Warm Up

1. What is the rule regarding capitalization of element symbols? 1st capital 2nd, 3rd lowercase

2. What are the element symbols for:

Tin – Sn

Silver – Ag

Palladium- Pd

Hydrogen - H

Xenon - Xe

Copper - Cu

A. Using your periodic table, determine the name or symbol for the following elements. These are the most common elements used.

	P		Cu
nickel		lead	
magnesium	Mg		Be
	B		Cr
chlorine		aluminum	
	Br		Hg
hydrogen			Zn
silver		carbon	
	Ne		Si
argon		helium	
sodium		tin	
manganese.	Mn		F
nitrogen		iodine	
	Li	iron	
cobalt			Au
	S	oxygen	
potassium	K		Ca
barium			

Ar Ba Si Pb Zn As Ne Rn

1. We brought everything but the kitchen _____.
2. When your pet has died you dig a hole in the backyard and _____.
3. Are the baby birds still in the nest? No, they _____
4. Doctors amputated the bottom half of his leg but they left his _____.
5. A prisoner who acts in a silly manner is called a _____.
6. The crossing guard took the child by the hand and _____ them across the street.
7. The makers of Raid insect repellent came up with the advertising slogan "Don't go out without your _____".
8. News reporter Nic asked the fire chief what was the cause of the fire. The fire chief said "It was _____".

What is an "atom" ?

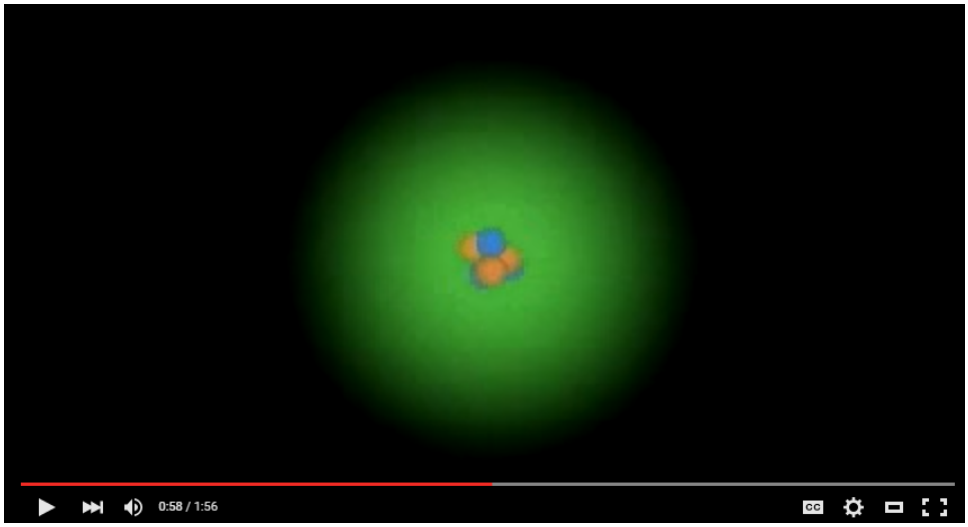
- The smallest particle of an element.
- Cannot be broken apart in chemical reactions.

Inside the Atom

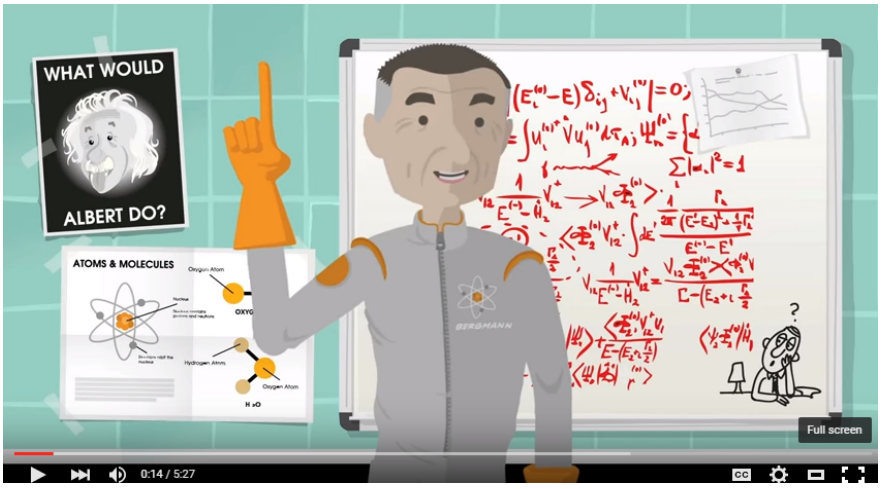
3 key points.

- Most of the atom is empty space.
- The nucleus (center of atom.) is tiny compared to the rest of the atom ("grain of sand in football field").
- Almost all of the mass is in the nucleus.

The atom is made of three smaller particles called the **subatomic particles**.



So how small is an atom really?



