	ichard Lander chool		So	cience Curriculum (	Overvie	w - 10/11				BE THE <b>BEST</b> YOU	CAN BE
Term	Autumn 1		Autumn 2	Spring	g 1		Spring 2	Summer 1		Summer 2	
Reporting Y10		CfCs	BfL & Grades	·	(	CfCs	BfL & Grades			BfL & Report	
Year 10 Science eacher 1 (7 split)	C3 - Structure and Bonding. This unit covers ionic, covalent and metallic bonding. Students will also research the different allotropes of carbon. Assessment - C3 end of unit test and feedback.	B1 & B2 Cell Structure and Divinvestigate cells under a micromovement of substances in an module will then move onto cethics. Required Practical 1: Us Required Practical 2: Investiga of concentrations of salt or supof plant tissue. Assessment - B feedback.	scope and the wi d out of a cell. The man ell division and stem cell sing a light microscope. see te the effect of a range gar solutions on the mass ox	4 & C5 - Chemical calculations and change ill develop the skills required to calculate lasses, moles (HT only) and concentration rodule will then move onto applying the regries to displacement reactions. Required repare a salt from an insoluble metal carb xide. Assessment - C4 & 5 end of unit test redback.	e formula invariante di finante d	vestigates animal of gestive system, en- em moves onto pla anspiration in plan vestigate the effec	n of animals and plants. This unit organisation in terms of the eymes and the heart. The unit ant organisation by investigating ts. Required Practical 4: t of pH on the rate of reaction of sessment - B3&4 end of unit test	C6 & C7 - Electrolysis and Energy Change. Students will be able to predict products from liquid or aqueous electrolytes. They will the investigate exothermic and endothermic reactions and be at interpret reaction profiles. Requiperactical 9: Investigate the electrof a solution. Required Practical Investigating temperature chang reacting solutions. Assessment end of unit test and feedback.	investi photo: photo: respira anima ple to Investi red photo: olysis and fe 10: es in	19 - Photosynthesis and Respiration. Students igate the factors that effect the rate of synthesis. The module moves onto aerobic ation and exercise, then anaerobic respiration in its and other organisms. Required Practical 5: igate the effect of light intensity on the rate of synthesis. Assessment - B8&9 end of unit test edback.	
ear 10 science acher 2 (3 split)	P6 & P7 - Molecules, Matter and Radioactivit terms of changes of state and latent heat. St and gamma radiation and predict half life fro 17: Calculating densities. Assessment - P6&7	udents compare alpha, beta om a graph. Required Practical	calculate energy changes a and insulating buildings. Re	ation, Dissipation and transfer. Students and efficiency as well as investigating hea Required Practical 14: Determining specific t - P1 & 2 end of unit test and feedback.	potential of common a	difference and resi appliances. Require	stance. The module then moves	tance. Required Practical 16: Invest	efficiency of	P8 & P9 - Forces in balance, and motion. In this unit students compare scalar to vectors and calculate resultant forces. This module also investigates how to interpret motion graphs. Assessment - P8 & 9 end of unit test and feedback. Required Practical 20 & 21 Measuring the speed of waves in a ripple tank and on a string, Radiation and absorption.	
Year 10 Science eacher 1 (6 split)	P6 & P7 - Molecules, Matter and Radioactivit module covers energy in terms of changes or and latent heat. Students compare alpha, be gamma radiation and predict half life from a Required Practical 17: Calculating densities. Assessment - P6&7 end of unit test and feed	f state ionic, covalent and me will also research the carbon. Assessment - Geedback.	etallic bonding. Students different allotropes of C3 end of unit test and he Re sp	issipation and transfer. Students wil alculate energy changes and fficiency as well as investigating eating and insulating buildings. equired Practical 14: Determining pecific heat capacity. Assessment - P1 oxi	Il develop the sk asses, moles (HT odule will then n ries to displacen epare a salt fron	I calculations and of cills required to cal only) and concent move onto applying nent reactions. Required an insoluble met to 24 & 5 end of un	culate formula ration. The in terms of cures the reactivity quired Practical 8: al carbonate or it test and Students investigating Investigating	estigate series and parallel circuits of the series and the efficiency of the series and the series and the series and parallel circuits of the series and the series	to predict product of production of the contract of the contra	crolysis and Energy Change. Students will be able ducts from liquid or aqueous electrolytes. They tigate exothermic and endothermic reactions interpret reaction profiles. Required Practical 9: e electrolysis of a solution. Required Practical 10: emperature changes in reacting solutions. 26&7 end of unit test and feedback.	
