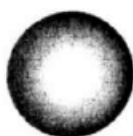


# History of Atomic Structure

John Dalton

"all atoms are solid spheres"



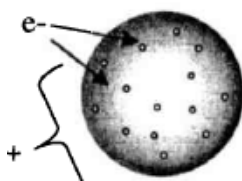
Model B

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# History of Atomic Structure

JJ Thomson

"Plum pudding model"  
*discovered the electron*  
(chocolate chip cookie model)



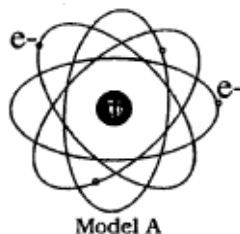
Model D

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# History of Atomic Structure

**Ernest Rutherford**

discovered protons and nucleus

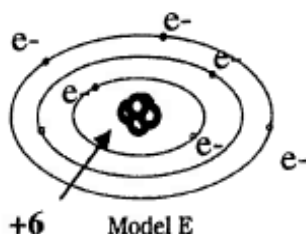


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# History of Atomic Structure

**Niels Bohr**

planetary model -- orbitals



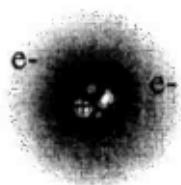
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# History of Atomic Structure

current model

## Erwin Shrodinger

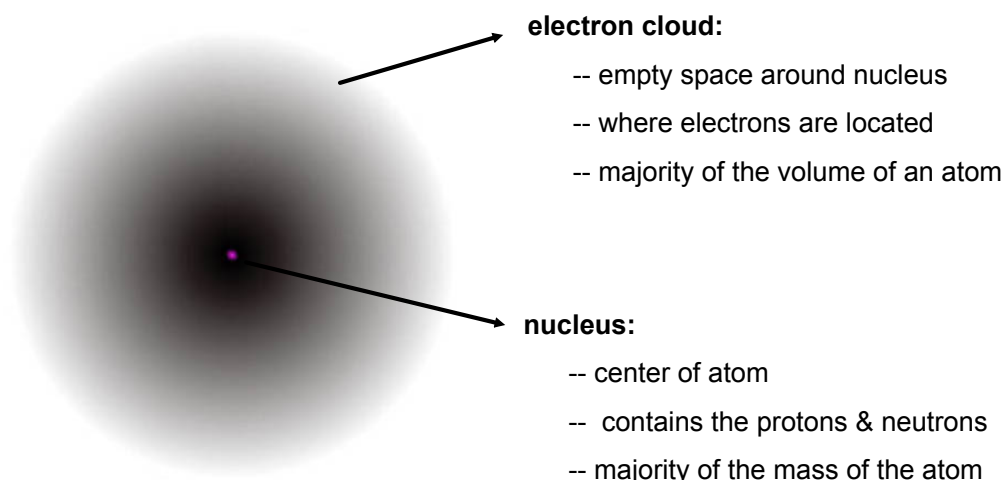
quantum model -- uses numbers to describe the most probable location of an electron; electron cloud



Model C


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# Atomic Structure



Sep 6-7:09 AM

# Subatomic Particles



Name	protons	electron	neutron
Symbol	$p^+$ +	$e^-$ -	$n^0$ 0
Charge	positive	negative	no charge
Mass	1 amu	$\frac{1}{1827}$ "D"	1 amu
Location	nucleus	$e^-$ cloud	nucleus
Purpose	IDs an atom	chem. prop. reactivity	isotopes

\*\*\* amu stands for atomic mass unit

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# Important Terms

Atomic Number	The number of protons in an atom. Like the ID # because it determines the identity of the element.
Mass Number	The mass of 1 atom of an element. Mass number = # protons + # neutrons.
Neutral	NO CHARGE In a neutral atom, the # of protons = # of electrons

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# Practice

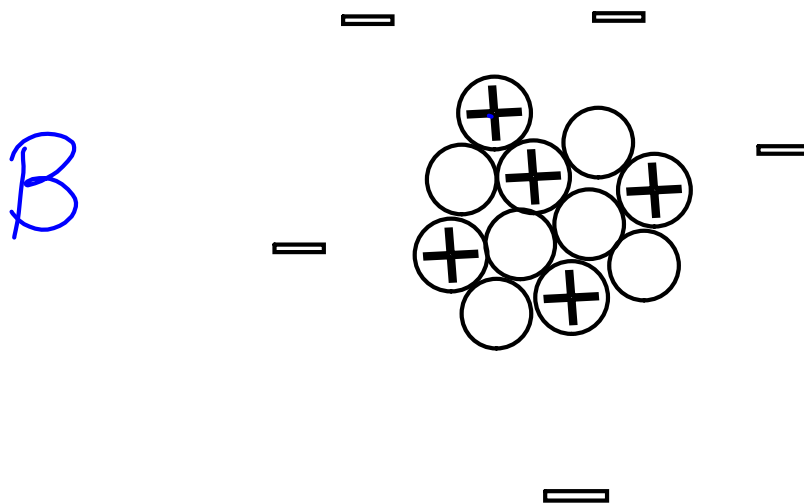
1. Which particle can tell you the identity of an atom?

- a. proton
- b. neutron
- c. electron

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# Practice

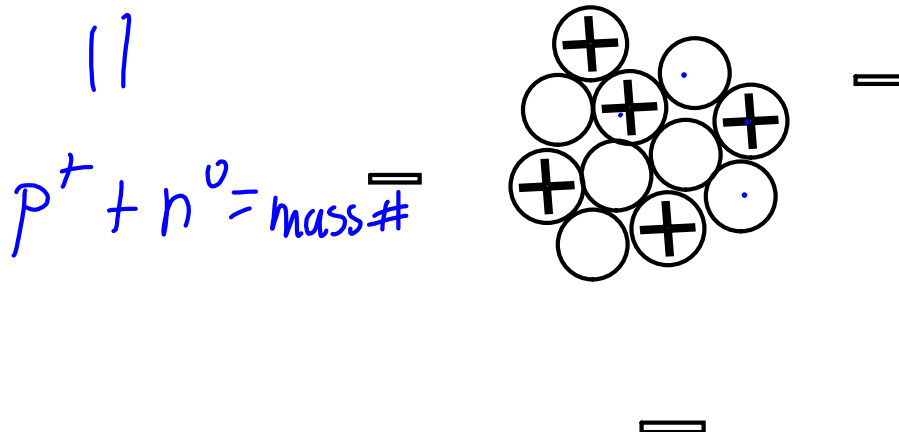
2. What element is this?



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# Practice

3. What is the mass number of this atom?



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# Practice

4. If an atom of carbon has a mass of 13, how many neutrons does it have?

$$\text{mass \#} = p^+ + n^0$$

$$13 = 6 + x - 7n^0$$

5. How many electrons are in a neutral atom of magnesium?  $12p^+ + 12e^- = 0$

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