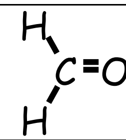
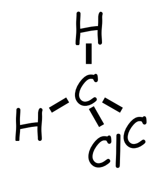
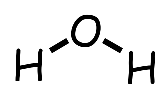
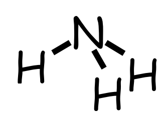
Note Taking Guide: Episode 503 **Name__________________**

Any molecule containing only ____ atoms has a ___________ shape.

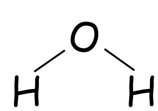
To predict shapes of molecules with more than 2 atoms we use the VSEPR theory:

- VSEPR stands for ___________ - ___________, ___________ - __________ _______________
- Since electrons ____________ each other, electrons pairs will be as ________ apart as possible.

shape	number of atoms bonded to central atom	number of unshared pairs of electrons	example
linear (____° angle)			O = C = O
trigonal planar (____° angles)			
tetrahedral (____° angles)			
bent			
trigonal pyramidal			

Polar Molecules:

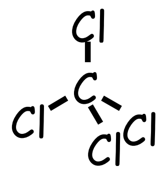
- must contain at least one ___________ bond
- are shaped so that there is a _____ and a _____ end

example of a polar molecule: 

Non-polar Molecule:

- contains only ________________ bonds -or-
- contains polar bonds, but has no ______________ __________

example of a non-polar molecule:



Intermolecular Forces

- __________ of attraction _______________ molecules
- are _____________ than covalent and ionic bonds
- 3 types:
  1. Dipole-dipole forces:
     - force of attraction between the _______ end of one ____________ and the _______ end of another molecule
     - the _____________ of all the intermolecular forces
  2. Hydrogen Bonding:
     - occurs in molecules with H -___ , H - ___ , and H - ___ bonds
     - large ____________ charge on H is attracted to an _____________ pair of electrons on a neighboring ______________
  3. London Dispersion Forces:
     - _________ intermolecular forces resulting from constant ______________ of _____________
     - the only type of intermolecular force between nonpolar molecules

The Chemistry Quiz

CR1. CR2. 1. 2.

3. 4. 5.