Year 10 science	B1 & B2 Cell Structure and Division. Students microscope and the movement of substance module will then move onto cell division and Practical 1: Using a light microscope. Require effect of a range of concentrations of salt or plant tissue. Assessment - B1&2 end of unit to	s in and out of a cell. The I stem cell ethics. Required ed Practical 2: Investigate the sugar solutions on the mass of	digestive system, enzymes transpiration in plants. Rec	nimals and plants. This unit investigates a s and the heart. The unit them moves ont equired Practical 4: Investigate the effect of the effect	to plant organisa of pH on the rate	ation by investigati	the factors that effect the rat moves onto aerobic respiration	e of photosynthesis. The module on and exercise, then anaerobic her organisms. Required Practical thintensity on the rate of	now the nervo the body. PD I Diabetes in d	ervous and hormonal control. This unit considers ous and hormonal system cause responses within ink - reproduction and contraception. Global link eveloped worlds. Assessment - B10 & 11 end of eedback. (2 weeks of PPEs have been considered um map).	

Year 10 Triple Biology	cells under a microscope and the movement of substances in and out of a cell. The module will then move onto cell division and stem cell ethics. Required Practical 1: Using a	33 & B4 (+ Triple B5&6) Organisation of animals and plants. This unit investigates animal organisation in terms of the digestive system, enzymes and the heart. The unit then moves onto plant organisation by investigating transpiration in plants. Required Practical 5: nvestigate the effect of pH on the rate of reaction of amylase enzyme. Required Practical 2: nvestigate the effect of antiseptics or antibiotics on bacterial growth. Assessment - B3&4 end of unit test and feedback.	rate of photosynthesis. The module moves onto aerobic respiration and exercise, then anaerobic respiration in animals and other organisms. Required Practical 5: Investigate the effect of light intensity on the rate of	PAPER 2: B10 & B11 The Nervous System and Hormonal Control. This module covers reflex actions, structure of the brain and the eye, and correcting problems with the eye. Students will then investigate how hormones effect the body in terms of blood-glucose control, puberty, fertility and fertility treatment. Required Practical 7: Investigate the effect of a factor on human reaction time. Required Practical 8: Investigate the effect of light or gravity on the growth of newly germinated seedlings. Assessment - B10&11 end of unit test and feedback.	
Year 10 Triple Chemistry	unit covers the transition elements along with ionic, covalent and metallic bonding. Students will also investigate the use of nanotechnology. Assessment - C2 & 3 end of unit test and feedback.	C4 & C5 - Chemical calculations and changes. Students will develop the mathematical skills required to calculate formula masses, moles and concentration. They will carry out titration reactions and calculate yields. The module will then move onto applying the reactivity series to displacement reactions. Required Practical 1: Prepare a salt from an insoluble metal carbonate or oxide. Required Practical 2: Use titration to investigate reacting volumes. Assessment - C4 & 5 end of unit test and feedback.	interpret reaction profiles. Required Practical 3	collision theory to the rate of hydrocarbons. Required Pract on rate of reaction. Assessme Investigating	action and crude oil and fuels. This unit applies reactions, and covers the separation and use of ical 5: Investigating the effect of concentration nt - C8 & C9 end of unit test and feedback.
