Below is the typical color scheme use to represent our atoms:

|  |  |  |
| --- | --- | --- |
|  | [hydrogen](https://en.wikipedia.org/wiki/Hydrogen) (H) | white |
|  | [carbon](https://en.wikipedia.org/wiki/Carbon) (C) | black |
|  | [nitrogen](https://en.wikipedia.org/wiki/Nitrogen) (N) | dark blue |
|  | [oxygen](https://en.wikipedia.org/wiki/Oxygen) (O) | red |
|  | [fluorine](https://en.wikipedia.org/wiki/Fluorine) (F), [chlorine](https://en.wikipedia.org/wiki/Chlorine) (Cl) | green |
|  | [bromine](https://en.wikipedia.org/wiki/Bromine) (Br) | dark red |
|  | [iodine](https://en.wikipedia.org/wiki/Iodine) (I) | dark violet |
|  | [noble gases](https://en.wikipedia.org/wiki/Noble_gas) ([He](https://en.wikipedia.org/wiki/Helium), [Ne](https://en.wikipedia.org/wiki/Neon), [Ar](https://en.wikipedia.org/wiki/Argon), [Xe](https://en.wikipedia.org/wiki/Xenon), [Kr](https://en.wikipedia.org/wiki/Krypton)) | cyan |
|  | [phosphorus](https://en.wikipedia.org/wiki/Phosphorus) (P) | orange |
|  | [sulfur](https://en.wikipedia.org/wiki/Sulfur) (S) | yellow |
|  | [boron](https://en.wikipedia.org/wiki/Boron) (B), most transition metals | peach, salmon |
|  | [alkali metals](https://en.wikipedia.org/wiki/Alkali_metal) ([Li](https://en.wikipedia.org/wiki/Lithium), [Na](https://en.wikipedia.org/wiki/Sodium), [K](https://en.wikipedia.org/wiki/Potassium), [Rb](https://en.wikipedia.org/wiki/Rubidium), [Cs](https://en.wikipedia.org/wiki/Caesium), [Fr](https://en.wikipedia.org/wiki/Francium)) | violet |
|  | [alkaline earth metals](https://en.wikipedia.org/wiki/Alkaline_earth_metal) ([Be](https://en.wikipedia.org/wiki/Beryllium), [Mg](https://en.wikipedia.org/wiki/Magnesium), [Ca](https://en.wikipedia.org/wiki/Calcium), [Sr](https://en.wikipedia.org/wiki/Strontium), [Ba](https://en.wikipedia.org/wiki/Barium), [Ra](https://en.wikipedia.org/wiki/Radium)) | dark green |
|  | [titanium](https://en.wikipedia.org/wiki/Titanium) (Ti) | gray |
|  | [iron](https://en.wikipedia.org/wiki/Iron) (Fe) | dark orange |
|  | other elements | pink |

For our covalent compounds we will scale our molecules as such

Nonmetals Covalent Compounds we will use the value

|  |  |  |
| --- | --- | --- |
|  | Scale (Arbitrary) |  |
| Period 1 | 1 | (only Hydrogen) |
| Period 2 | 2 |  |
| Period 3 | 3 |  |
| Period 4 | 4 |  |
| Period 5 | 5 |  |

