

AP WORKSHEET 03ABC: ANSWERS

1. An area of positive and negative charge within a single bond or a molecule caused by the shifting of electrons due to differences in electronegativity
2. An unexpectedly large electrostatic intermolecular interaction between molecules, caused when H atoms are directly connected to small, electronegative atoms such as N, O or F
3. Boiling point. Greater H-bonding, strong Coulombic attractions, higher boiling point since more energy is required to separate the particles
4. When a homonuclear diatomic molecule approaches another, causing a temporary shift of electrons to create a dipole in an otherwise non-polar molecule
5. Macro (giant covalent network) atomic structure held together by all strong covalent bonds
6. In the solid, iodine molecules are attracted to one another by weak London dispersion forces
7. When their ions are free to move, either when they are in solution or when they are molten
8. The free moving 'sea' of electrons present in their structures
9. It has a low boiling point with weak inter-molecular forces that allows lots of molecules to escape into the vapor phase
10. General increase with increasing molecular mass from H_2S to H_2Te caused by increasing London dispersion forces. Water is the odd one out with a relatively huge boiling point caused by hydrogen bonding