

Unit 2: Microbiologist and botanist - Describe how a root hair cell, a palisade cell, xylem and phloem are adapted for their function - Explain how minerals are absorbed in roots - Explain how water is absorbed in roots - Describe gas exchange in plants - Describe how stomata are adapted to their function - Explain the role of guard cells - Describe and explain photosynthesis - Describe transpiration - Write the word equation for photosynthesis - Write the symbol equation for photosynthesis - Explain how plants respire - Describe the recognition features of plant deficiency diseases		Lignin Minerals Diffusion Osmosis Root Hair Cell Stomata Transpiration Photosynthesis Respiration Deficiency
		End of unit assessment
		Knowledge Organiser
UNIT 3: Industrial Chemistry - State the 3 states of matter as solid, liquid and gas - Describe the structure of solids, liquids and gasses - State that internal energy is greater in a gas compared to a solid. - Explain what latent and specific heat are - Calculate specific heat capacity - Identify from a graph (time vs temperature) where a state of matter change occurs. - Explain diffusion in liquids and gases - Explain Brownian motion and give examples of where it happens - State the units for temperature as degrees Celsius °C - State the units for mass as grams / kilograms - State the units for volume as ml - Calculate density - Name an eureka can from its image or description and explain what it is used for		States of matter Diffusion Temperature Concentration Density Exothermic Endothermic Catalyst Activation energy Monomer Polymer
		End of unit assessment
		Knowledge Organiser
UNIT 4: Rollercoaster Engineer - Describe what deformation is and give examples - Construct graphs to best represent data - Evaluate sources of error in investigations - Define the term pressure - Describe atmospheric pressure - Compare the atmospheric pressure when you are at the bottom of a rollercoaster in comparison to the top - Describe how pressure in liquids occur - Describe how pressure in liquids changes with different depths. - Identify force acting on a boat - Explain how surface area of a boat affects upthrust		Pressure Surface Area Pascal Atmospheric pressure Air resistance Upthrust
		End of unit assessment
		Knowledge Organiser

Explain why some materials float and why some sink		
Unit 5: Sports Science - Recall the equation for respiration - Label the respiratory system - Describe what ventilation is - State what harmful substances are in cigarettes - Describe the impact that smoking and asthma has on the lungs - Identify iodine as the substance used to test for starch - Identify benedict's as the substance used to test for sugar - Identify biuret solution as the substance used to test for protein - Label the digestive system. - Describe the role of enzymes in digestion		Trachea Bronchi Alveoli Diaphragm Inhalation Exhalation Nicotine Lipids Oesophagus Villi
		End of unit assessment
		Knowledge Organiser
UNIT 6: Chemical Engineer - Define a ceramic, polymer and composite - State what the fire triangle is - State what combustion is - Describe the difference between complete and incomplete combustion - Describe what oxidation is - Define thermal decomposition - Identify the characteristics of an exothermic reaction - Identify the characteristics of an Endothermic reaction - Describe examples of exothermic and endothermic reactions on society. - Define the term catalysts.		Polymer Monomers Composites Combustion Thermal decomposition Oxidation Reduction Exothermic Endothermic Catalyst
		How is this unit being assessed? AP23 in years 9
		Knowledge Organiser
UNIT 8: Wireless Technology - Define the term wave and be able to give longitudinal and Transverse as types of wave and give examples of each - Label the amplitude and wavelength on a diagram of a transverse wave trace - Label a picture of the eye and state the function of the parts of the eye - Describe the properties of light waves as being, transverse, can be reflected, travel in straight lines and travel at 300, 000, 000 m/s in a vacuum. - Construct accurate ray diagrams to show the law of reflection and state the law of reflection as the "angle of incidence being equal to the angle of reflection, measured from the normal line".		Electromagnetic wave Spectrum Vacuum Iris Pupil Lens Optic nerve Retina
		End of unit assessment
		Knowledge Organiser

State the order of light in the “EM Spectrum”		
UNIT 9: Breeding Manger - State where DNA is found and describe the structure and function of DNA - State “body cells” contains 46 chromosomes in 23 pairs in a human. - State that “gametes” contain 23 chromosomes in humans - Describe what inheritance is - Give examples of inherited and environmental variation - Explain the difference between a dominant and recessive allele - Use a genetic diagram to predict the probability of characteristics - Explain what natural selection is - Define evolution - Define extinction - Explain why living things become extinct and how we can try and prevent extinction occurring - Use the binomial system to classify / identify organisms		Chromosome Nucleus Variation Environmental Inherited Heredity Dominant Genotype Homozygous Heterozygous Recessive Allele Evolution
		End of unit assessment
		Knowledge Organiser
UNIT 8: Astrophysics - Recall the order of the 8 planets in order from the sun - Explain what artificial and natural satellites are and give an example of each - Describe the heliocentric model as having the Sun at the centre of the solar system - Explain what a comet, asteroid and meteor are - Identify the different phases of the moon - Explain how we get seasons - Explain how we get day and night - Describe the life cycle of a star and state that the Sun is our Star - Explain the terms Universe and Galaxy - Explain what the Big Bang was		Gravity Gravitational field strength Weight Galaxy Milky Way Satellite – artificial and natural Asteroid Comet Big Bang Red shift
		End of unit assessment
		Knowledge Organiser