Subject :	Science	1	Year Grout:	11	]	
Scheme title	Trisleare Richard	Tristers, Variation & Poststein	Chamistre Orzanic Chemistry	Chamilton Quantitative Chemistry	Director Space (Physics only) Victorial loade at the	Tritologu, Divelies Weves-Science
Purpose of scheme	Insursclooks at how living things depend on each other in an ecosystem, and also how we can monitor populations of organisms	Insum ouns on knowledge from K33 about reproduction and genes to explain in more depth why we have such a great variety of life on Earth	rms unit is about the useful prducts that can be obtained from crude oil and other hydrocarbons	quarmitative Chemistry is all about the mathematical relationships in chemistry and developing practical skills that would be needed for future structure.	mus unit looks at the biggest things that exist and where they fit into the universe - stars, planets, black heles and advance.	waves to lows on from the the light and sound topics at KS3 to develop a more in-depth understanding of
Knowledge in	Describe different levels of organisation in an arrowstern from individual	Reproduction	Do recall that crude oil is the remains of an anniant biom see	Key of conservation of mass	THE WHOLE OF THIS UNIT IS TO BE TALKSHEET	State that a wave is a wave in which anarov can be
sequence	organisms to the whole ecosystem	Sexual and associal reproduction     Condents should understand that mainsis leads to non-intentical raits bains formed while mitosis leads to intentical relts bains formed	consisting mainly of plankton that was buried in mud.	Calculation of relative atomic mass (Ar)     Salculation of relative formula mass (Mr)	PHYSICS (SEPARATE SCIENCE) STUDENTS ONLY Physics in how at the start of a star's life curle, the dust	transferred through oscillations or vibrations of narticles
	<ul> <li>Suggest the factors for which organisms are competing in a given habitat</li> <li>Suggest how organisms are adapted to the conditions in which that has</li> </ul>	Sexual reproduction involves the joining (fusion) of male and female gametes: The formation of earnetes involves meioris	•So describe crude oil as a mixture of a very large number of community: mostly hydrorachors	Goncentainty in chemical measurements     Soncentrations of solution in e /dm3	and gas drawn together by gravity causes fusion reactions	Mentify and define amplitude (the height of a wave
	<ul> <li>Explain how a change in an abiotic factor would affect a given community eiven appropriate data or context.</li> </ul>	Asexual reproduction involves only one parent and no fusion of gametes.	•So define a hydrocarbon as a molecule made up of carbon are hydrosen only.	d -Sholes: the concept that the mass of one mole of substance is equal to its Ar or Mr with a number of atoms known as Appendro's number 6.02x	<ul> <li>Explain that fusion reactions lead to an equilibrium between the eravitational collapse of a star and the</li> </ul>	from a resting position), wavelength (the distance from one wave crest to the next) and frequency (the
	<ul> <li>Abiotic (non-living) factors which can affect a community are: cliabt intensity</li> </ul>	Students should be able to explain how melosis halves the number of chromosomes in gametes and fertilisation restores the full number of chromosomes.	•Bo recall that the general formula for the alkanes homologous series is Ch12n+2	1023(HT) Calculating masses of substances from balanced equations (HT) in terms of	expansion of a star due to fusion energy. Describe the life cycle of a star using the following	number of waves passing a fixed point every second) on a wave diagram.
	otemperature remnistrate leads	The new cell divides by mitosis. Ennadedee of the states of mainsis is not remained	So know the formulae, names and structures of methane, ethane, normane and buttere	moles and masses Balancing equations using masses of partiants and revolution (HT)	terminology: cloud of gas and dust (nebula), protostar, main sensance star. (stars about the same size as the	Describe the difference between the two types of waves. Transverse, the wave moves nemericular to
	osoil pH and mineral content owind intensity and direction	DNA and the genome     Students should be able to describe the structure of DNA and define renome.	•So understand that crude oil can be separated into fractions each of which contains molecules with a single number of	Simiting reactants (HT)     Soncentrations in terms of mass and volume of solution (HT)	sun- red giant, white dwarf, black dwarf), (stars much bigger than the sun- red super signt, supernove,	the direction of travel, longitudinal, the wave moves parallel to the direction of travel.
	ocarbon dioxide levels for plants opxyeen levels for aquatic animals.	Students should be able to discuss the importance of understanding the human genome. This is limited to the:	carbon atoms. • To know that fractions can be processed to produce fuels and	Additional Chemistry only content: Sakulating percentage Yield	neutron star, black hole) •Explain how fusion processes lead to the formation	State the wave equation as wave speed – frequency x wavelength $f_X = f \ge \lambda$ .
