

Subject: KS4 Chemistry		Year Group: 9
<u>Terms 1 and 2</u> Key Focus/Topic(s) States of Matter (Topic 2) & Separation and Purification (Topic 2) <ul style="list-style-type: none"> • Transformations of state. • Filtration, chromatography, mixtures, distillation. 	<u>Term 3</u> Key Focus/Topic(s) Atomic Structure (Topic 1) and the periodic table including groups of the periodic table (Topic 6) theory <ul style="list-style-type: none"> • Structure of atoms. • Periodic table. • Isotopes. • Alkali metals, halogens & noble gases 	<u>Term 4</u> Key Focus/Topic(s) Ionic bonding & Covalent bonding (Topic 1). <ul style="list-style-type: none"> • Ionic bonds. • Ionic lattices. • Properties of ionic compounds. • Covalent Bonding • Simple & giant covalent molecular compounds
Term 1 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on practical skills needed for separating different mixtures. • <u>Core practical</u>: investigating inks. • End of topic test covering states of matter, and separation techniques. 	Term 2 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on the structure of the atom, and explaining how different scientists shaped the modern periodic table. • End of topic test covering atomic structure and the periodic table. 	Term 3 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on drawing ionic bonds, and linking the properties of ionic compounds to their structure.
<u>Term 5</u> Key Focus/Topic(s) Finish Covalent bonding (Topic 1) and start Metals (Topic 4) <ul style="list-style-type: none"> • Covalent bonds. • Simple and giant covalent compounds. • Metallic bonding. • Transition metals 	<u>Term 6</u> Key Focus/Topic(s) Complete metals (topic 4), revision, end of year assessment <ul style="list-style-type: none"> • End of topic test on metals • Revision of the content covered in Year 9 • End of year assessment • Recap of some of the practical activities completed. 	

<ul style="list-style-type: none"> ● Metal extraction, corrosion & recycling 		
<p>Term 4 Assessment Opportunities:</p> <ul style="list-style-type: none"> ● Classwork with a particular focus on drawing covalent and metallic bonds, extraction of metals and recycling ● End of topic test covering bonding in first half of term. 	<p>Term 6 Assessment Opportunities:</p> <ul style="list-style-type: none"> ● End of year assessment. 	

Rationale:

The topics cover in Year 9 constitutes the core areas of Chemistry: states of matter, atomic structure and bonding. Consequently, the topics covered are common to both single and combined science. The topics are also accessible for Year 9 science students as they introduce some basic concepts in chemistry and chemical equations.

In Year 9 Chemistry we place a particular focus on:

- Key terminology - chemistry involves a lot of terminology that is alien to most students so it is important to establish this early in the GCSE course.
- The structuring and writing of word equations, how atoms are turned into ions, writing formulae by looking at charges on ions.
- Introducing core practical skills, building this up from KS3.
- Using pair/group work, writing reports, giving presentations etc to enhance communication and scientific writing skills.

Evaluation:

- Assessment opportunities will involve teacher, self and peer assessment. The assessment will focus around work produced in lessons where the students are required to demonstrate their use of key terminology, writing of chemical equations and their scientific knowledge.
- Practical work will be assessed through the core practical investigation in unit 1, and other experiments carried out in class.
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Qualitative observations will be made on students during the core practical investigation.

