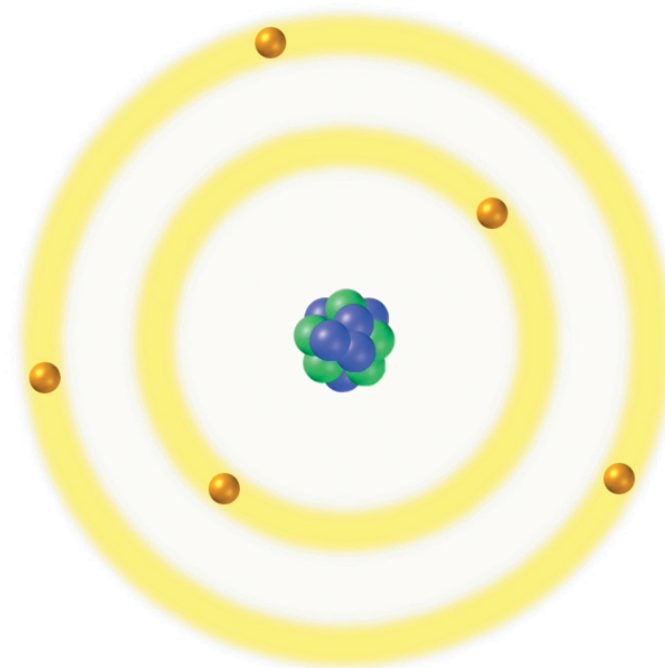
Neutrons are particles in the nucleus of an atom that have no charge.



Isotopes of Boron



Protons: 5
Neutrons: 5
Electrons: 5
Mass number =
protons + neutrons = 10



Protons: 5
Neutrons: 6
Electrons: 5
Mass number =
protons + neutrons = 11