Key:

Chapter 10 SI

1. List and describe the steps used to draw a Lewis Dot Structure:

a. 1) Find the Lewis Structure for each of the component elements.

b. The element w/ the most unpaired electrons will usually be the center atom

c. Add up # of valence electrons

d. Pretend all atoms have a filled outer shell - How many total electrons would you have?

e. Subtract line 3 from 4 = # of electrons shared

f. Take line 5 + divide by 2 = # of bonds

g. Hook everything together starting w/ central atom, + add lone pairs to show everything has an octet.

2. Draw the Lewis

a. H2CO

b. SO3

c. NaC

3. Describe an

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CO_3

4. What is th

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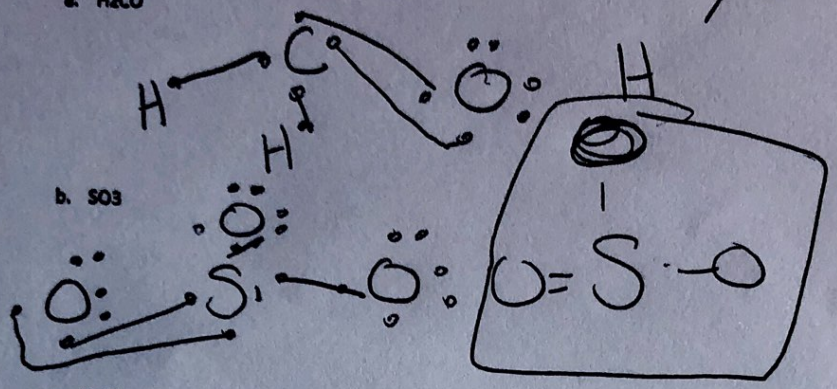
2. Draw the Lewis dot structure for the following:

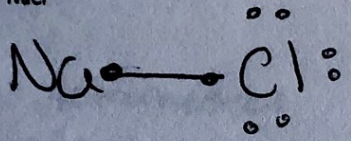
a. H_2CO



$H>C=O$

b. SO_3

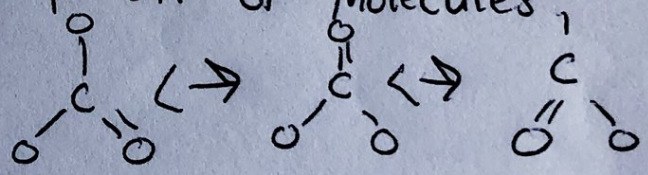
c. NaCl



3. Describe and give an example of Resonance:

Multiple bonds, it is possible to write more than one way the arrangement of molecules

CO_3

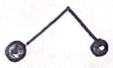


4. What is the VESPR theory:

Valence electron repulsion Theory-

- Pridicts Shape of Molecules
- electron groups-an repell each other

5. Draw the following shapes of molecules:

Linear	— X — 180° apart
Trigonal Planar	 120° Apart
Tetrahedral	 109.5° apart
Bent	

- electron structure = tetrahedral
Molecular geometry = Bent.
has 1 to 2 lone pairs + 2 bonds.

6. What is the difference between electron and molecular geometry?

Molecular - The 3D arrangement of the atoms that constitute a molecule

Electron - the 3D arrangement of the electron groups that constitute a molecule