

Science BTEC

	Tracking and Key Dates	Week	Long Term Plan Teacher 1- 4 lessons	Long Term Plan Teacher 2- 3 lessons
04-Sep	Inset Mon&Tues	1	Intro to the course, breakdown of units 1. Topic A1 Chem: The periodic table	Intro to the course, breakdown of units 2. Topic A1 Chem: Electronic Structures
11-Sep		2	3. Topic A1 Chem: RAM and Practical Planning/Demo 4. Topic A1 Chem: Determination of RAM and RFM Practical	
18-Sep		1	5. Topic A1 Chem: The mole and reacting masses 6. Topic A1 Chem: Uses of mole calcs and theory of preparing standard solutions	12. Topic A1 Chem: Bonding Overview and intro to Ionic Bonding 13. Topic A1 Chem: Ionic Bonding and Covalent Bonding 14. Topic A1 Chem: Covalent Bonding Practice
25-Sep	2	7. Topic A1 Chem: Concentration and moles including dilution INTRO TO UNIT 2 LOG BOOKS AND HOW TO USE THEM 1. U2 LO1: Water as a standard		
02-Oct		1	2. U2 LO1: Calibration of volumetric equipment 3. U2 LO1: Calibration of Pipettes and Skills Log 4. U2 LO1 Calibration of balances and skills logs	15. Topic A1 Chem: Bonding and Structure Investigation 16. Topic A1 Chem: Bonding and Structure Investigation summary 17. Topic A1 Chem: Intermolecular forces
09-Oct	2	8. Topic A1 Chem + 14. U2 LO1: Theory: Preparing a standard solution (Na ₂ CO ₃) 15. U2 LO1: Practical: Preparing a standard solution (Na ₂ CO ₃)		
16-Oct		1	9. Topic A1 Chem + 5. U2 LO1: Acid-Base Titration Theory and Demo 10. Topic A1 Chem + 6. U2 LO1: Acid-Base Titration of Unknown HCl conc. 11. Topic A1 Chem + 7. U2 LO1: Acid-base Titration independent in Skills logs	18. Topic A1 Chem: Revision and Test
23-	AUTUMN HALF TERM			

Oct				
30-Oct	Inset Mon	2	8. U2 LO1: Acid-Base Titration discussion of errors and work on Skills logs. 9. U2 LO1: Acid-base titration final discussions and calculations in skills logs.	19. Topic A1 Chem: Test and Feedback
06-Nov		1	10. U2 LO1: pH Calibration 11. U2 LO1: pH meter comparison and pH titration Theory	1. U3 E: Introduction to unit and breakdown, start with Diffusion recap 2. U3 E: Factors affecting rate of diffusion 3. U3 E: Arrangement and movement of particles- intro to Brownian motion
13-Nov		2	12. U2 LO1: pH Titration practical 13. U2 LO1: pH Titration Calculations recording and graphs 16. U2 LO1: skill development summary in skills log	
20-Nov		1	17. U2 LO1: Introduction to Colorimetry 18. U2 LO1: Planning: 1% to 10% Copper sulphate colorimetry to find an unknown	4. U3 E: Effect of temperature on rate of diffusion- Planning 5. U3 E: Effect of temperature on rate of diffusion- practical part 1 6. U3 E: Effect of temperature on rate of diffusion- practical part 2
27-Nov		2	19. U2 LO1: Practical: 1% to 10% Standard Copper sulphate solution prep. 20. U2 LO1: Practical: Copper sulphate colorimetry to find an unknown conc. 21. U2 LO1: Results analysis and graph drawing	
04-Dec		1	22. U2 LO1: Nickel standard solution colorimetry 23. U2 LO1: Nickel standard solution colorimetry results 24. U2 LO1: ASSIGNMENT: Prepare standard solution of sodium carbonate + calcs	
11-Dec		2	25. U2 LO1: ASSIGNMENT: Titration of standard solution 26. U2 LO1: ASSIGNMENT: calculations and starting write-up	
18-Dec	School Finishes 20th Dec	1	27. U2 LO1: ASSIGNMENT: Prep standard solutions for colorimetry, collect data 28. U2 LO1: ASSIGNMENT: Analysis of results for Colorimetry	10. U3 E: Analysis and evaluation of Food dye investigation
25-Dec	CHRISTMAS			