	<ul> <li>Explain how a change in a biotic factor might affect a given community given appropriate data or context.</li> </ul>	-search for genes linked to different types of disease -understanding and treatment of inherited disorders	feedstocks for the petrochemicals industry. • To know that petrol, diesel oil, karosime, heavy fuel oil and	<ul> <li>Calculating atom economy</li> <li>Spine titrations: gractical method and calculations to determine reacting</li> </ul>	of new elements. •BHT only) Students should be able to explain	Calculate the speed of waves using the speed formula speed - distance / time.
	Biotic (living) factors which can affect a community are: ovvailability of food	-Use in tracing human migration patterns from the past. •Genetic inheritance	liquified petroleum gases are produced from crude oil. Bo list solvents, lubricants, polymers and detergents are	concentrations. •Gas volumes	qualitatively how: (HT only) for circular orbits, the force of gravity can lead to changing velocity but	Calculate the properties (e.g. wavelength, frequency and speed) of waves using equations discussed above.
	onew predators arriving onew pathogens	Students should be able to explain the terms: • gamete • chromosome • gene • allele • dominant • recessive • homozygous • heterozerous • senstrue • chemotype.	produced by the petrochemical industry. No understand that there is a vast number of natural and		unchanged speed. (HT only) for a stable orbit, the radius must change if the speed changes.	Define and calculate the time period of waves in a ripple tank.
	cone species outcompeting another so the numbers are no longer sufficient to breed.	Students should be able to complete a Punnett square diagram and extract and interpret information from genetic crosses and family trees.	synthetic carbon compounds due to the ability of carbon atoms to form families of similar compounds.		<ul> <li>Explain qualitatively the red-shift of light from galaxies that are receding</li> </ul>	Write a method to determine the speed of water waves using a ripple tank.
	<ul> <li>Explain how organisms are adapted to live in their natural environment, given appropriate information.</li> </ul>	(HT only) Students should be able to construct a genetic cross by Punnett square diagram and use it to make predictions using the theory of probability.	<ul> <li>Be explain how fractional distillation works in terms of evaporation and condensation.</li> </ul>		<ul> <li>Explain that the change of each galaxy's speed with distance is evidence of an expanding universe</li> </ul>	Recognise how many wavelengths are on a string. Write a method to determine the speed of waves on a
	<ul> <li>Binderstand that photosynthetic organisms are the producers of biomass for life on Earth.</li> </ul>	Bheritad disorders     Some disorders are inherited.	<ul> <li>Be explain that fractional distillation separates crude oil because different fractions have different boling points.</li> </ul>		<ul> <li>Explain how red-shift provides evidence for the Big Bane model</li> </ul>	string. Determine the speed of waves on a string, using the
	<ul> <li>Beeding relationships within a community can be represented by food chains.</li> <li>A range of experimental methods using transects and quadrats are used by</li> </ul>	These disorders are caused by the inheritance of certain alleles. -Polydactyly (havine estra fineers or toes) is caused by a dominant allele.	<ul> <li>Bo recall how boiling point, viscosity and flammability change with increasing molecular size.</li> </ul>	1	<ul> <li>Explain how scientists are able to use observations to arrive at theories such as the Big Bang theory that</li> </ul>	equation speed – frequency x wavelength. Describe how light reflects when it hits a mirror.