Below are the shapes: the shapes here are available: these shapes can be used. The shapes are the minimum requirement, the colors are next, and the size the third priority feature.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **olecule**  **type** | **Shape**[2]:413–414 | **Electron arrangement**[2]:413–414  **including lone pairs, shown in pale yellow** | **Geometry**[2]:413–414  **excluding lone pairs** | **Examples** |
| **AX2E0** | [Linear](https://en.wikipedia.org/wiki/Linear_(chemistry)) |  |  | [BeCl2](https://en.wikipedia.org/wiki/Beryllium_chloride),[1] [HgCl2](https://en.wikipedia.org/wiki/Mercury(II)_chloride),[1] [CO2](https://en.wikipedia.org/wiki/Carbon_dioxide)[10] |
| **AX2E1** | [Bent](https://en.wikipedia.org/wiki/Bent_(chemistry)) |  |  | [NO−](https://en.wikipedia.org/wiki/Nitrite)  [2](https://en.wikipedia.org/wiki/Nitrite),[1] [SO2](https://en.wikipedia.org/wiki/Sulfur_dioxide),[2]:413–414 [O3](https://en.wikipedia.org/wiki/Ozone),[1] [CCl2](https://en.wikipedia.org/wiki/Dichlorocarbene) |
| **AX2E2** | [Bent](https://en.wikipedia.org/wiki/Bent_(chemistry)) |  |  | [H2O](https://en.wikipedia.org/wiki/Water_(molecule)),[2]:413–414 [OF2](https://en.wikipedia.org/wiki/Oxygen_difluoride)[13]:448 |
| **AX2E3** | [Linear](https://en.wikipedia.org/wiki/Linear_(chemistry)) |  |  | [XeF2](https://en.wikipedia.org/wiki/Xenon_difluoride),[2]:413–414 [I−](https://en.wikipedia.org/wiki/Triiodide)  [3](https://en.wikipedia.org/wiki/Triiodide),[13]:483 [XeCl2](https://en.wikipedia.org/wiki/Xenon_dichloride) |
| **AX3E0** | [Trigonal planar](https://en.wikipedia.org/wiki/Trigonal_planar) |  |  | [BF3](https://en.wikipedia.org/wiki/Boron_trifluoride),[2]:413–414 [CO2−](https://en.wikipedia.org/wiki/Carbonate)  [3](https://en.wikipedia.org/wiki/Carbonate),[13]:368 [NO−](https://en.wikipedia.org/wiki/Nitrate)  [3](https://en.wikipedia.org/wiki/Nitrate),[1] [SO3](https://en.wikipedia.org/wiki/Sulfur_trioxide)[10] |
| **AX3E1** | [Trigonal pyramidal](https://en.wikipedia.org/wiki/Trigonal_pyramid_(chemistry)) |  |  | [NH3](https://en.wikipedia.org/wiki/Ammonia),[2]:413–414 [PCl3](https://en.wikipedia.org/wiki/Phosphorus_trichloride)[13]:407 |
| **AX3E2** | [T-shaped](https://en.wikipedia.org/wiki/T-shaped_molecular_geometry) |  |  | [ClF3](https://en.wikipedia.org/wiki/Chlorine_trifluoride),[2]:413–414 [BrF3](https://en.wikipedia.org/wiki/Bromine_trifluoride)[13]:481 |
| **AX4E0** | [Tetrahedral](https://en.wikipedia.org/wiki/Tetrahedral_molecular_geometry) |  |  | [CH4](https://en.wikipedia.org/wiki/Methane),[2]:413–414 [PO3−](https://en.wikipedia.org/wiki/Phosphate)  [4](https://en.wikipedia.org/wiki/Phosphate), [SO2−](https://en.wikipedia.org/wiki/Sulfate)  [4](https://en.wikipedia.org/wiki/Sulfate),[10] [ClO−](https://en.wikipedia.org/wiki/Perchlorate)  [4](https://en.wikipedia.org/wiki/Perchlorate),[1] [XeO4](https://en.wikipedia.org/wiki/Xenon_tetroxide)[13]:499 |
| **AX4E1** | [Seesaw](https://en.wikipedia.org/wiki/Seesaw_(chemistry)) or [disphenoidal](https://en.wikipedia.org/wiki/Disphenoid) |  |  | [SF4](https://en.wikipedia.org/wiki/Sulfur_tetrafluoride)[2]:413–414[13]:45 |
| **AX4E2** | [Square planar](https://en.wikipedia.org/wiki/Square_planar_molecular_geometry) |  |  | [XeF4](https://en.wikipedia.org/wiki/Xenon_tetrafluoride)[2]:413–414 |
| **AX5E0** | [Trigonal bipyramidal](https://en.wikipedia.org/wiki/Trigonal_bipyramidal_molecular_geometry) |  |  | [PCl5](https://en.wikipedia.org/wiki/Phosphorus_pentachloride)[2]:413–414 |
| **AX5E1** | [Square pyramidal](https://en.wikipedia.org/wiki/Square_pyramidal_molecular_geometry) |  |  | [ClF5](https://en.wikipedia.org/wiki/Chlorine_pentafluoride),[13]:481 [BrF5](https://en.wikipedia.org/wiki/Bromine_pentafluoride),[2]:413–414 [XeOF4](https://en.wikipedia.org/wiki/Xenon_oxytetrafluoride)[10] |
| **AX5E2** | [Pentagonal planar](https://en.wikipedia.org/wiki/Pentagonal_planar_molecular_geometry) |  |  | [XeF−](https://en.wikipedia.org/wiki/Tetramethylammonium_pentafluoroxenate)  [5](https://en.wikipedia.org/wiki/Tetramethylammonium_pentafluoroxenate)[13]:498 |
| **AX6E0** | [Octahedral](https://en.wikipedia.org/wiki/Octahedral_molecular_geometry) |  |  | [SF6](https://en.wikipedia.org/wiki/Sulfur_hexafluoride),[2]:413–414 [WCl6](https://en.wikipedia.org/wiki/Tungsten_hexachloride)[13]:659 |
| **AX6E1** | [Pentagonal pyramidal](https://en.wikipedia.org/wiki/Pentagonal_pyramidal_molecular_geometry) |  |  | XeOF−  5,[12] IOF2−  5[12] |
| **AX7E0** | [Pentagonal bipyramidal](https://en.wikipedia.org/wiki/Pentagonal_bipyramidal_molecular_geometry)[10] |  |  | [IF7](https://en.wikipedia.org/wiki/Iodine_heptafluoride)[10] |
| **AX8E0** | [Square antiprismatic](https://en.wikipedia.org/wiki/Square_antiprismatic_molecular_geometry)[10] |  |  | IF−  8, ZrF4−  8, ReF−  8 |
| **AX9E0** | [Tricapped trigonal prismatic](https://en.wikipedia.org/wiki/Tricapped_trigonal_prismatic_molecular_geometry) (as drawn)  *or*  [capped square antiprismatic](https://en.wikipedia.org/wiki/Capped_square_antiprismatic_molecular_geometry) |  |  | [ReH2−](https://en.wikipedia.org/wiki/Potassium_nonahydridorhenate)  [9](https://en.wikipedia.org/wiki/Potassium_nonahydridorhenate)[13]:254 |