## Organic chemistry INTENT **Ecology** Electromagnetism **SCIENCE** Atmospheric chemistry Chemical analysis Using resources က Science has a fundamental role in shaping How do organisms What is crude oil, and How has the atmosphe $\alpha$ How does an nteract with their our daily lives, allowing us to explain How water is made safe to changed since Earth was What does it mean to electromagnet work? what is it used for? Ш environment? drink? have a pure substance formed? the universe around us. Our curriculum ES. is designed to build from fundamental Structure of hydrocarb concepts in biology, chemistry, and physics, EZ nd how this has changed ove osytems and their feeding ncluding treatment of waste water me. Understand the impacts nships, including the nd a bar magnet and a wire giving students the opportunity to learn human activities are having ormulation, know the tests effects of abiotic and biotic estigate the strength of an examples of, finite and renewable for different gases, and how factors. How to sample an cosystem. The importance of and remember essential knowledge. As S ources. Understand what a life cvcl natography can be used t assessment for a product is, and way odiversity, and how this can b the concepts are developed more deeply to reduce envir use of resources through our 7-year curriculum, students Electricity Homeostasis Waves Inheritance and will see how they are interconnected, and Chemical analysis Atmospheric chemistry Ecology evolution Forces how science links to a wide range of other Rates of reaction How does the body How do basic circuits subjects. respond to changing S S What are the properties conditions? M different in the home EMESTER of waves? What makes a pure low has the atmospher How do organisms Why do we look like ou low do forces affect the What factors affect parents but not identica Our curriculum is designed to be motion of objects? we test for one? formed? environment? to our siblings? ESTER reaction? challenging, thought-provoking, and Know how the endocrine Understand the concepts **YEAR 11** academically rigorous, and has a strong potential difference. Know ition of the at differences between series an Know the structures that onderstand basic concepts of eccosytems and their feeding relationships, including the effects of abiotic and biotic factors. How to sample an cosystem. The importance of emphasis on practical work. We also aim y to measure rate by look pod glucose regulation, bomperature, and the menstr cycle. Describe the role of parallel circuits. Investigate nake up genetic information including DNA. Understand to make clear to students the relevance of length of wire and resistance. roduce V/I graphs for differer arts of the electromagnetic spectrum, alonng with associated dangers. nalyse using data and graphs. Jse collision theory to explain now conditions affect the rate of reaction. nones in contraception and fertility. 4 \_ resultant force on an object science to their everyday lives, as well as Investigate wheter a spring obey's Hooke's Law. Draw and odiversity, and how this can be prepare them for progression into work, or protected. nterpret distance-time and velocity-time graphs higher-level science study. Particle model of elction leads to evolution, an what evidence there is for this Infection & response Rates of reaction **Ecology Bioenergetics Energy** Organic chemistry matter Science study provides a pathway to almost 2 any career or profession, engineering, Atmospheric ER How do organisms interact with their low can we make use o What are the properties chemistry ER How does the body How do organisms transfer What is crude oil and architecture, construction, medicine, stores of energy? of solids, liquids and the rate of a chemical what is it used for? and use energy? environment? gases? nursing, paramedic science, police work, **YEAR 10** and health and beauty. A good background How has the atmosphere changed since Earth was formed? in science is particularly desirable to Recall the equations for SEMI Ξ at the product produced or osynthesis and respiration und in crude oil. How crud cosytems and their feeding employers, as it develops many skills eactant used over time, and now how plants obtain resource oil is separated by fractional relationships, including the alyse using data and graphs for photosynthesis, and their effects of abiotic and bioti including practical work, problem solving, nise this. Know factors. How to sample an cosystem. The importance S pecific heat capacity is, and se in calculations. Describe the differences between a analysing and interpreting data, and of reaction ration. I ink this to of fossil fuel use are on the xplain their properties. Use ne concept of latent heat to and how this has changed over nges in the body during e and how this has changed ove time. Understand the impacts human activities are having on the atmosphere and the onsequences of this, including climate change working safely. explain state changes. Particle model of **Ecosystem Processes** Structure of the Earth The Periodic Table **Chemical Bonding** Cells Atomic structure Organisation matter Atomic structure & radiation SEM Where does all the <u>S</u> S energy you get from the food you eat actually EMES What is the structure of Why do atoms and П Why do different How much energy is eeded to heat different What systems and How has the atomic What makes up all living Earth andwhat impact do elements react ructures have different processes are needed to come from and where nodel changed and why organisms? humans have on it? differently? properties? substances? keep an organism alive? does the energy you get EST ES from the food go? YEAR 9 긆 patterns of reactivity found in the periodic table. Know how the Periodic Table has veloped, including the work of Mendeleev. The process of pho understand three types of щ nes of rock and the rock cycle Ш and prokaryotic cells. Use of concepts of latent heat and specific heat capacity and energy, and perform linking to the structure of the Earth. The carbon cycle and how humans can impact Earth. bonding described, along th the properties of differer R R R perties. Describe uses and ingers of ionising radiation structures containing the different types of bonding. N ယ stand the concept of hal and active transport life in radioisotopes Metals and Acids Adaptations and inheritance **Motion and Pressure** Health and Lifestyle Periodic Table **Separating Techniques** Energy **Electricity and Magnetism** Reproduction 3 Light 2 What types of variation What energy stores are What happens when What is electricity What does the periodic etals and acids react? $\simeq$ are there, and how does here, and when is energy transferred from one What nutrients are How can organisms notion of objects? What and what is an $\simeq$ $\alpha$ to separate mixtures? reproduce and how variation help organisms needed by the body? table show? is pressure? ш electromagnet? ш does the body prepare survive $\mathbf{H}$ store to another? What is light, and how are for this? we able to see colour? ES ΞS YEAR 8 EM EMI ... ejectricity works in the nome and the differences ween the SEM peed and motion graphs. The of metals, involing practical movement of particles and tigations. A metal plus a ght. Parts of the eye which are nvolved in sight and detecting light. Identify how colour is S S Atoms, Elements and Compounds **Particles** Introduction to Science Space **Body Systems Chemical reactions** Cells Sound Forces Acids and alkalis SEM SEM S S What are the simplest Where do we fit within Ш EMES: What is the particle What is a force, how car structures of all life Why are all liquids not How does sound travel How do I work and How can I be safe and What is all matter the universe and what How can you describe on Earth and how do model and how does it represent it and what why do I need different safe and how can you tell MES: and how do we represent accurate in Science? makes up our solar link to states of matter. effect can they have? hese give differences in systems in my body? if they are dangerous? sound? system? organisms? YEAR 7 S TER Describing the structure of Push and pull forces, how to шi шi Ш Bais principles of waves, focusing on sound waves. Properties of sound waves, including reflection. ment, practical and palancing of equations. Looking at rates of reaction and types of back to atoms. States of matt will be introduced and how changes in states leads to for and arrangement of particle actures found in the univer scale and use of indicators to test for acidity and alkalinity; analytical skills including measuring, using a Bunsen burner, drawing graphs and variables. R R R They will be introduced to he periodic table and writt nomenclature in chemistry ယ 4 N