	ecologists to determine the distribution and abundance of species in an ermission	- Cystic fibrosis (a disorder of cell membranes) is caused by a recessive allele. Condents should make informed information and and the arrowner social and ethical issues concerning enhrun creative alson	So be able to describe the trends in boiling points, viscosity and flammability of hydrographons		there is still much about the universe that is not understood, for example dark mass and dark anarey	Label key scientific words on a reflection diagram, such as anele of invidence and anele of reflection
	Recall that many different materials cycle through the abiotic and biotic     remnorants of an accessitem	appropriate information.	So recall that hydrocarbons are broken down into smaller, more useful moleculas by cracking			Describe and explain the difference between diffuse and snerodar reflection. Snerolar reflection produces a
	<ul> <li>Explain the importance of the carbon and water cycles to living organisms.</li> <li>Evaluate how temperature, water and availability of reveau affect the rate of</li> </ul>	Ordinary human body cells contain 23 pairs of chromosomes. 22 pairs control charanteristics only, but one of the pairs parties the eares that determine say	So describe the conditions for both catalytic and steam reaching			clear image (e.g. a mirror), diffuse reflection produces a hisrard image (e.g. reflection in water)
	decay of biological material. (BIOLOGY ONLY) Renders and farmers to the concile only on an and the second decay of	As pairs control or an electronic only, see one of one pairs cannot us general one of electronic sec. Students should to be able to carry out a generic cross to show sex inheritance. Students should understand and use direct proportion and sized a stude in encoded.	<ul> <li>Bo recall the test for alkenes; alkenes decolourise bromine</li> </ul>			Describe and explain refraction as a process in which light chooses are logic of trivel when merica theoretic
	waste biological material. The composition conductions of rapid ducy of waste biological material. The composition produced is used as a natural fertiliser for any produced production of the composition of the compositio	Variation and evolution	<ul> <li>Bo know that there is a higher demand and smaller supply of close chain budgeschoor.</li> </ul>			different mediums, due to different densities.
	Anaerobic decay produces methane gas. Biogas generators can be used to	Students should be able to describe simply how the genome and its interaction with the environment influence the development of the	<ul> <li>Bo know that alkenes are used to produce polymers are used</li> </ul>			when it hits the two different types of lens (convex
	produce methane gas as a fuel. (BIOLOGY ONLY) •Evaluate the impact of environmental changes on the distribution of species in	phenotype of an organism. Differences in the characteristics of individuals in a population is called variation.	as chemical starting materials. •Bo balance chemical equations for the cracking of			and concave). Show that concave lenses make parallel waves spread out and convex lenses make parallel
	an ecosystem given appropriate information. (BIOLOGY ONLY) •Biodiversity is the variety of all the different species of organisms on earth, or	All variants arise from mutations and that: most have no effect on the phenotype; some influence phenotype; very few determine phenotype.	hydrocarbons. «Bo explain how modern life depends on the uses of			waves converge (come together) to a focus. Describe real images as being able to form on a screen
	within an ecosystem. Rapid growth in the human population and an increase in the standard of	<ul> <li>Evolution</li> <li>Students should be able to describe evolution.</li> </ul>	hydrocarbons. Triple only:			behind the lens and virtual images as forming an image where the rays appear to come from (e.g. a
	living mean that increasingly more resources are used and more waste is produced.	Students should be able to explain how evolution occurs through natural selection •Selective breeding	•Ito recall that alkenes are hydrocarbons with a double carbon- carbon bond.	-		magnifying glass). Calculate lens magnifications, as magnification -
	<ul> <li>Bollution kills plants and animals which can reduce biodiversity.</li> <li>Humans reduce the amount of land available for other animals and plants by</li> </ul>	Students should be able to describe selective breeding and explain the impact of selective breeding of food plants and domesticated animals.	•To recall that the general formula for the alkenes homologous series is CnH2n	*		image size / actual size. Draw ray diagrams for convex and concave lenses,
	building, quarrying, farming and dumping waste. •Evaluate the environmental implications of deforestation.	<ul> <li>Benetic engineering</li> <li>Students should be able to describe genetic engineering. Giving examples in plant crops and bacterial cells.</li> </ul>	Ib be able to describe alkenes as unsaturated. Ib know that the first four members of the alkenes			showing that concave lenses make parallel waves spread out and convex lenses make parallel waves
	Bescribe some of the biological consequences of global warming.     Bescribe both positive and negative human interactions in an ecosystem and	Students should be able to explain the potential benefits and risks of genetic engineering in agriculture and in medicine and that some people have objections.	homologous series are ethene, propene, butene and pentene. •The understand that it is the functional group that determine	s.		converge (come together) to a focus. Compare ray diagrams for convex and concave lenses.
