

CRYSTAL TYPES

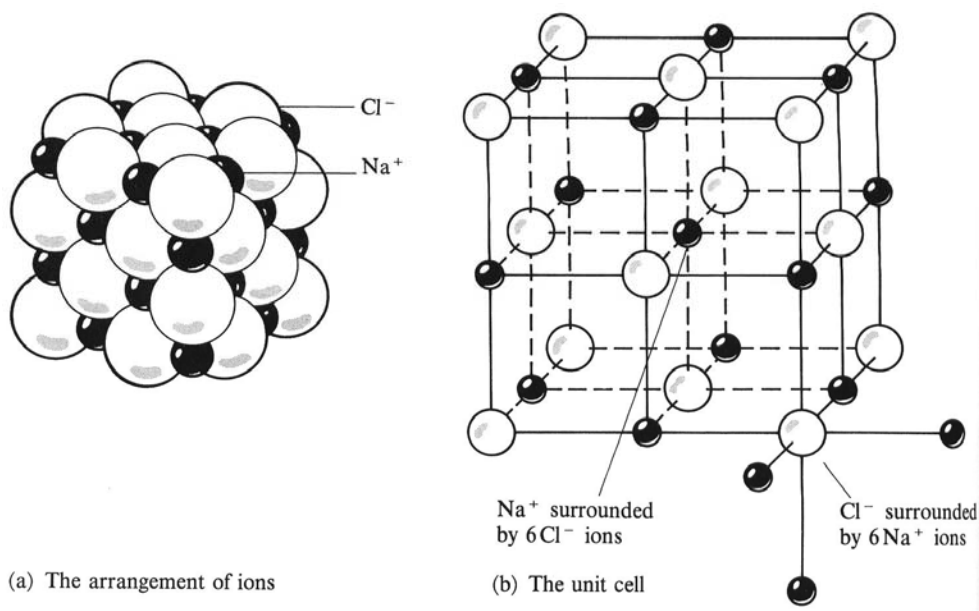
Name Form



There are five types of structure: monatomic, simple molecular, ionic, giant covalent and metallic. Monatomic substances are all gases at room temperature, but there are examples of substances with each of the other four types of structure that are solids.

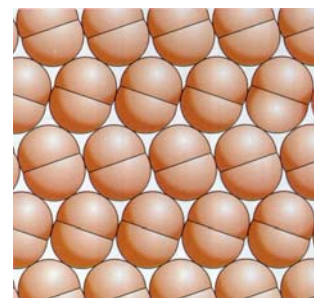
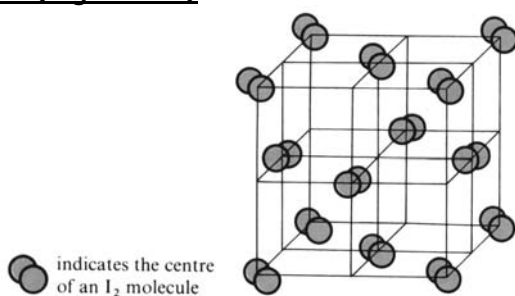
This section of the syllabus looks closely at one example of a solid with each of the four remaining types of structure to reinforce and test your ideas of structure and bonding. Each of the four examples occur as crystalline solids at room temperature – hence the syllabus refers to a discussion of the four types of crystal.

1) IONIC (e.g. sodium chloride)



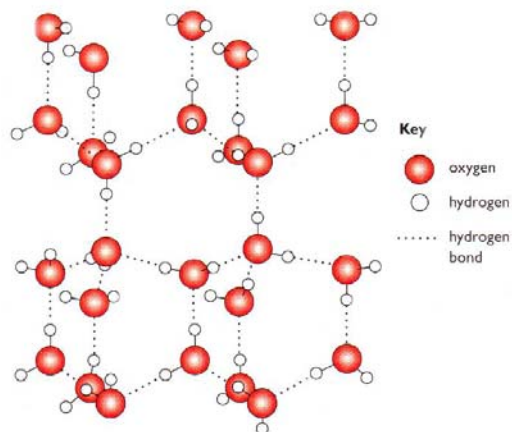
	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		

2) SIMPLE MOLECULAR (e.g. iodine)



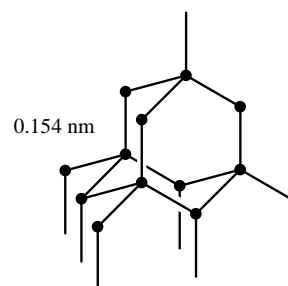
	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		

e.g. ice



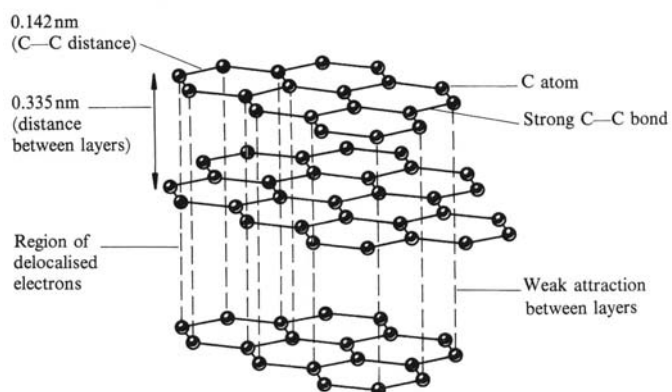
	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		

3) GIANT COVALENT (e.g. diamond)



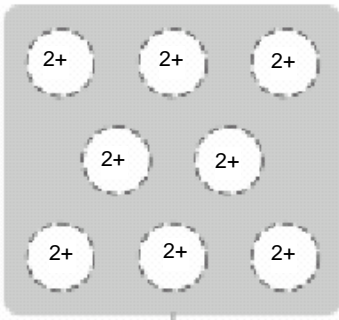
	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		

graphite



	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		

4) METALLIC (e.g. magnesium)



	Property	Explanation
Melting & boiling points		
Electrical conductivity		
Strength		
Solubility		