

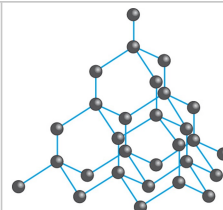
Carbon Allotropes

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Allotropes are different arrangements of the same atoms.

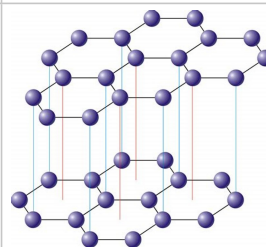
Diamond

- giant, covalent structure of 4 bonds per hard.
- Very strong
- Doesn't conduct
- High MPT/BPT



Graphite

- Each carbon has 3 covalent bonds
- Get sheets of hexagons
- No covalent bonds between layers - so free to slide (there are weak bonds between layers)
- High MPT/BTP
- Since only 3 electrons are covalently bonded there is one delocalised - so graphite conducts



Fullerenes

- Closed tubes or hollow spheres
- Hexagon rings but also pentagons and heptagons.
- Fullerenes can act as 'cages' for other molecules, eg drugs
- Huge surface area so good as catalysts
- Nanotubes can conduct electricity and heat and have high tensile strength