	explain their impact on biodiversity. •Describe the differences between the trophic levels of organisms within an	Be able to describe features of genetically modified (GM) crops. Be able to discuss concerns and benefits of GM crops.	the reactions of organic compounds. To know that when alkenes are combusted in oxygen they			State the colours of light that make up the visible light spectrum, as being red, orange, yellow, green, blue.
	ecosystem (BIOLOGY ONLY). Construct accurate pyramids of biomass from appropriate data.	(HT only) Students should be able to describe the main steps in the process of genetic engineering. (HT only) Describe the process of eventic engineering	tend to burn in air with smoky flames because of incomplete combustion.			indigo and violet. Explain how coloured filters work and interpret the
	Bescribe pyramids of biomass     Explain how biomass is lost between the different trophic levels.	The development of understanding of genetics and evolution  -Buidence for evolution	It describe the reactions and conditions for the addition of hydrogen, water and halogens to alkenes.			colour of an object seen through coloured filters, in terms of colours being absorbed/ reflected.
	Bescribe some of the biological factors affecting levels of food security     (BIOLOGY ONLY)	Students should be able to describe the evidence for evolution including fossils and antibiotic resistance in bacteria, and the theory of evolution by natural selection.	<ul> <li>Braw fully displayed structural formulae of the first four members of the alternis and the products of their addition</li> </ul>			Compare the difference between opaque, transparent and translucent (opaque – no light able to pass
	Evaluate the advantages and disadvantages of modern farming techniques. Describe and explain some possible biotechnical and asricultural solutions	Bossils     Be able to describe what fossils are and how they may be formed. Give reasons why there is not a full fossil record. Describe what we	reactions with hydrogen, water, chlorine, bromine and iodine. •To know that alcohols contain the functional group -OH			through, transparent – allows all light through, translucent – allows some light through but invane is
	including genetic modification, to the demands of the growing human	can learn from fossils -how much or how little different organisms have changed as life developed on Earth.	•Ito recall that methanol, ethanol, propanol and butanol are the first four members of the alkanes homologous series			blurred). Excluin why onamia phierts annear certain colours.
		Students should be able to describe factors which may contribute to the extinction of a species. Resistant harteria	•Ito describe what happens when any of the first four alcohols neart with ordism hum in air are artifed to water and reart			based on the light reflected or absorbed. List the 7 types of radiation in the electromagnetic
		Describe bacterial resistance and how it have occurred. Describe how to reduce harterial resistance as a MIRA is resistant to antihintics	with an oxidising agent.			(EM) spectrum (Radio waves, microwaves, infrared, visible light ultraviolet X-rays gamma rays)
		Classification of living organisms Traditionally laise things have been classified into ensure depanding on their structure and characteristics in a system deallowed by	the fermentation of sugar solutions by yeast and to recall the			Describe the properties (wavelength and frequency) of the 7 types of radiation in the FM sportrum (radio
		Carl Linnaeus. Organisms are named by the binomial system of genus and species. Condents should be able to show understanding of the Linnaean outern Students chould be able to describe the impact of	•So know that carboxylic acids have the functional group - COOH			waves longest wavelength and lowest frequency, earnma racs, shortest wavelength and highest
		developments in biology on classification systems including the system developed by Carl Worke.	- Country of the names of and draw the structural formulae for mothoresis axid, otherwise axid, empression axid, and hydroxis.			frequency). Suspect uses and damages of each time of calibrian
	-	Evenuences y unes are a method used by sciencists to anow now oney deletes significants are readed.	acid.			(e.g. X-rays used for medical purposes, however
		Biology Univ •Rdvantages and disadvantages of sexual and asexual reproduction (biology only)	<ul> <li>D recognise and know the name of the enter, ethyl ethanoase</li> <li>Bo know that in addition polymerisation reactions, many</li> </ul>	6		PHYSICS ONLY
		Knowledge of reproduction in organisms is restricted to those mentioned in the specification. Students are expected to be able to explain the advantages and disadvantages of asexual and sexual reproduction for any organism if given appropriate information.	small molecules join together to form large molecules. •To recognise addition polymers and monomers from diagrams	s.		Explain how sounds travel differently in different materials (cause particles to vibrate in solids)
		<ul> <li>DNA structure (biology only)</li> <li>Students should be able to describe DNA as a polymer made from four different nucleotides, and describe the structure. DNA contains</li> </ul>	in the forms shown and from the presence of the functional group C-C in the monomers.			Explain how we hear sounds, with reference to ear drum, ossicles and auditory nerve.
