Name: \_\_\_\_\_\_\_\_\_\_\_ANSWER KEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_

**Lewis Structures & Polarity Practice Worksheet**

**Drawing Lewis Structures** – *The Steps*

1. Count all the valence electrons.
2. Determine the Central Atom (put a \* next to it)

* Carbon or the atom with the lowest electronegativity

1. Bond terminal (outside) atoms with a single bond (one line)
2. Update Electron count (each bond is 2 electrons)
3. Add remaining electrons as lone pairs (start with the outside elements and work your way inside)
4. Check for octets (is everyone happy?) If not, shift the lone pairs to make multiple bonds.

**Example: Draw the structure for CH2Cl2**

1. C = 4 electrons 2. Carbon will be the central atom

2H = 2(1) electrons

2Cl = 2(7) electrons C\*

20 electrons total

1. Attach Hs and Cls with single bonds around C 4. 20 electrons – 8 electrons = 12 electrons

H

Cl C Cl

H

1. Add remaining electrons to Cl first (DON’T ADD ANY TO H, H is already happy! ☺ )

H

Cl C Cl 6. Is everyone happy? Yes! ☺

H

|  |  |  |
| --- | --- | --- |
| **Formula** | **Lewis Structure** | **Polar/Nonpolar around Central Atom?** |
| HBr | Image result for HBr lewis structure | Polar |
| CH3F | Image result for CH3F lewis structure | Polar |
| PBr3 | Image result for PBr3 lewis structure | Polar |
| PO4-3 | Image result for po43- lewis structure | Nonpolar |
| H2O | Image result for H2O lewis structure | Polar |
| CO2 | Image result for CO2 lewis structure | Nonpolar |
| H2O2 | Image result for H2O2 lewis structure | Polar |
| C2H4 |  | Polar |
| N2 | Image result for N2 lewis structure | Nonpolar |
| BF3 |  | Nonpolar |