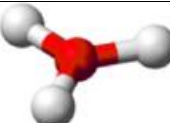
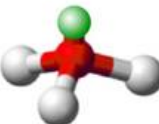
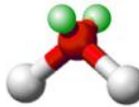
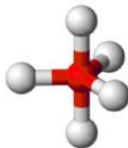
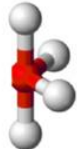
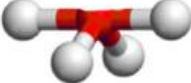
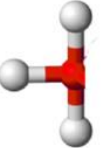
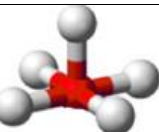
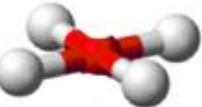


## Shapes of Molecules

| <i># of electron pairs<br/>around central<br/>atom</i> | <i># of<br/>bonded<br/>pairs</i> | <i># of<br/>lone<br/>pairs</i> | <i>Bond angles</i> | <i>Shape</i>          | <i>Example</i>    | <i>Diagram</i>                                                                        |  |
|--------------------------------------------------------|----------------------------------|--------------------------------|--------------------|-----------------------|-------------------|---------------------------------------------------------------------------------------|--|
| 2                                                      | 2                                | 0                              | 180°               | Linear                | BeCl <sub>2</sub> |    |  |
| 3                                                      | 3                                | 0                              | 120°               | trigonal<br>planar    | BCl <sub>3</sub>  |    |  |
| 4                                                      | 4                                | 0                              | 109.5°             | Tetrahedron           | CH <sub>4</sub>   |    |  |
|                                                        | 3                                | 1                              | <109.5°            | trigonal<br>pyramid   | NH <sub>3</sub>   |   |  |
|                                                        | 2                                | 2                              | <109.5°            | V-shaped or<br>bent   | H <sub>2</sub> O  |  |  |
| 5                                                      | 5                                | 0                              | 120° & 90°         | trigonal<br>bipyramid | PCl <sub>5</sub>  |  |  |

|   |   |   |      |                |                               |                                                                                      |                                                                                     |
|---|---|---|------|----------------|-------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   | 4 | 1 |      | See-saw        | SF <sub>4</sub>               |   |  |
|   | 3 | 2 | 90°  | T-shaped       | ClF <sub>3</sub>              |   |  |
|   | 2 | 3 | 180° | Linear         | ICl <sub>2</sub> <sup>-</sup> |   |                                                                                     |
| 6 | 6 | 0 | 90°  | Octahedron     | SF <sub>6</sub>               |   |                                                                                     |
|   | 5 | 1 | 90°  | square pyramid | BrF <sub>5</sub>              |   |                                                                                     |
|   | 4 | 2 | 90°  | square planar  | XeF <sub>4</sub>              |  |                                                                                     |