01-Jan	School Resumes 3rd January	2	29. U2 LO1: ASSIGNMENT: Finish any outstanding work, update skills logs	11. U3 E: Diffusion of liquids through agar- error calculations and start research of secondary evidence 12. U3 E: Diffusion of liquids through agar- evidence summary and discussion of reliability.
08-Jan		1	1. Topic B1 Bio: History of the microscope 2. Topic B1 Bio: Preparation and drawing of basic biological slides	11. Topic B2 Bio: Specialised Cells- An overview 12. Topic B2 Bio: Viewing specialised Cells 13. Topic B2 Bio: Sex Cells
15-Jan		2	3. Topic B1 Bio: Magnification calculations and Intro to Electron microscopes 4. Topic B1 Bio: Electron Microscopes 2 5. Topic B1 Bio: Root tip Squash- Cell Division	
22-Jan		1	6. Topic B1 Bio: Structures in a cell 7. Topic B1 Bio: Eukaryotic Cells 8. Topic B1 Bio: Prokaryotic Cells	14. Topic B2 Bio: Root Hair Cells 15. Topic B2 Bio: Structure of the Blood 16. Topic B2 Bio: Function of the Blood and Blood Smears
29-Jan		2	9. Topic B1 Bio: Hans Christian Gram 10. Topic B1 Bio: Revision and test	
05-Feb		1	20. Topic B3 Bio: Epithelial Cells 21. Topic B3 Bio: The Pulmonary system	17. Topic B2 Bio: White blood cells 18. Topic B2 Bio: Revision and Test
12-Feb	HALF TERM			
19-Feb		2	22. Topic B3 Bio: Arteries and Veins 23. Topic B3 Bio: Respiratory Diseases 24. Topic B3 Bio: Cardiovascular Diseases	19. Topic B2 Bio: Feedback
26-Feb		1	25. Topic B3 Bio: Sliding filament theory 26. Topic B3 Bio: ECG Traces	20. Topic A2 Chem: Physical properties of period 2 and 3 elements 21. Topic A2 Chem: Physical and chemical properties of period 2 and 3 elements 22. Topic A2 Chem: Chemical properties of period 2 and 3 elements
05-Mar		2	27. Topic B3 Bio: The Nervous System 28. Topic B3 Bio: Nerves and Myelin 29. Topic B3 Bio: Dopamine and Serotonin	

12-Mar		1	30. Topic B3 Bio: The Brain Presentations and Revision 31. Topic B3 Bio: Test 1. U2 LO3: Intro to Chromatography and key terms	23. Topic A2 Chem: Group 1 & 7 reactivity alkali and alkaline earth metals with water
19-Mar		2	2. U2 LO3: Polarity and size of molecules 3. U2 LO3: Theory- Extraction of pigment from herbs using different solvents	24. Topic A2 Chem: Halogen displacement reactions 25. Topic A2 Chem: Reaction of metals with acid
26-Mar		1	4. U2 LO3: Practical- Extraction of pigment from herbs using different solvents 5. U2 LO3: Thin layer Chromatography Demo and Theory	26. Topic A2 Chem: Reaction of metals- Displacement 27. Topic A2 Chem: Variable oxidation states of transition metals
02-Apr	EASTER			
09-Apr				
16-Apr	School Resumes 17th April	2	6. U2 LO3: Practical- Thin Layer Chromatography of herb pigments (2 solvents)	28. Topic A2 Chem: Revision 29. Topic A2 Chem: Test and Feedback
23-Apr		1	7. U2 LO3: Practical- Paper Chromatography of herb pigments 8. U2 LO3: Comparison of both methods and repeat of paper for better separation	1. U3 F: Intro to topic, factors affecting growth-start research 2. U3 F: Factors affecting growth- research and essay writing 3. U3 F: Sampling techniques- theory and fieldwork explained
30-Apr		2	9. U2 LO3: Theory- Chromatography of Amino acids 10. U2 LO3: Practical- paper chromatography of amino acids 1. U2 LO4: Skill Log checks and updates	
07-May	Bank Holiday Monday	1	11. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment 12. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment	4. U3 F: Sampling techniques- fieldwork 5. U3 F: Statistical analysis Theory 6. U3 F: Statistical analysis Practice
14-May		2	13. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment 14. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment 15. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment	

21-May	YR 12 Study leave?	1	16. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment 17. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment	7. U3 F: Statistical analysis of results
28-May	SUMMER HALF TERM			
04-Jun	YR 12 Study leave?	2	xx. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment xx. U2 LO3: ASSIGNMENT - Chromatography of amino acids/ plant pigment xx. U2 LO3: ASSIGNMENT- FINAL WORK	8. U3 F: Statistical analysis of results 9. U3 F: Plant Population investigation- planning
11-Jun	YR 12 Study leave?	1	1. U3 G: Fuels- Flammability of fuels 2. U3 G: Fuels- Practical demo and Hazards associated with fuels intro	10. U3 F: Plant Population investigation- fieldwork 11. U3 F: Plant Population investigation- analysis 12. U3 F: Site Visit to ecological research
18-Jun	YR 12 Study leave?	2	3. U3 G: Fuels- Hazards associated with fuels discussion and start research 4. U3 G: Fuels- Research into different fuels and advantages and disadvantages 5. U3 G: Units of energy discussion and calculation.	
25-Jun		1	6. U3 G: Units of energy recap of planning an investigation	13. U3 F: Revision of Topic 13. U3 G: Energy from candle wax- Planning 14. U3 G: Energy from candle wax - Practical
02-Jul		2	7. U3 G: Energy from foods- Planning 8. U3 G: Energy from foods- Planning and start practical 9. U3 G: Energy from foods- Practical 10. U3 G: Energy from foods- complete practical and discuss analysis of results.	
09-Jul		1	11. U3 G: Energy from foods- analysis of results 12. U3 G: Energy from foods- analysis and evaluation of methods BUFFER	15. U3 G: Energy from candle wax- Analysis and evaluation BUFFER
16-Jul		2	BUFFER BUFFER	BUFFER BUFFER