

STAGE 2 Chemistry Term 1, 2016

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
	Experimental Skills			
Week 1 Wed DL 110 min	Experimental Skills	Intro Go through subject outline Assumed knowledge	Subject outline Assumed knowledge	Read through assumed knowledge
		Lab safety Experimental skills Break – Chicken Pics game Experiment skills (up to errors)	Lab safety Experimental skills essentials booklet	Finish experimental skills worksheets
Thurs SL 50 mins		Recap experimental skills definitions and any questions about homework Significant figures pg 309, 310 Practice worksheet Questions on Daymap/email 29-38		Questions on Daymap/email 29-38
	1 Elemental & Environmental Chemistry (6 weeks)	1.1 The Periodic Table		
Week 2 SL	1.1 the periodic table K11 Electron configurations	Sig figs, practise worksheet Recap yr 11 assumed knowledge via PPT Electron configurations	yr 11 assumed knowledge (summary sheets) x2	Sig figs, practise worksheet Revise for quiz next lesson
DL DL	K11 Electron config K12 s, p, d, f blocks	Experimental skills quiz, go through answers	Experimental skills quiz	Finish examples of each group in PT, Stage 2 formative questions worksheet
SL	K13 Position of elements in the periodic table	formative questions worksheet – answers		
Week 3 SL	Position of elements in the periodic table K14 electronegativities Acidic/basic nature of elements		Stg2ChemFormativeExercises(1.1)PeriodicTableTrendsOxides16	

Commented [CK1]: Dive straight in to topic 1 next time

Commented [CK2]: Maybe have some kind of prac for week 1 intro? Get them hooked?

Commented [CK3]: Good for first lesson

Commented [CK4]: Could do this first lesson or wait until first prac

Commented [CK5]: Do this when first pops up during topic (topic 2)?

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
DL DL	Acidic/basic nature of elements – finish notes Prac	Acidic nature of oxides prac	Prac sheet Formative exercises questions	
SL	Bonding			
<u>Week 4</u> SL	AWAY Revision, questions		Practise test 1	
DL DL	Bonding Shapes of molecules Revision	Molecular modelling prac		
SL	Revision			
	1 Elemental & Environmental Chemistry	1.2 Cycles in nature 1.3 Greenhouse Effect 1.4 Acid Rain 1.5 Photochemical smog	Summary booklet	
<u>Week 5</u> SL	Formative test			Formative Test
DL DL	1.2 Cycles in nature	Powerpoint presentation Aquatic plant in bromophenol blue indicator to show plant respiration demo	Environmental Chem Summary booklet with past exam questions	
SL	1.2 Cycles in nature 1.3 Greenhouse Effect	Finish cycles in nature, start greenhouse effect	SASTA revision questions 1.2 Formative exercises 1.2	
<u>Week 6</u> SL	1.3 Greenhouse Effect	Finish greenhouse effect, questions	SASTA revision questions 1.3 Formative exercises 1.3	
DL DL	1.4 Acid rain	Recap Greenhouse effect, go through solutions of worksheet pH calculations	SASTA revision questions 1.4 Formative exercises 1.4	
SL	1.4 Acid rain		SASTA revision questions 1.4 Formative exercises 1.4	
<u>Week 7</u> SL	ADELAIDE CUP			
DL DL	SPORTS DAY			

Commented [CK6]: Very cool impromptu demo

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
SL	1.5 Photochemical smog	Extended response info and examples	SASTA revision questions 1.5 Formative exercises 1.5	Finish class questions. Past exam revision questions
	2 Analytical Techniques (5 weeks)	2.1 Volumetric analysis		
<u>Week 8</u> SL	Revision	Extended response info and examples		
DL DL	SAT Topic 1 2.1 Volumetric Analysis	2.2 Volumetric Analysis Summary booklet with past exam questions		Summative Test
SL	2.1 Volumetric Analysis			
<u>Week 9</u> SL	EASTER MONDAY			
DL DL	2.1 Volumetric Analysis Formative Prac: Preparing a standard solution			
SL	Formative Prac: Titration			
<u>Week 10</u> SL	Formative Prac: Titration			
DL DL	2.1 Volumetric Analysis		2.1 formative questions 1-3	Finish formative questions
SL	2.1 Volumetric Analysis <i>After school titration practise</i>			
<u>Week 11</u> SL	Prac prep			
DL DL	Summative Prac: Titration			Draft of summative prac
SL				

Holidays: Finish draft (submit week 1 T2) 2.1 exam questions Chromatography questions

Commented [CK7]: Tried giving power point notes, too quick, didn't work for students.

