Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **VSEPR Balloons Activity**

Procedure: For each example inflate balloons as instructed by your teacher. Tie balloons together in order to create the structure you are assigned. Rotate from lab team to team to view other structures and record observations below. Do not fill out “Bonds σ π” until part 2.

Pre-lab Questions:

1. What do each individual balloon represent? Explain each color.
2. Where is the central atom in this representation?

|  | Ex. | Lewis Structure | Drawing | Geometry | Bond Angle | Hybridiz-ation of central atom | Bonds  σ π |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | CH4 |  |  |  |  |  |  |
| 2 | PH3 |  |  |  |  |  |  |
| 3 | H2O |  |  |  |  |  |  |
| 4 | HCl |  |  |  |  |  |  |
| 5 | PCl5 |  |  |  |  |  |  |
| 6 | SCl4 |  |  |  |  |  |  |
| 7 | IF3 |  |  |  |  |  |  |
| 8 | RnF2 |  |  |  |  |  |  |
| 9 | SCl6 |  |  |  |  |  |  |
| 10 | ICl5 |  |  |  |  |  |  |
| 11 | RnF4 |  |  |  |  |  |  |
| 12 | C2H4 |  |  | (around Carbon) |  | (Carbon) |  |
| 13 | C2H2 |  |  | (around Carbon) |  | (Carbon) |  |

Part 2: Your teacher will use some of the models above to demonstrate sigma and pi bonds.

1. Draw representations of the following:

| Single bonds | Double bonds | Triple bonds |
| --- | --- | --- |

1. In each representation above, label the bonds are sigma or pi bonds.
2. Complete the first data table by counting the number of sigma and pi bonds in the structures.