

# High Tunstall College of Science Curriculum Intent

Subject: Separate Chemistry Year: 11

## Thread 2—Structure, bonding and quantitative Chemistry



	Chemistry Thread 2	Progress		
Topic	Key ideas	R	A	G
Structure, bonding and quantitative chemistry	I can describe and explain the three types of bonding			
	I can relate the properties of ionic compounds to their structure and bonding			
	I can relate the properties of small molecules to their structure and bonding			
	I can explain how addition polymers are formed			
	I can relate the properties of giant covalent structures to their structure and bonding, with particular reference to carbon allotropes			
	I can relate the properties of metals and alloys to their structure			
	I can explain what a mole is, and use calculations to calculate reacting masses (HT)			
	I can use molar relationships to balance equations (HT)			
	I can explain use molar relationships to identify limiting reactants (HT)			
	I can calculate concentration in g/dm <sup>3</sup>			
	I can calculate concentration in mol/dm <sup>3</sup>			
	I can calculate gas volumes			

Lesson	Learning Focus	Assessment	Key Words
1	What can I remember about bonding?	SOLO taxonomy tasks	<b>Ion</b> , electrostatic forces of attraction, ionic, covalent, share, metallic, delocalised electrons
2	What are the properties of ionic substances?	Completion of exam questions	Ionic bonding, <b>electrostatic forces of attraction</b>
3	What are the properties of simple molecules?	Completion of summary task looking at properties of small molecules	Simple molecule, covalent
4	How are addition polymers formed?	Completion of differentiated exam questions	<b>Polymerisation</b> , addition, monomer, polymer
4	What are the properties of giant covalent structures?	Completion go differentiated exam questions	Giant covalent structure, graphite, diamond, fullerene
5	How do the structure of metals and alloys relate to their uses?	Completion of tasks with differing levels of challenge	Metal, <b>alloy</b> , delocalised electrons, disrupted, layers
6	How do we calculate reacting masses? (HT)	Application to calculations of varying levels of challenge	<b>Mole</b> , reacting mass, ratio
7	How can we balance equations using moles? (HT)	Completion of practice questions	Equation, ratio
8	How can we identify limiting reactants using moles? (HT)	Completion of practice questions	<b>Limiting reactant</b> , mole, ratio
9	How do we calculate concentration?	Completion of practice questions and application in practical work	<b>Concentration</b> , mass, volume
10	How do we calculate concentration in mol/dm <sup>3</sup> ?	Completion of practice questions, including appropriate exam questions	Concentration, mass, volume, moles
11	How do we calculate gas volumes?	Completion of practice questions, including appropriate exam questions	Gas, volume, moles