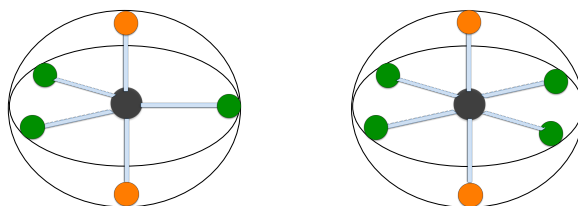


CONCEPT: EQUATORIAL AND AXIAL POSITIONS

- Covalent compounds with ____ or ____ electron groups have *equatorial* and *axial* positions for surrounding elements.
 - Equatorial Position:** a surrounding element's position around the _____ of a compound.
 - Axial (Apical) Position:** a surrounding element's position _____ or _____ the equatorial positions.
 - These arrangements cause ____ repulsion between elements and ____ energy for the compounds.
 - The ____ electronegative element tends to prefer the axial position over the equatorial position.

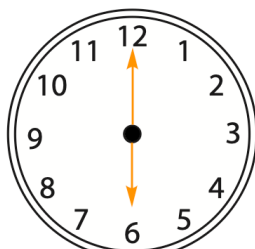


EXAMPLE: Based on your knowledge of axial and equatorial positions, draw the most likely structure of PF_2Cl_3 .

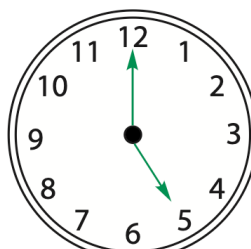
Lone Pair Positions

- Lone pairs will orient themselves in order to ____ the interactions between surrounding elements.
 - Within **6** electron group systems, lone pairs are most stable in the _____ position.
 - Within **5** electron group systems, lone pairs are most stable in the _____ position.

MEMORY TOOL It's a _____ as long as you remember the hands of the _____.



6 o'clock



5 o'clock

EXAMPLE: Determine the molecular geometry for the following ion: SCl_3^-

CONCEPT: EQUATORIAL AND AXIAL POSITIONS

PRACTICE: Draw the most likely shape for the following compound: XeF_4

PRACTICE: Draw and determine the geometry for the following molecule: Br_2CO

PRACTICE: How many lone pairs reside in the equatorial position of the KrCl_5^+ ion.

a) 0

b) 2

c) 1

d) 3

e) 4