

LAWN MANOR -ACADEMY-

Science

CONCEPTS CONTENT / TOPICS

KNOWLEDGE / LITERACY / NUMERACY / ORACY / AGENCY ш O Z ш Z ш ۵ ۵ z

SKILLS

VOCABULARY

ASSESSMENT

Year 7

Acids Cells and movement Nutrition and digestion Elements Space Interdependence States Force

Year 8

Inheritance Waves Healthy living Chemical reactions Energy Respiration & photosynthesis Earth and atmosphere Electromagnetism

Year 9

Combined Science

Changes in atoms

Cells and structures Elements and their properties **Explaining properties** Infectious diseases Using maths in chemistry Chemical changes Processes in living things Energetics Energy stores and transfers Using electricity Physical properties

Year 10

Combined Science

Homeostatis/The rate and extent of chemical change/Forces/Inheritance, variation & evolution/Organic chemistry/Chemical analysis/Waves/Ecology/Chemistry of the atmosphere/Using resources/Magnetism and electromagnetism/Space physics

Biology

Homeostatis/Inheritance, variation and evolution/Ecology

Physics

Forces/Waves/Magnetism and electromagnetism/Space physics

Year 11

Combined Science

Cell Biology/Organisation/Atomic Structure/Quantative chemistry/Rates/Energy/Forces/Infection & Response/Homeostatis/ Bonding/Organic chemistry/Electricity/Forces/Bioenergetics/ Ecology/Chemical changes/Energy changes/Particle model/ Waves/All Biology/Chemistry/Physics topics

Biology

Cell Biology/Homeostatis & response/Organisation/Infection and response/Bioenergetics/Ecology/All topics/Revision

Chemistry

Atomic structure and the periodic table/Quantative chemistry/ Rate and extent of chemical change/Chemical analysis/Bonding, structure and the properties of matter/Organic chemistry/ Chemistry of the atmosphere/Energy changes/All topics/Revision

Indicator, neutralisation, microscope, specialised, antagonistic, the fire triangle, compound, conductor, quantity, newton, adaptation, classify, habitat, digest, satellite, weight, orbit, density, concentration, diffusion, explain, interpret, predict, compare, determine, anomaly, mean, valid, error, conclusion

Describe, mixture, pure, explain, sediment, percentage, define, compare, conductors, transfer, renewable, explain, excrete, estimate, gas exchange, label, reproduction, variation, function, predict, aerobic, calculate, frequency, reflection, hypothesis, plan, accurate, anomaly, range, uncertainty, error, conclu-

Sub-cellular structure, specialised, chromosome, organ system, adapted to function, cancer, communicable disease, vaccination, placebo, endothermic reaction, inverse square law, fatigue, metabolism, compound, balanced equation, isotopes, properties, bonding, structure, intermolecular force, conductivity, conservation of mass, mole, limiting reactant, concentration of a solution,

Specialised, chromosome, adapted to function, concentrated, organ system, transpiration, vaccination, placebo, peer review, fatigue, metabolism, compound, balanced equation, isotope, ionic bond, covalent bond, conservation of mass, mole, limiting reactant, concentration of a solution, neutralisation Redox, reactants and products, system, specific heat capacity, power, potential difference, ohmic conductor, internal energy, specific latent heat, pressure, plum pudding model, half-life, contamination, nuclear fission

Homeostasis, stimuli, accommodation, negative feedback mechanism, reproduction, variations, evolution, adaptation, biodiversity, greenhouse effect, sustainable, rate of reaction, catalyst, reversible reaction, fractional distillation, cracking, functional group, formulation, chromatography, gas test, photosynthesis, pollutant, potable water, life cycle assessment, recycling, contact force, vector, moment, elastic, stopping distance, transverse wave, longitudinal wave, refraction, electromagnetic spectrum, magnetic field, induced magnet, solenoid, the motor effect, solar system, star life cycle, red shift, Big Bang theory

Improve scientific literacy continually over the key stage Develop literacy including key vocabulary Develop scientific numeracy to handle numbers, manipulate equations and draw/

interpret tables and graphs Improve retention of knowledge over time by frequently revisiting content and skills acquired earlier in an academic year

Scientific literacy

Investigative skills

Numeracy

Literacy

Improve scientific literacy continually over the key stage Develop literacy including key vocabulary and the use of model answers Develop scientific numeracy to handle numbers using appropriate methods and conventions, recall and manipulate equations and draw/interpret tables and graphs Improve retention of knowledge over time by frequently revisiting content and skills acquired earlier in an academic year

Regular marking personalised for individual students to move their skill set forwards Three formal assessments each academic year

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ATTITUDE

Understanding others, behaviour and attitudes. SMSC, PHSE

The highest levels of safe practice promoted at all times by staff and students in a spirit of mutual cooperation.

Promotion of how cultural ideas can influence the extent to which scientific ideas are accepted, used and valued; both in the context of the history of science and the present.

Collaboration to ensure sensitive issues that deal with human development

RESILIENCE

Character, personal Development, wellbeing and CIAG

Strategies that develop resilience are an integral part of science lessons for all year groups, for example retrieval practice is embedded

Collaboration to ensure wellbeing issues relating to health are covered in a coherent way across the school's curriculum

Collaboration within the school and use of external opportunities to promote the huge range of career opportunities available in scienc