		four bases, A, C, G and T. (HT only) Students should be able to:	<ul> <li>Braw diagrams to represent the formation of a polymer from a given alkene monomer.</li> </ul>			State the range of frequencies we hear as being 20 Hz - 20,000 Hz.
		-recall a simple description of protein synthesis -explain simply how the structure of DNA affects the protein made	•Bo relate a repeating unit to a monomer. •Bo know that condensation polymerisation involves			Define what ultrasound is as being higher than the frequency of sound we hear.
		-describe how genetic variants may influence phenotype (NT work) in the complementary straints a C is always linked to a C on the connected strand and a T to an A	monomers with two functional groups; when they react			State some uses of ultrasound, such as medical scans. Familain how ultrasounds are used to calculate
		(HT only) Students are not expected to know or understand the structure of mRNA, BNA, or the detailed structure of amino acids or invrdeins	So understand that the simplest polymers are produced from two different monomers with two of the same functional			distance, in terms of calculating the distance taken for a sound wave to return as it is nartially reflected at
		(HT only) Students should be able to explain how a change in DNA structure may result in a change in the protein synthesised by a	groups on each monomer.			the boundary between two different media.
		gene. (HT only) Proteins are synthesised on ribosomes, according to a template. Carrier molecules bring specific arrino acids to add to the	Accounts should be able to explain the basic principles of condensation polymerisation by reference to the functional			from an earthquake and are longitudinal and that
		growing protein chain in the correct order. (HT only) When the protein chain is complete it folds up to form a unique shape. This unique shape enables the proteins to do their job	polymers.			secondary (5) waves come after this and are transverse.
		as enzymes, normone or seming structures in the body such as cosagen (HT only) Mutations occur continuously. Most do not alter the protein, or only alter it slightly so that its appearance or function is not	ab know that amino acids have two otherent functional groups in a molecule.			activity.
		changed. (HT only) A few mutations code for an altered protein with a different shape. An enzyme may no longer fit the substrate binding site or	<ul> <li>Bo recall that amino acids react by condensation polymerisation to produce polypeptides.</li> </ul>			Describe the main differences between S and P waves, in terms of type of wave and when they occur.
		a scructural protein may lose its strength. (HT only) Not all parts of DNA code for proteins. Non-coding parts of DNA can switch genes on and off, so variations in these areas of	ab explain that proteins are produced when different animo acids combine together in the same chain.			the structure of the Earth, through measurements of
		DNA may aftect how genes are expressed. •Eloning (biology only)	<ul> <li>Bo recall that DNA encodes genetic instructions for the development and functioning of living organisms and viruses.</li> </ul>			the changes in speed of seismic waves which allow measurements of the boundary between the crust and
		Describe the processes of -Tissue culture	<ul> <li>Bo describe most DNA molecules as two polymer chains, made from four different monomers called nucleotides, in the</li> </ul>			mantle. Explain that a black body is an object which absorbs
		-Cuttings -Embryo transplants	form of a double helix. •To be able to list cellulose, proteins and starch as biologically			all infrared radiation. Explain how objects change their temperature in
		-Adult cell cloning •Theory of evolution (biology only)	important, naturally occurring polymers and to be able to name the types of monomers from which they are made.			terms of absorbing and emitting infra-red radiation, if more IR radiation is emitted the object cools down, if
		Describe of Charles Darwin came to propose the theory of evolution by natural selection, and the publication of his ideas in On the Origin of Species (1859) and the controversy which surrounded this.				more is absorbed the object heats up. Explain how the Earth changes temperature in terms
		Other theories, including that of Jean-Baptiste Lamarck, are based mainly on the idea that changes that occur in an organism during its lifetime can be inherited.				of absorbing and emitting infra-red radiation.
