

Oxygen symbol _____ atomic number _____
 _____ protons _____ electrons
 electron distribution _____

Oxygen has _____ valence electrons

Electron Dot Diagram - atoms _____ surrounded by _____
 to represent its _____ electrons

example electron dot diagrams: O Li

Problem Set 1:

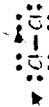
Lewis Structure diagram representing the arrangement of _____
 electrons in a _____

Most atoms need _____ valence electrons to become stable. The exceptions are H
 and He which need only _____ valence electrons to be stable.

Lewis structure for H_2 $\text{H}-\text{H}$

- shared pair
- 2 electrons belonging to both _____
 - represented by a _____ between symbols

Lewis structure for Cl_2
 Each Cl atom has _____ valence electrons, giving a total of _____
 _____ valence electrons to work with _____ pair



- unshared pair
- electrons belonging to only one _____
 - represented by 2 dots

Lewis structure for HCl



When more than two atoms bond, you must determine which is central.
 The central atom is:

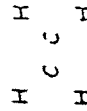
- frequently _____
- never _____
- often atom with _____ electronegativity

Lewis structure for CH_3I :

(There are a total of _____
 valence electrons to work with.)

Problem Set 2:

Lewis structure of ethene, C_2H_4 (has total of _____ valence electrons)



type of bond	pairs of electrons shared

Problem Set 3:

(Modified)

86

Activity: Connect the Dots

1. Draw dot symbols for:

C N O F Ne

Si P S Cl Ar

2. Based on these dot symbols, predict how many bonds each atom will make

3. Draw Lewis Dot Diagrams for:

Br₂ H₂S PH₃ SiH₄

CCl₄ PF₃ AsBr₃

4. What is the molecular formula for AsBr₃

-- (Excused) --

Making Sense Notes

87

• What are the steps to draw a Lewis Dot Diagram?

1. count val. e^- total
2. Bond atoms according to HONC 1234
3. Add pairs of dots to satisfy Octet rule
4. count to make sure total e^- count matches total val e^- count in step 1

* C usually goes in the middle. H never does.