Commented [CK8]: Students needed a lot of practise to get concordant titres. Did after school practise as well for those who needed it.

Term 2

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
Week 1 SL	Back titration calculation – past exam qu 2.2 Chromatography	1 worked example, students to complete 1 Role play of chromatography	2.2 Chromatography Summary booklet with past exam questions	
DL DL	2.2 Chromatography – formative prac smarties			
SL	2.2 Chromatography		2.3 Atomic Spectroscopy Summary booklet with past exam questions	Draft of prac report due
Week 2 SL	2.3 Atomic Spectroscopy			Give back draft of prac report
DL DL	2.3 Atomic Spectroscopy/revision	Go through past exam Qu of 2.1, 2.2, 2.3		
SL	Topic 3 using and controlling reactions	Starter – santos Recall: Chemical change evidence, examples. Endo/exo reactions, examples.		Prac report due
Week 3 SL	3.1 Measuring energy changes Enthalpy Molar enthalpy of combustion Molar enthalpy of solution Molar enthalpy of neutralisation Calorimetry		3.1-3.4 Using and Controlling Reactions booklet with past exam questions	
DL DL	Topic 2 test Calculating heat energy absorbed/released		Topic 2 summative test	Summative test topic 2
SL	Calorimetry practical		Calorimeters Thermometers Chemicals	

Commented [CK9]: Student teacher. Don't do again. Students didn't like, topic not taught well enough

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
Week 4 SL	3.2 Fuels			
DL DL	Issues question (15 mins) Past exam questions 3.1-3.2			
SL	3.3 Electrochemistry			
Week 5 SL	Revision of redox			Issues topic/question due
DL DL	Source analysis (20 mins) 3.3 Electrochemistry			
SL	3.4 Rate of reaction			
Week 6 SL	3.4 Rate of reaction			
DL DL	Formative test Mark issues/go through marks Draft of issues			Source analysis due
SL	Issues	Go through formative test		Draft due
Week 7 SL	PUBLIC HOLIDAY			
DL DL	REVISION/Issues			
SL	REVISION	Go through formative 3.1-3.4 test and Topic 1 test		Hand up issues
Week 8 SL	3.5 Equilibrium	Equilibrium water tank demo	https://www.youtube.com/watch?v=-I5zWz_TMbM 5 mins UCR booklet 2 3.5 equilibrium formative questions	
DL DL	SEMESTER 1 EXAM			

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
SL	3.5 Equilibrium	Ferric chloride, ammonium thiocyanate demo Mix together in a large conical flask a little iron(III) chloride solution and potassium thiocyanate solution and dilute with distilled water $\text{Fe}^{3+}(\text{aq}) + \text{SCN}^{-}(\text{aq}) \rightarrow [\text{FeSCN}]^{2+}(\text{aq})$ <div style="display: flex; justify-content: space-around; width: 100%;"> yellow colourless blood red </div> <ul style="list-style-type: none"> • Add some potassium thiocyanate to the flask. • Ask students about their observations. 	https://www.youtube.com/watch?v=ZOYyCTvLa9E (for you tube of demo and explanation) Demonstrate the consequence of adding a reactant to a system in equilibrium.	
<u>Week 9</u> SL	3.6 Chemical industry			
DL DL	Summative design prac - play			
SL	3.6 Chemical industry			
<u>Week 10</u> SL	3.7 Metal production			
DL DL	Summative design prac			
SL	3.7 Metal production			

Commented [CK10]: Scan in design process booklets in case students lose (which one did..)

