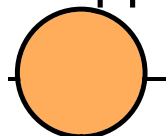


Sept 11, 2019

- 1) go over periodic table scavenger hunt/elements and their symbols
- 2) Inside the atom
- 3) Bohr Diagrams

Warm- Up

The only letter that does not appear on
the periodic table is



1. The element in group 5 and period 5	Nb niobium
2. The element in group 16 and period 3	S sulphur
3. The element in group 16 and period 4	Se Selenium
4. Which element is a metal: Ba or At	Ba barium
5. Which period is Ca in?	4
6. What is the number of the group N is in?	15
7. Which element is an alkali metal: Rb or Al?	Rb rubidium
8. Which element is a halogen: Na or Cl?	Cl Chlorine
9. Which element is a noble gas: Ne or Br or O?	Ne neon
10. What is the element name for Cl?	chlorine
11. What is the symbol for tin?	Sn
12. What group and period is iron (Fe) in ?	group 8 period 4
13. What is the element name for Na?	sodium
14. What is the symbol for carbon?	C
15. What is the symbol for copper?	Cu
<p>1. zinc</p> <p>2. copper</p> <p>3. tin</p>	

Elements and Their Symbols

- | | |
|-----------------------|--------------------------|
| 1. oxygen O | 11. Magnesium Mg |
| 2. hydrogen H | 12. manganese Mn |
| 3. chlorine Cl | 13. neon Ne |
| 4. sodium Na | 14. bromine Br |
| 5. flourine F | 15. phosphorous P |
| 6. Carbon C | 16. silver Ag |
| 7. Helium He | 17. lead Pb |
| 8. nitrogen N | 18. iron Fe |
| 9. copper Cu | 19. calcium Ca |
| 10. sulfur S | 20. potassium K |

21. Cu copper

22. K potassium

23. C carbon

24. Au gold

25. Zn zinc

26. Pb lead

27. Fe iron

28. Na sodium

29. S sulfur

30. Al aluminum

31. Ca calcium

32. Ag silver

33. P phosphorous

34. O oxygen

35. I iodine

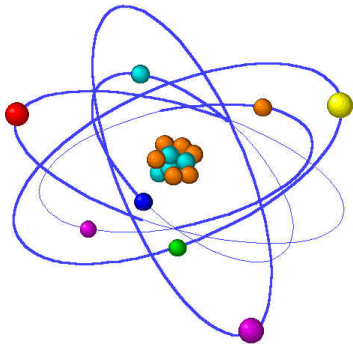
36. Sn tin

37. H hydrogen

38. F fluorine

39. Ni nickel

40. Hg mercury

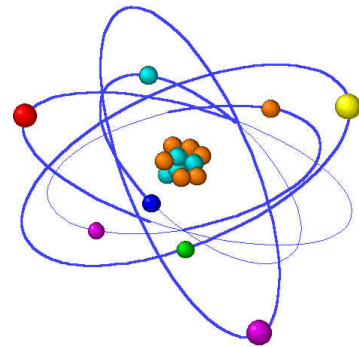


What is an Atom?

the smallest particle of an element

cannot be broken down during normal physical or chemical changes

building blocks of all matter



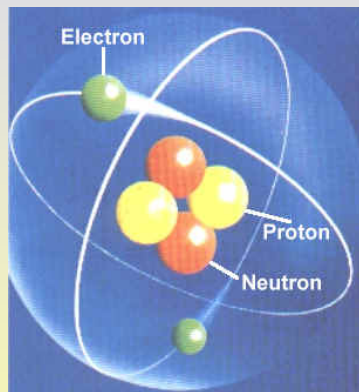
Parts of an Atom

Subatomic Particles = the particles which an atom is composed of.
There are 3 subatomic particles in an atom

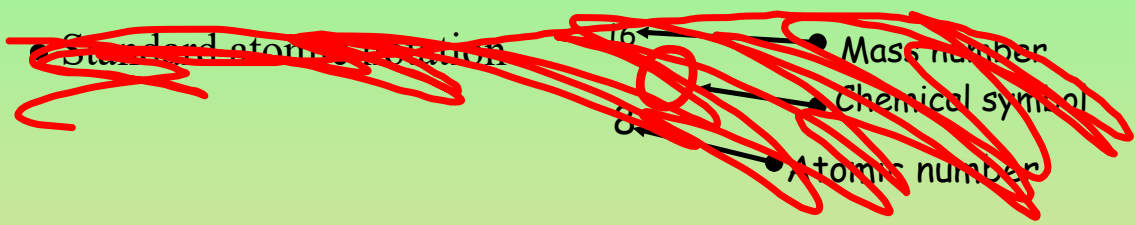
Protons: positively charged particles, located in the nucleus
(important because they tell what atom it is)

