

Molecular Shapes

Pre-lesson assignment- textbook page 70-73

Define the following terms

- Bond angle
- Polar

Make notes on Molecular Shapes

Use the following questions as guidance

1. Draw a 3D diagram of methane.
 - a. Label bonds going in and out of the plane of the paper.
 - b. Label bonds within the plane of the paper.
2. Explain why bonds repel each other, and explain why there is more repulsion between lone pairs than bonded pairs of electrons.
3. Draw the 3D structure of ammonia and water. Compare them with methane, and mark on the bond angles, number of bonding/lone pairs for each. Assign each a name for the shape.
4. Summarise the rules for molecular shapes with
 - a. Multiple bonds
 - b. Six electron pairs
 - c. Three electron pairs.

Draw an example of each, with a name for the shape produced.

5. Show the 3D structure of some common ions, with the number of bonding regions, the shape name, and the bond angle.