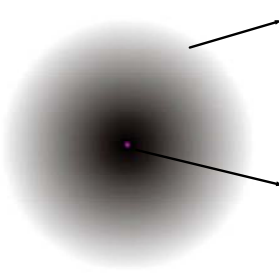


Atomic Structure



electron cloud:

- empty space around nucleus
- where electrons are located
- majority of the volume of an atom

nucleus:

- center of atom
- contains the protons & neutrons
- majority of the mass of the atom

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Subatomic Particles

Name	protons	neutrons	electrons:
Symbol	p^+ or $+$	n^0 or 0	e^- or $-$
Charge	$+$	0	$-$
Mass	1 amu	1 amu	0^{+} - not really 0, it's so small
Location	nucleus	nucleus	e^- cloud
Purpose	ID atom	isotopes	reactivity

*** 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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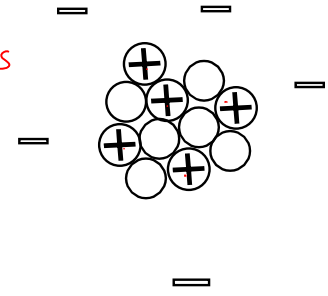
Practice

2. What element is this?

5 protons

Atomic #5

B



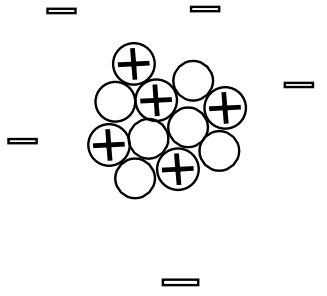
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Practice

3. What is the mass number of this atom?

mass # = 11

p + n = m.#.



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Practice

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

mass # = p⁺ + n⁰

13 = 6 + x n⁰ = 7

5. How many electrons are in a neutral atom of magnesium?

Mg - atomic = 12

p⁺ = e⁻ = 12e⁻

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