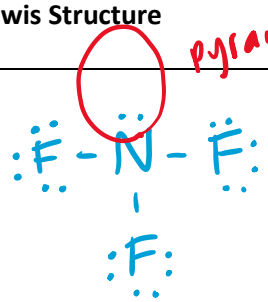
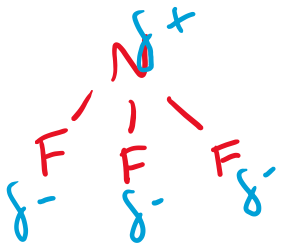
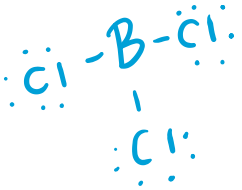
Warm-Up #22 Name:_____Date:_____

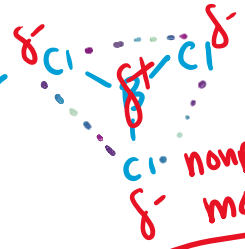
Part 1: Complete the table below.

	Lewis Structure	Draw the Molecule Shape	Shape Name	Bond Polarity	Molecular Polarity	IMF
NF_3	 pyramid		Tri-gonal Pyramidal	N 3 F 4 1 Polar draw δ+/δ-	polar	London + Dipole-dipole

Part 2: Will NF_3 dissolve in BCl_3? Explain your reasoning.

Molecular polarity



Trigonal planar 

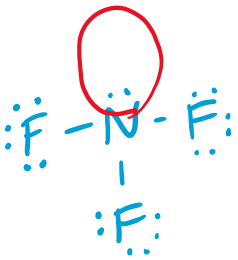
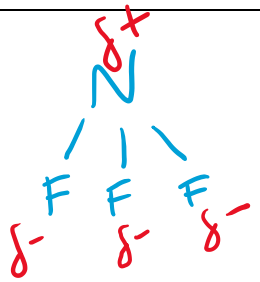
B 2
Cl 3
1 polar bond = draw δ+/δ-

nonpolar molecule

NO. BCl_3 is nonpolar molecule
NF_3 is Polar molecule.

Warm-Up #22 Name:_____Date:_____

Part 1: Complete the table below.

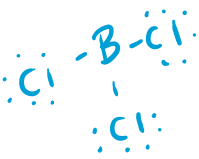
	Lewis Structure	Draw the Molecule Shape	Shape Name	Bond Polarity	Molecular Polarity	IMF
NF_3			Trigonal pyramidal	N 3 F 4 δ- |-1| = +1 Polar Draw δ+/δ-	Polar	London & Dipole-dipole

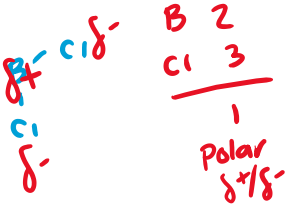
polar ? = nonpolar

Part 2: Will NF_3 dissolve in BCl_3? Explain your reasoning.

NO. They do not have the same molecular polarity

Same molecular polarity = Dissolve



Trigonal planar 

B 2
Cl 3
1
Polar δ+/δ-

Molec. Polarity = SAME charges = nonpolar

Part 3: Name/write the formula of each compound.

1. Calcium acetate

Ca^{2+} $C_2H_3O_2^{1-}$ = $Ca(C_2H_3O_2)_2$

2. S_3O_5 - Molecular/covalent

trisulfur pentoxide

3. I_2

Diatomic Molecule
orange tape

iodine

4. Iron (III) oxide

Fe^{3+} O^{2-} = Fe_2O_3

Part 4: Solve. Show all work. Round for significant figures and box final answers.

5. How many moles are in 457 grams of $Cr_2(SO_4)_3$?

$2(Cr) + 3(S) + 12(O)$

$2(52) + 3(32.07) + 12(16)$

$= 392.21$ g

$$457 \text{ g } Cr_2(SO_4)_3 \left| \frac{1 \text{ mol } Cr_2(SO_4)_3}{392.21 \text{ g } Cr_2(SO_4)_3} \right. = 1.165 \text{ mol}$$

$= 1.17$ mol $Cr_2(SO_4)_3$

6. How many particles are in 2.31 grams of Na_2O?

$$2.31 \text{ g } Na_2O \left| \frac{1 \text{ mol } Na_2O}{61.98 \text{ g } Na_2O} \right. = 0.03727 \text{ mol } Na_2O$$

$$0.03727 \text{ mol } Na_2O \left| \frac{6.02 \times 10^{23} \text{ part. } Na_2O}{1 \text{ mol } Na_2O} \right. = 2.24 \times 10^{22} \text{ part } Na_2O$$

Part 3: Name/write the formula of each compound.

1. Calcium acetate

2. S_3O_5

3. I_2

4. Iron (III) oxide

Part 4: Solve. Show all work. Round for significant figures and box final answers.

5. How many moles are in 457 grams of $Cr_2(SO_4)_3$?

6. How many particles are in 2.31 grams of Na_2O?

H_2 Draw Lewis Structure

F_2