Year 10 Triple Physics	P6 & P7 - Molecules, Matter and Radioactivity. This module concerning in terms of changes of state and latent heat. Students compare alpha, beta and gamma radiation and predict half lift a graph. Finally, students will investigate nuclear fission, fusion nuclear issues. Required Practical 5: Calculating densities.  Assessment - P6&7 end of unit test and feedback.	and efficiency as well as investigating heating and insulating buildings. Required Practice from Determining specific heat capacity. Required Practical 2: Investigating thermal insulato	cal 1: series and parallel circuits in terms of c	then moves onto surfaces, in liquids and the at and feedback.	alance and Pressure. Students investigate s. The module will also cover pressure on mosphere. Assessment - P8 & 11 end of unit test

Reporting Y11		CfCs & Grades		Rep & Grades		CfCs & Grades		BfL & Grades		
Year 11 Science Teacher 1 (7 split)	Hormonal control. This unit considers how the nervous and hormonal	C8 & C9 - Rates of reaction and cruc oil and fuels. This unit applies collision theory to the rate of reactions, and covers the separation and use of hydrocarbons. Assessme C8 & C9 end of unit test and feedba	This unit covers how genes and genetic disorders are inherited with consideration of the ethics of screening embryos. Assessment B12 end of unit test and feedback. (2 weeks of PPEs have	B13 & B14 - Variation, evolution and genetics. This unit covers evolution by natural selection and the evidence to support this theory. Global link - Antibiot resistant bacteria. The students also discover how living classification systems have changed over time. Assessment - B13 & 14 end unit test and feedback.	Students will investigate he chemicals are analysed in terms of pure substances, mixtures, gases and chromatograms. They will move onto investigating he water is treated, and how cycle assessments can be used.	biodiversity. This materials in terms of They will investig impact on such cyc the planet. Global Biodiversity an consideration for 2 B16 & 17 end of to weeks of PPEs have tests.	ising and ecosystem and unit covers the cycling of decay, carbon and whate how humans have les, and the biodiversit links and Geography lind climate change. Time weeks of PPEs. Assessing the test and feedback. We been considered in the culum map).	teacher).  ater. an ty of hks - e ment - (2	vision (alongside partner	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11 revision timetable.
Year 11 Science Teacher 2 (3 split)	resultant forces. This unit test and feedba	alance, and motion. In this unit stud s module also investigates how to int ck. Required Practical 20 & 21 Measu I absorption. (2 weeks of PPEs have b	erpret motion graphs. Asse ring the speed of waves in	ssment - P8 & 9 end of a ripple tank and on a culum map) term	& P13 -Forces, motion and elens of braking and momentum, or effect. Required Practical 19 e and acceleration. Assessmenteeks of PPEs have been consideration.	then moves onto electron 9: Investigating the relation of - P10 & 13 end of unit to	nagnetism and the nship between st and feedback.	•	ion. Revision of All sciences le partner teacher).	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11 revision timetable.
Year 11 Science Teacher 1 (6 split)	exothermic and mo student endothermi vectors c reactions and be able investig to interpret motion	applies colling applies collin	tes of reaction and crude of sion theory to the rate of re and use of hydrocarbons. A and feedback. (2 weeks of F in the curriculum map)	eactions, and covers the ssessment - C8 & C9 end 21 the wripp or Rac	electromagnetism in terms of brake espeed of aves in a le tank and n a string,  electromagnetism in terms of brake moves onto elect effect. Required P relationship betw Assessment - P1	8-Forces, motion and n. This units considers forcking and momentum, ther romagnetism and the motractical 19: Investigating tween force and acceleration & 13 end of unit test an feedback.	tes Earth's resources. investigate how che analysed in terms mixtures, gases an They will then more how water is treat cycle assessments assess the environ different products impact of differen Assessment - C10	nemicals are of pure substances, and chromatograms. we onto investigating ted, and how life can be used to amental impact of a. Environmental t materials. & 12 end of unit test weeks of PPEs have	Paper 1 & 2 revision. Revision of All sciences (alongside partner teacher).	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11 revision timetable.
