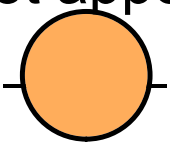
April 12, 2019

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 

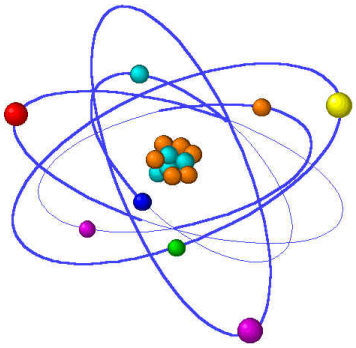
1. The element in group 5 and period 5 Nb niobium
2. The element in group 16 and period 3 S sulphur
3. The element in group 16 and period 4 Se Selinium
4. Which element is a metal: Ba or At Ba barium
5. Which period is Ca in? 4
6. What is the number of the group N is in? 15
7. Which element is an alkali 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

1. zinc
2. copper
3. tin

Elements and Their Symbols

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

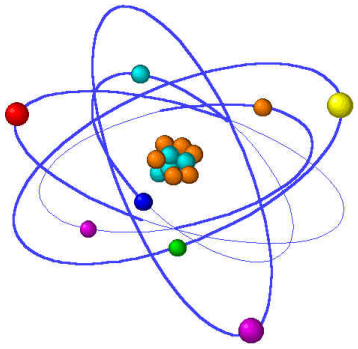


What is an Atom?

the smallest particle of an element

cannot be broken down during normal physical or chemical changes

building blocks of all matter



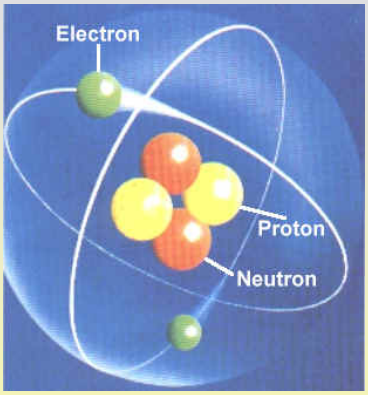
Parts of an Atom

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

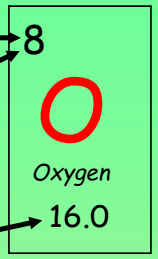
Protons: positively charged particles, located in the nucleus (important because they tell what atom it is)

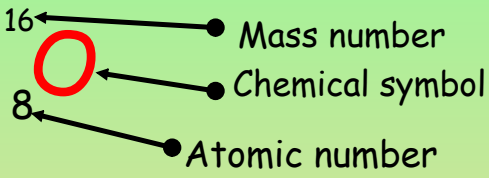
Neutrons: neutral particles located in the nucleus

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



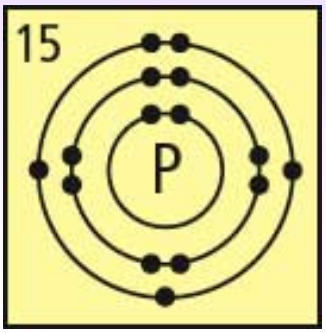
- The number of protons = atomic number
- The number of protons = number of electrons
- Mass number = number of protons and neutrons
- Number of neutrons = mass number – atomic number
- Standard atomic notation

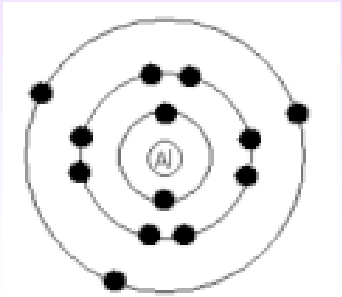




Bohr Diagrams

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

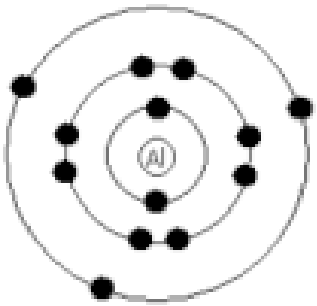
Follow these steps to make a Bohr diagram.

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)

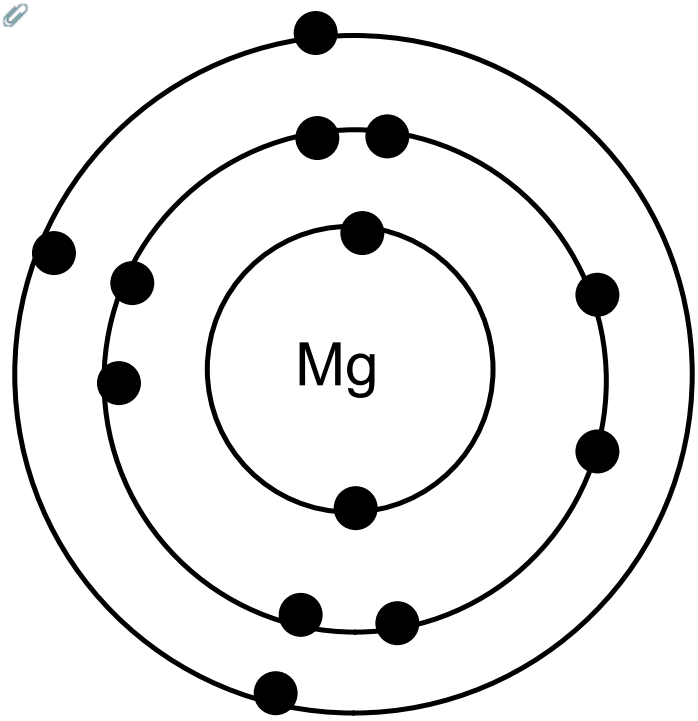
Step 3: Draw orbits containing the proper number of electrons (remember the 1st orbit only holds 2, the 2nd holds 8, the 3rd holds 8)

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)

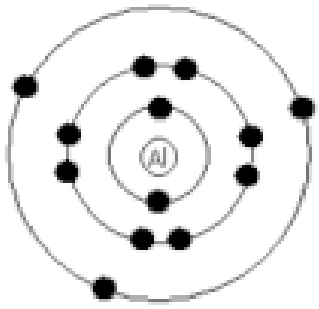
Bohr Diagram for Magnesium



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

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Bohr Models Worksheet

Attachments

October18 0856.wmv

October18 0901.wmv

October18 0907.wmv