

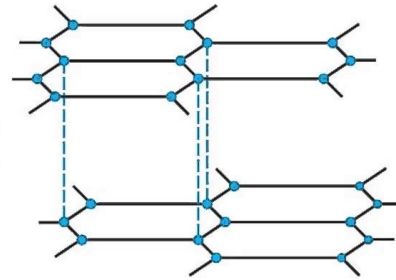
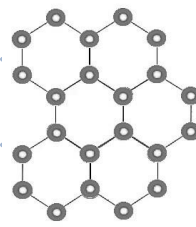


Shapes of molecules



Graphite

- Made of flat sheets of carbon
- Each carbon bonds to three other carbons
- Rings of 6 atoms
- Sheets of atoms lie on top of each other



graphite

Properties

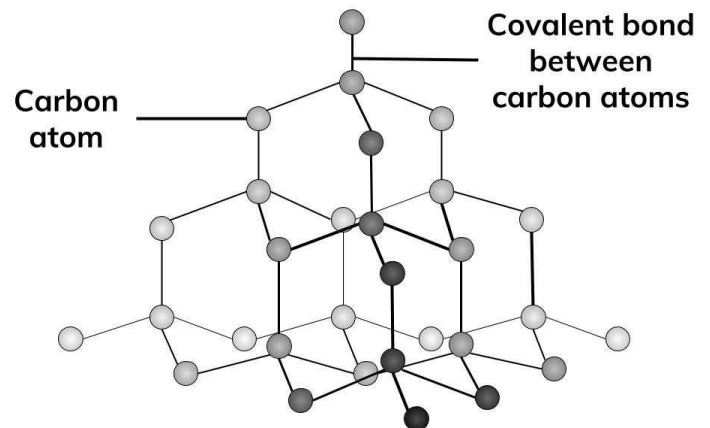
- Soft & slippery- layers can slide over each other because of weak bonds between layers
- Very high melting points- strong covalent bonds between each other
- Used as lubricant or additive to oil
- Good conductor of electricity. The fourth electron is free to carry charges

Diamond

Each carbon covalently bonded to four other carbons in a tetrahedral shape

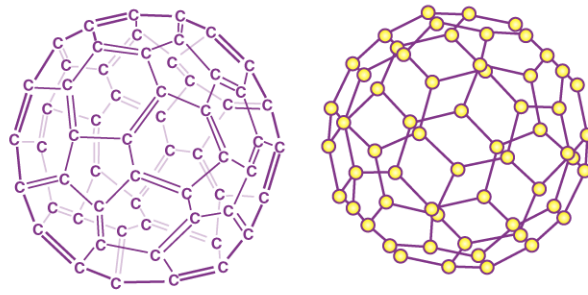
Properties

- Very hard- held in place by four strong bonds in rigid tetrahedral structure. Therefore used in cutting.
- Very high melting point- strong covalent bonds.
- Can't conduct electricity- no free ions to carry the charge



Duckminsterfullerene (C₆₀)

- Each carbon has 3 atoms
- Drug-delivery system, lubricant and catalyst



Fullerene

Silicon dioxide (quartz)

- Main constituent of sand
- Same tetrahedral structure as diamond
- Melting point high, strong covalent bonds
- Formula is SiO₂
- Same properties as diamond, but slightly weaker covalent bonds

