Atomic Model #4: Discovering Protons:

Rutherford (1911): Gold Foil Experiment


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A. Observation #1 - MOST alpha particles went right thru.

Conclusion #1 - Atom is mostly empty space

B. Observation #2 - Few were deflected or bounced back.

Conclusion #2 - *There is a nucleus that is dense & positively charged*

c. Which observation led to what he called the nucleus? Obs. #2

d. Real-life relation of "mostly empty space":
   - Football field (if nucleus is marble/pea at midfield, closest electron is the goal post)
   - You/star (if you are nucleus, closest electron is the closest star).

SKETCH: (Think of a PEACH!)