

Name: KEY
 Date: _____

Star Trek VSEPR and Lewis Structures

Here's what we actually did....

Attack Plan = 3-dimensional drawing of the chemical structure.

Attack Angle = angle between the elements involved in bonding.

Klingon-Romulan Attack Code = the chemical formula.

Klingon-Romulan Code Word = the name of the geometry.

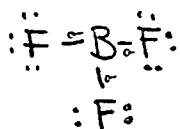
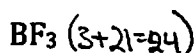
Starfleet Planned Defense Code = the hybridization of the electron orbitals

And Remember...

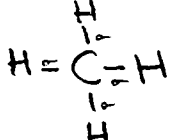
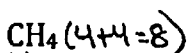
The Klingons = the bonded pairs of electrons

The Romulans = the lone pair of electrons

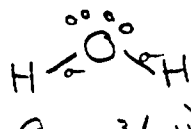
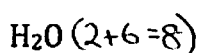
Working in groups of 4, draw Lewis structures for the following. Assign one row to each person and then share structures when finished.



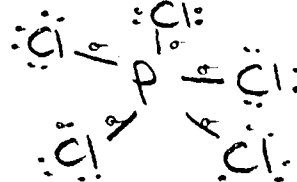
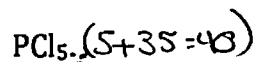
$B = sp^2 (x3)$ $F = sp^3 (x4)$
Trigonal Planar



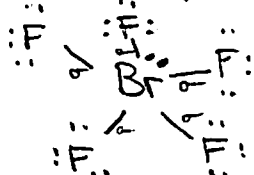
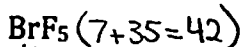
$C = sp^3 (x4)$
 $H = s$
Tetrahedral



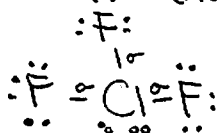
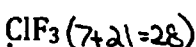
$O = sp^3 (x4)$
 $H = s$
Bent



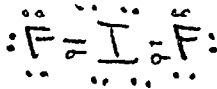
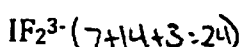
$P = sp^3d (x5)$
 $Cl = sp^3 (x4)$
Trigonal Bipyramidal



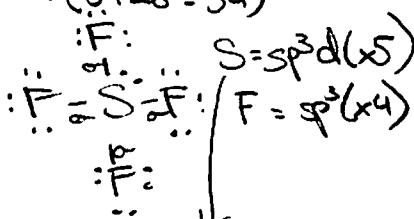
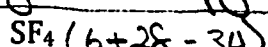
$Br = sp^3d^2 (x6)$
 $F = sp^3 (x4)$
Square Pyramidal



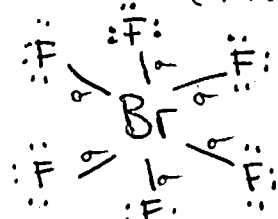
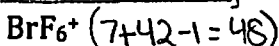
$Cl = sp^3d (x5)$
 $F = sp^3 (x4)$
T-Shape



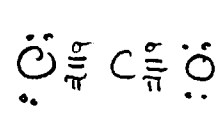
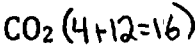
$I = sp^3d^2 (x6)$
 $F = sp^3 (x4)$
Linear



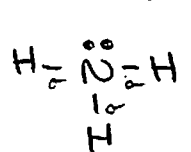
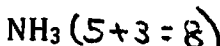
$S = sp^3d (x5)$
 $F = sp^3 (x4)$
Seesaw



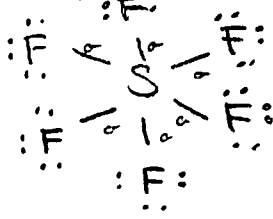
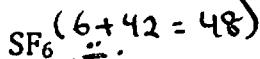
$Br = sp^3d^2 (x6)$
 $F = sp^3 (x4)$
OCTAHEDRAL



$C = sp (x2)$
 $O = sp^2 (x3)$
Linear



$N = sp^3 (x3)$
 $H = s$
Trigonal Pyramidal



$S = sp^3d^2 (x6)$
 $F = sp^3 (x4)$
OCTAHEDRAL