Skills	Maths skills: •Bnderstand the terms mean. mode and median	Students should be able to understand the concept of probability in predicting the results of a single gene cross, but recall that most phenotype features are the result of multiple genes rather than single zene inheritaer**	Bractional distillation is a separation technique (also covered in Atomic Structure).	Maths – Various calculations involving multiplication, addition and division; conversion of units relating to mass and volume in numlinular	Maths link- Calculating scales- eg: planet sizes in relation to each other	Scientific skills Several required practicals (Trilogy: waves and
	Balculate arithmetic means     Calculate and means     Balculate arithmetic means     Balculate arithmetic means	Students should be able to use direct proportion and simple ratios to express the outcome of a genetic cross.	<ul> <li>Wetures do not have a sharp melting point- each component of the mistane back a different melting facilities mistal. Links to</li> </ul>	Conversion of using teaching to make and externe in particular.	Development of countrilies developer to code and	reflection and refraction, Separate, additional Leslie
	Interpret graphs     Enclose of biological material	Students should be able to extract and interpret information from charts, graphs and tables such as evolutionary trees.	Atomic Structure. •Each component of a mixture keeps its individual prevention	Science specific - Law of conservation of mass	understanding of scales in reality eg: planet sizes in respect to each other	to reinforce practical scientific skills, such as writing an appropriate method, recording results correctly
	Branslate information between numerical and graphical form     Balculate efficiency		Links to Atomic Structure and Chemical Analysis. The combustion of hydrocarbons is awtharmir. Links to	Practical skills - e.e. carrying out a thration using annious school and		carrying out repeats and processing and displaying data.
	There are links with GCSE Chemistry 4.9.1.2 The Earth's auto atmosphere. Area		Energy Changes. •To write equations for the complete and incomplete	accurately		Several equations (e.g. wave equation) within the topic. Can be used to develop understanding of
	Chemistry 4.9.3.1 Atmospheric pollutants from fuels and GCSE Bi-ology Genetic engineering.		combustion of hydrocarbons. Links to Atmospheric Chemistry. •Crude oil is a finite and natural resource. Links to Using			rearranging equations.
			Resources. •Bupply and demand- links to Using Resources.			Numeracy skills Use of equations throughout topic, including use of
				1	1	standard form. Processing and displaying data. such as calculating
						means and plotting graphs. Finding angles and use of a protractor
						Literacy skills
Key Words	Ecosystem - The interaction between the Joing meanions and the different	Genotype - The combination of Alleles	Hydrocarbon - Molecules made un of rankon and hydrocom		Galaxy - A system of billions of stars hald togethere be-	Writing a method for practicals, which promotes the Wave - Any disturbance that transmits enarroy through the second
	factors of the environment Global warmine - The increase of the average stobal temperature	Meteropygous - A genotype that has two different alleles, one dominant one recessive Monsovatous - A genotype that has two of the same alleles, either two dominant or two ransolve	atoms only. Homologous Series - A sequence of community with the come	Law of Conservation of Mass - No atoms can be created or destroyed in a chemical reaction to the total mass of reactiants must avoid an at the total mass	gravitational attraction. Our solar system is in the Milky Way galaxy.	matter or space. Medium - A solid, liquid or eas that is vibratar
	Habitat - Where a living organisms live Interdependence - The Integration harmony has or more interaction of the	Mutation - A change in DNA Phonotypes - The characteristic expressed because of the rowhination of allales	functional group and similar chemical properties.	of the products Belative atomic mass (Ar) - Average mass of an element while inte	Nebula - A large cloud of gas and dust from which stars form.	Transverse Wave - The oscillations are perpendicular to the direction of every transfer
	mutually beneficial Population - The number of individual avauations of a cinete searcher listics in	Recessive - An allele that is only expressed if two copies of it are present Sexual reproduction - The production of officinity by combining generative information from the assumption of two superstitutions		the mass & amount of each isotope it contains on a scale where the mass of a 12C atom is 12	Nuclear fusion - Light nuclei (e.g. hydrogen) join tozether to produce heavier nuclei and energy 1 and	Longitudinal Wave -The oscillations are parallel to the direction of energy transfer
	habitat Dentatros - Organisms which kill for for-1	In offspring		Relative formula (or molecular) mass (Mr) - The sum of the relative atomic masses of all the atoms shraw in the formula	to the production of new elements.	Wavelength - The distance between any adjacent
	Prevanues - Urgarisms which are eaten by the predators			HT only: Mole - Measurement of the amount of substance	mass.	Frequency - The number of waves produced in a given immune of time.