Summary table

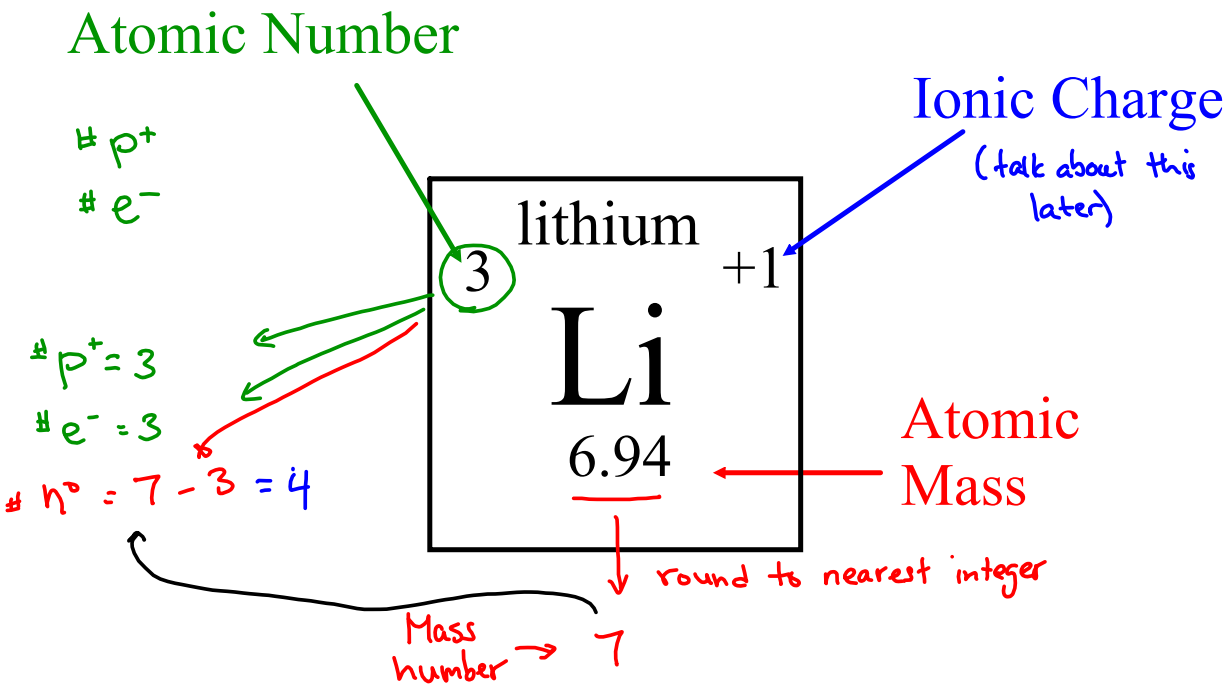
Subatomic Particle	Charge	Relative Mass	Location
proton	+	1	nucleus (center)
neutron	☺	1	nucleus
electron	—	☺	orbit the nucleus

The *number of protons* are especially important since they determine *which element* the atom will be.

# of
Protons = Atomic Number
p^+

# of
Electrons = Atomic Number
e^-

# of
Neutrons = Mass Number (round) - Atomic Number
n^0


Atomic Number
p+
e−
Ionic Charge
(talk about this later)
lithium
3
+1
Li
6.94
Atomic Mass
p+ = 3
e− = 3
n° = 7 − 3 = 4
round to nearest integer
Mass number → 7

Beryllium

Atomic # 4

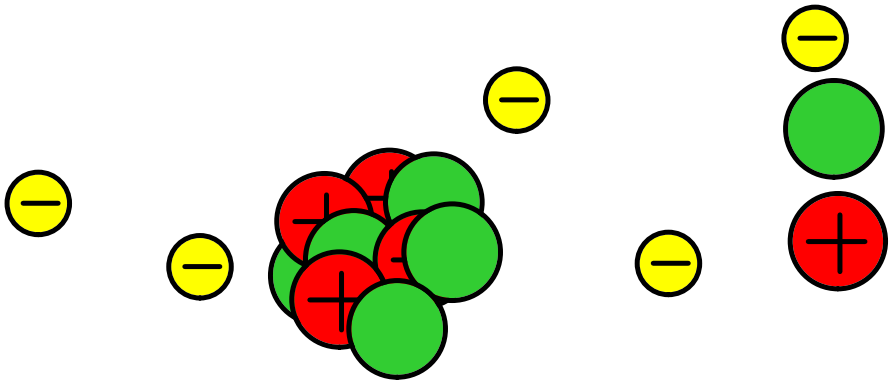
Atomic Mass 9.01

Mass # 9

p^+ = 4

n^0 = 9 - 4 = 5

e^- = 4



Neon

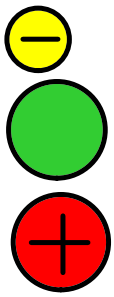
Atomic # 10

Mass # 20

p^+ = 10

e^- = 10

n° = 20 - 10 = 10



arsenic

33 -3

As

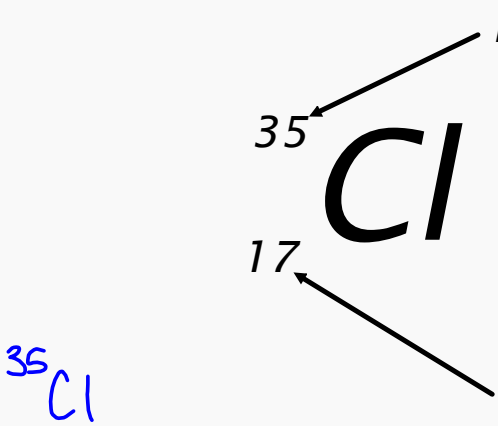
74.92

Protons = 33

Electrons = 33

Neutrons = 75 - 33 = 42

Standard Atomic Notation



Chemical Symbol

^{35}Cl

$^{1}_{1}H$

Element	atomic number	mass number	standard atomic notation	# of protons	# of electrons	# of neutrons
Titanium	22	47.87 48	$^{48}_{22}Ti$	22	22	48-22 26.
Zinc	30	65	$^{65}_{30}Zn$	30	30	65-30 35

Complete Subatomic Particles worksheet for next day.

Attachments

answers - atomic models.pdf

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