Holidays: Seminar (3 hours)

Exam answers

Topic 3 revision 3.1-3.4

Marking design prac/prac write up workshop

Term 3

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
	Topic 4 Organic and Bio Chem 6 weeks			
<u>Week 1</u> SL	1.6 Water treatment – Removal of suspended matter from water, chlorination of water		Water treatment SASTA Qu	
DL DL	1.6 Water treatment – Using hypochlorites 4 Organic and biological chem – intro and start 4.1 Systematic nomenclature	Students have 3 mins to summarise a section given in partners, 3 mins with help of notes. Present sections to students who were away last lesson: Removal of suspended matter from water, chlorination of water Chem wars – Nomenclature bingo, Rapidoh equipment and Pictionary on organic chem		Design Prac Due
SL	4.1 Systematic nomenclature		4.1 Nomenclature - Formative exercises & SATSA Qu	
<u>Week 2</u> SL	4.1 Systematic nomenclature 4.2 Physical properties	Systematic Nomenclature Summary		
DL DL	Topic 3 test 4.2 Physical properties		4.2 Physical properties - Formative exercises & SATSA Qu	4.2 Physical properties - Formative exercises
SL	4.3 Alcohols – primary, secondary, tertiary.	PRAC/DEMO Alcohol prac – ethanol, propan-1-ol, propan-2-ol, t-butyl alcohol, vinegar, acidified dichromate	4.3 Alcohols- Formative exercises Alcohols-oxidation prac	4.3 Alcohols- Formative exercises Q2-3
<u>Week 3</u> SL	4.3 Alcohols – ethanol production 4.4 Aldehydes and ketones		4.3 Alcohols- Formative exercises Q1 & SATSA Qu	
DL DL	4.4 Aldehydes and ketones 4.5 Carboxylic acids 4.6 Amines	<i>PRAC Acetaldehyde – oxidation of primary alcohol by distillation and Tollen's test</i> Draw concept map of alcohols, aldehydes, ketones, carboxylic acids including all preparation, tests and reactions	4.4 Aldehydes and ketones- Formative exercises & SATSA Qu	
SL	4.5 Carboxylic acids 4.7 Esters			

Commented [CK11]: Do this after bleaches, Topic 5. Bit random here

Commented [CK12]: Worked really well

Commented [CK13]: Helpful for some

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
Week 4 SL	4.6 Amines			
DL DL	4.7 Esters	PRAC Acetaldehyde – oxidation of primary alcohol by distillation and Tollen’s test		
SL	4.8 Amides			
Week 5 SL	4.8 Amides			
DL DL		Ester prep – different groups do different flavours?	Formative test given back, students to correct and mark together later	
SL	4.9 Proteins	Distillation of ester (not finished from previous lesson)		
Week 6 SL	4.9 Proteins – up to peptides	Tollen’s test silver mirror prac		
DL DL		Summative ester prac		
SL	4.9 Proteins			
	Topic 5 Materials 3 weeks			
Week 7 SL	4.10 Triglycerides			Ester draft due
DL DL	4.11 Carbohydrates Revision			
SL	Materials– 5. 1 polymers		Materials summary booklet	Summative ester prac due
Week 8 SL	SCHOOL CLOSURE DAY			
DL DL	Topic 4 test			
SL	Materials– 5. 1 polymers			

Commented [CK14]: Haven’t done, cant get all ingredients

Commented [CK15]: Nice, slightly easier topic to finish on. No SAT works well as students have lots of work from other subjects to get through

Week/ Lesson	Topic/key idea	Activity	Resource	Homework
Week 9 SL	Materials– 5.2 Silicates			
DL	Materials– 5.2 Silicates			
DL	Materials – 5.3 Cleaning agents			
SL	Materials – 5.3 Cleaning agents			
Week 10 SL	Materials – 5.3 Cleaning agents Revision		Practise test	
DL	Formative topic 5 test			
DL	Mark in class			
SL	Revision seminar/class party			

Commented [CK16]: Good idea to revise in class, students too busy to study properly.

