## **Predicting Shapes of Molecules**

The \_\_\_\_\_ (VSEPR) theory is used to predict the 3D shape of molecules

- Valence electrons around the central atom of a molecule determine
- The \_\_\_\_\_\_ (BP) and the \_\_\_\_\_\_(LP) around the central atom repel each other and arrange themselves in space so they are as far apart as possible
- A \_\_\_\_\_ occupies more space than a \_\_\_\_\_ since a BP is simultaneously \_\_\_\_\_\_ to 2 nuclei

## **Table Shapes of Molecules**

| No e <sup>-</sup><br>pairs | Chemical<br>Formula | Lewis Structure | Around<br>Central Atom |      | VSEPR<br>Notation | 3D<br>Arrangement | Name of Shape |
|----------------------------|---------------------|-----------------|------------------------|------|-------------------|-------------------|---------------|
| around central             |                     |                 | # BP                   | # LP |                   |                   |               |
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| No e <sup>-</sup><br>pairs | Chemical<br>Formula | Lewis Structure | Around<br>Central Atom |      | VSEPR<br>Notation | 3D<br>Arrangement | Name of Shape |
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| around<br>central          |                     |                 | # BP                   | # LP |                   |                   |               |
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| No e <sup>-</sup><br>pairs | Chemical<br>Formula | Lewis Structure | Around<br>Central Atom |      | VSEPR<br>Notation | 3D<br>Arrangement | Name of Shape |
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| around central             |                     |                 | # BP                   | # LP |                   |                   |               |
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| No e <sup>-</sup><br>pairs | Chemical<br>Formula | Lewis Structure Arou<br>Central |      |      | VSEPR<br>Notation | 3D<br>Arrangement | Name of Shape |
|----------------------------|---------------------|---------------------------------|------|------|-------------------|-------------------|---------------|
| around central             |                     |                                 | # BP | # LP |                   |                   |               |
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