Year 11 Science Teacher 2 (4 split)	genetic disorders are	ening embryos. Assessment - also ove fee	lution by natural selection a ory. Global link - Antibiotic i discover how living classifi r time. Assessment - B13 & Bback. (2 weeks of PPEs hav	and the evidence to support t resistant bacteria. The studen cation systems have changed 14 end of unit test and	his This unit covers the cycling decay, carbon and water. humans have an impact or biodiversity of the planet. links - Biodiversity and clin	g of materials in terms of They will investigate how In such cycles, and the Global links and Geograph Inate change. Time	considered in the		gy (2 weeks of PPEs have been	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11 revision timetable.
Year 11 Triple Science Biology	followed by the role	Icur. ion, Variation and Evolution. This uni inheritance plays in evolution. Asses of PPEs have been considered in the o	sment - B13 &14 end of uni	t test and contribution Lamarck ma genetics. Sto genetics car animals and	s. Students research the st that Mendel, Darwin and de towards advances in raidents then look at how be used to classify to develop evolutionary sment will take place after t.	overs the cycling of materic equired Practical 10: Investe te of decay of fresh milk. Iman population on biodi Into the sustainability of glo	als, Biodiversity and Edals in terms of decay, cals in terms of decay, caligating the effect of terms. B18 covers the impact versity and ecosystems obal food production. As pulation explosion. As	arbon and water. emperature on the of the growing b. The unit moves Global links and sessment B17& 18	Paper 1 & Paper 2 Revision	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11 revision timetable.

		carboxylic acids	nic reactions and polymers. This unit covers alkenes, alcohols, esters and , as well as the formation of polymers. Biology link - DNA polymer. Assessment unit test and feedback. (2 weeks of PPEs have been considered in the	- Students	mical analysis. s will investigate how lls are analysed in	will investigate how wa	ces and using our resources. Students ter is treated, and how life cycle and to assess the environmental impact	Paper 1 & Paper 2 Revision	Science exam window. Students will attend drop-down science revision sessions as listed in the Year 11
	separation and use	1	•	1	•	1	ney will move onto the use of alloys and		revision timetable.
1	of hydrocarbons.			mixtures	s, gases,	the Haber process. Glol	oal links and DT links - Environmental		
İ				1	tograms and positive	l ·	erials. Required Practical 8: Purify and		
Year 11 Triple				1 -	ative ions. Required I 7: Use chemical tests	1	- C14 & 15 end of unit test and PEs have been considered in the		
Science Chemistry						curriculum map)	PES have been considered in the		
Chemistry				1	nds. Assessment - C12	Carriculation inap/			
					nit test and feedback.				
	P9 & P10 Motion gra	aphs and Force	P12 & P14 Wave properties and light. Required Practical 8: Investigating plane	waves F	P15 Electromagnetism.	This unit investigates	P16 Space. Students discover evidence	Paper 1 & Paper 2 Revision	Science exam window. Students will
	and motion. This mo		in a ripple tank and waves in a solid. Required Practical 9 Investigating the refle	- 1			to support the structure of stars,		attend drop-down science revision
	investigates how to		and refraction of light. Required Practical 10: Investigating infrared radiation.	- 1	Assessment - P15 end o	f unit test and	planets, the solar system and		sessions as listed in the Year 11
	motion graphs, and		Assessment - P12 & 14 end of unit test and feedback.(2 weeks of PPEs have be	en  f	feedback.		expanding universe. Assessment - P16		revision timetable.
	features. Required P	٠ , ا	considered in the curriculum map)				end of unit test and feedback.(2 weeks of PPEs have been considered in the		
Year 11 Triple	Investigating the rela						curriculum map)		
Science Physics	1 "						carried and map)		
•	Assessment - P9 & 1								
	test and feedback.								