Commented [CK17]: Good

Commented [CK18]: Nice way to end, have more time for study timetable

October Term 3 Holiday Stage 2 Chemistry Workshop Agenda

Thursday 13th October, 2016

Activity	Content
Exam workshop 1: Feedback from holiday revision schedule, set SWOTVAC timetable. Exam strategies and dissection of exam booklet	Talk through booklet 1 of 2015 exam
Trial exam – 60 minutes	Student complete booklet 2 of 2015 exam under test conditions
Mrs. K's goodies and afternoon tea break	Cookies, cake and tea
Exam workshop 2: Mark exam booklet	Feedback on student performance
Exam workshop 3: Time to work on booklet 3 of 2015 exam <i>Optional: Students may request specific content revision, please email me before workshop.</i>	Students practise completing past exam questions and opportunity for individual help

Commented [CK19]: Good wakeup call for where they are at

TERM 4 REVISION

Week	DAY	CONTENT Topic: Key idea	LESSON ACTIVITY (each lesson format similar)	Resources	Homework (ongoing after every lesson)
1	Mon 17/10	1.1 The Periodic Table 1.2 Cycles in Nature 1.3 The Greenhouse Effect	Summary of content: key ideas Complete relevant exam questions in past exam	2014 Exam: 3 booklets 2014 Exam Solutions	→ Any formative/revision/ past exam questions on subtopics covered (available on daymap) → Notes on key ideas → Answer questions on topic 4-5 in past exam, highlight areas to work on
	Wed 19/10	1.4 Acid Rain 1.5 Photochemical Smog 1.6 Water Treatment	Extended response in 14 exam – nitrogen Extended response photochemical smog Exam QU 2, 3, 5, 6		
	Wed1 9/10	2.1 Volumetric Analysis 2.2 Chromatography 2.3 Atomic Spectroscopy	Extended response AAS in SASTA study guide Exam QU 2, 3, 11c		
	Thurs 20/10	3.1 Measuring Energy Changes 3.2 Fuels 3.3 Electrochemistry 3.4 Rate of Reaction	Exam QU 4, 7, 9, 12		
2	Mon 24/10	3.5 Chemical Equilibrium 3.6 Chemical Industry 3.7 Metal Production	Summary of content: key ideas Complete relevant exam questions in past exam <i>*Go through topic 3 test solutions</i>	2013 Exam: 3 booklets 2013 Exam Solutions	→ Any formative/revision/ past exam questions on subtopics covered (available on daymap) → Notes on key ideas → Answer questions on topic 1-2 in past exam, highlight areas to work on
	Wed 26/20	4.1 Systematic Nomenclature 4.2 Physical Properties 4.3 Alcohols 4.4 Aldehydes and Ketones 4.5 Carboxylic Acids			
	Wed2 26/20	4.6 Amines 4.7 Esters 4.8 Amides 4.9 Proteins 4.10 Triglycerides 4.11 Carbohydrates	<i>*Go through topic 4 test solutions</i>		
	Thurs 27/10	5.1 Polymers 5.2 Silicates 5.3 Cleaning agents		2012 Exam: 3 booklets 2012 Exam Solutions	

Commented [CK20]: Try to do all this during term

Commented [CK21]: Great amount of practise exams!
Students liked hearing comments from chief examiners reports

General notes:

Have formative questions to do in class, SASTA questions for homework (or vice versa). PLENTY OF QUESTIONS!!!

Past exam questions as more revision to integrate whole of topic, to go through some in class about how to answer questions.

Have practice test for each summative test.

Have formative test half way through Topic 1, 2, 3, 4 – students like feedback

Go through summative tests in class after topic, saved having to do in revision

Marking exemplar pracs before doing them, good to do once or twice. Definitely with issues

Mid year exam – if only a double lesson, not very useful as students don't have time to study. Either make as SAT or ignore.

Pracs or demos wherever possible.

Videos as summaries/recaps/to put as possible resources for students to watch.

If lab doesn't burn down, do titration comp in topic 2.