				one mole of a given substance (6.02 x 1023). One mole of any substance	means sequence star - The stable phase in a star's life. The gravity pulling the star inwards is balanced by the	Wave Speed -wave speed (metre per second) -
				consum one same number of particles as the number of atoms in one mole of carbon 12.	ourward pressure produced by fusion. Red giant - When all the hydrogen has been used up in	requency (hertz) × wavelength (metre) Diffraction - The bending of waves around a barrier or
				UncertaintyThe range of values within which the true value is expected to lie. So for example a volume of gas collected would be 10cm3 plus or	tusion, larger nuclei begin to fuse. The star expands to become a red giant.	through an opening. Reflection -The angle of incidence equals the angle of
				minus 1cm3 so expressed as 10cm3 +/- 1cm3 so true value is anywhere between 9-11cm3	White dwarf - Nuclear reactions have finished. The star contracts under its own gravity.	reflection. The normal is a line drawn at right angles Refraction -Waves pass through a different medium
				Thermal decomposition - Reaction where heat causes a substance to break down into simpler substances	Supernova - The explosion of a large star. Produces elements heavier than iron.	and change direction Decibel (dB) -The most common unit used to express
				HT only: Limiting reactant / reagent - The reactant in a reaction that determines the amount of products formed. Any other reagents are in	Black hole - A region where gravity is so strong that nothing can escape.	loudness. Frequency - Number of oscillations per second (Hz)
				excess & some of them will be left over, unreacted HT only: Excess - When the amount of a reactant is greater than the	Red shift - There is an observed increase in the wavelength of light from distant galaxies.	Time Period - one complete cycle of vibration to pass a given point
				amount that can react Chemistry Only: Yield - The amount of product formed in a reaction	Big bang theory - The universe began from a very small, hot, dense point.	Oscillation -A motion that repeats itself - IE vibrations
				Chemistry Only:Titration - A technique used to find the concentration of a solution using a solution of known concentration.		
				Chemistry only Concordant - Two or more results from titration where the values are very cline treather doubling in 10-10	1	
End Point	Biology Paper 2	Biology Paper 2	Chemistry Paper 2	Chemistry Paper 1	Physics Paper 2	Physics Paper 2
Assessment method	Common marking points throughout the unit (CMPs)- feedback provided by teacher at the following points:	Lesson 4 -CMP Lesson 8 -CMP	2 CMPs embedded in the lessons. Kerboodle test on Organic Chemistry	Common marking points throughout the unit (CMPs) – feedback provided by teacher at the following points:	Common marking points throughout the unit (CMPs)- feedback provided by teacher at the following points:	Common marking points throughout the unit (CMPs) to be completed as follows:
	Lesson 1 (adaptations)	Lesson 14 –CMP End of unit Kerboodle assessment		Lesson 4 – Moles (CMP 1)	Lesson 3: Supernova and heavy elements and CMP-1 Lesson 5: Red shift and big bang and CMP-2	Both Trilogy and Separate
	Lesson 9 (impact of environmental change) Lesson 14 (Biodiversity)			Lesson 9 - Gases (CMP 2) - Chemistry only	End of unit Space test (30mins) to be given after	Lesson 4 - CMP 1. Focusing on definitions and calculations of waves.
	End of unit test from Kerboodle to be given after Jesson 15			Lesson 10 - Review revision	lesson-14 (end of unit)	Lesson 12 – CMP 2. Focusing on understanding of key terms.
	12 (120) 12			Find of unit mini, accessments available for eachieved releases	1	THE OVER ONLY
				sciences which meno-assessments available for combined sciences and single sciences		Lesson 13 – End of topic assessment.
						PHYSICS ONLY
	1	1	1	1	1	Lesson 28 - CMP 3. Review understanding of whole