Neutrons: neutral particles located in the nucleus

Electrons: negatively charged particles that circle or orbit around the nucleus

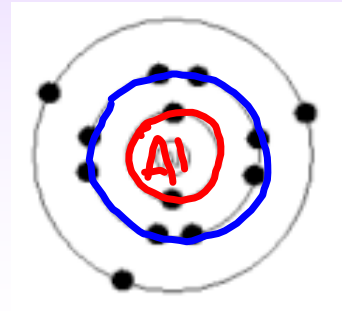
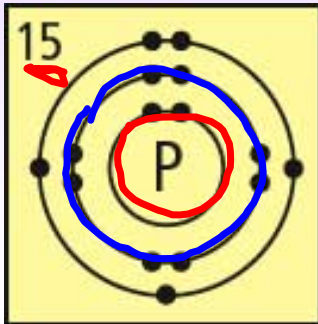


- The number of protons = atomic number
- The number of protons = number of electrons
- Mass number = number of protons and neutrons
- Number of neutrons = mass number – atomic number



Bohr Diagrams

The symbol is written in the center to represent the nucleus, more circles are drawn around the outside to represent the orbits and dots are drawn to show electrons.



Electron arrangement for the Bohr Model

Each orbit (circle) can only hold so many electrons

Orbit	Number of Electrons
1	2
2	8
3	8
4	18
5	18

Creating Bohr Diagrams

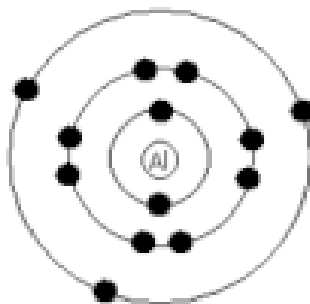
Follow these steps to make a Bohr diagram.

Step 1: Draw a circle (represents the nucleus) and put the symbol in the center.

Step 2: Find out how many electrons the element has (atomic number from periodic table)

Step 3: Draw orbits containing the proper number of electrons (remember the 1st orbit only holds 2, the 2nd holds 8, the 3rd holds 8)

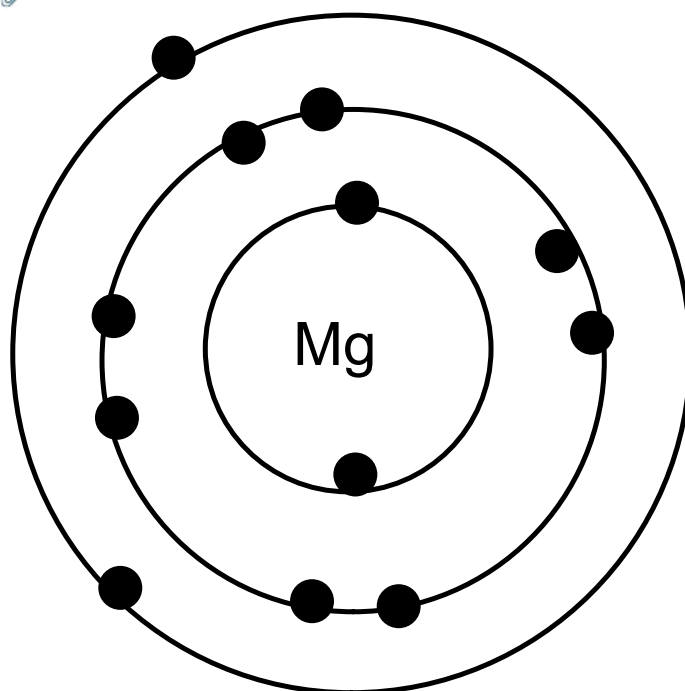
i.e.



Aluminum Al
atomic number = 13
so 2 in first orbit
8 in second orbit
3 in third orbit
(aluminum has a
valence of 3)



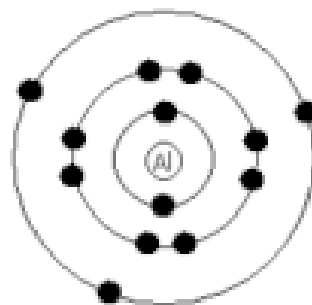
Bohr Diagram for Magnesium



magnesium has a valence of 2 electrons

Valence electrons are the electrons in the outermost orbit of the Bohr diagram.

i.e. aluminum (Al) has 3



Valence electrons can also be found by looking at the group #. The group # = the valence. However if it is a double digit # it is the 2nd digit

i.e. Group 1 = 1 valence electron

Group 3 = 3 valence electrons

Group 15 = 5 valence electrons

pg 187 #2,3,4

Bohr Models Worksheet

Attachments

October18 0856.wmv

October18 0901.wmv

October18 0907.wmv