SCIENCE LEARNING JOURNEY

YEARS 10-11 2022-23

SCIENCE
SAMUEL WHITBREAD ACADEMY

BEST
BEDFORDSHIRE SCHOOLS TRUST

A level Sciences – Biology, Chemistry and Physics
L3 BTEC Applied Science

Other post 16 options – Apprenticeships, other A level or BTEC subjects, other training, College?

2 x Biology
2 x Chemistry
2 x Physics
exams

YEAR 11

P4 Review: Atoms and isotopes; Nuclear decay & half life
P5 Review: Acceleration, d-t & v-t graphs; Momentum; Newtons Law's, CoM & gravity
P6 Review: Waves & Electromagnetic waves; IR
P7 Review: Magnets and motors; The motor effect
C10 Review: Potable water
P2 Review: Series and parallel circuits; OHM's laws & IV graphs
C9 Review: Greenhouse gases; Atmospheric pollutants
C8 Review: Purity and formulations; Chromatography
C7 Review: Fractional Distillation; Crude Oil & Alkanes
C6 Review: Rates of reaction & activation energy
B7 Review: Genetics & natural selection; Biodiversity and human interaction
B6 Review: Endocrine system & negative feedback
B5 Review: The nervous and reproductive systems
B4 Review: Photosynthesis & Respiration; Discovery and development of drugs
B3 Review: Communicable diseases; Human defence systems and vaccination
B2 Review: The circulatory system; Digestive system, enzymes and food tests
B1 Review: Transport in cells Diffusion, osmosis and active transport; Cell structure & microscopy
P1 & 3 Review: National and global energy resources; Specific heat capacity
C5 Review: Reaction profiles and bond energies; Exothermic and endothermic reactions
C4 Review: Electrolysis; Reactivity and salts
C3 Review: Relative formula mass; Balancing equations
C2 Review: Chemical bonds, ionic, covalent and metallic
C1 Review: Atoms and nuclear radiation

YEAR 10

C9 Chemistry of the atmosphere: Greenhouse gases; Atmospheric pollutants
B5 Homeostasis & response: Homeostasis; The nervous system; Hormonal control in humans
B6 Inheritance, variation and evolution: Reproduction; Understanding genetics and evolution; Variation and evolution
Discovery and development of drugs
Human defence systems and vaccination
Communicable diseases
B3 Infection and response
C6 The Rate and Extent of Chemical Change: Reaction profiles and bond energies; Exothermic and endothermic reactions; Rates of reaction; Reversible reactions and dynamic equilibrium
C5 Energy Changes: Momentum; Forces and motion; Interactions of forces
P6 Waves: Electromagnetic waves; Scalars and vectors
P7 Magnetism and electromagnetism: The motor effect; Permanent and induced magnets
P5 Forces: Balancing equations; Relative formula mass; Moles
C3 Quantitative Chemistry
Reactions of acids
Electrolysis
Reactivity of metals & acids
C4 Chemical Changes: Response to exercise and metabolism; Respiration; Plant structure and Photosynthesis
B4 Bioenergetics: Specific heat capacity & Energy recap; Biodiversity and human interaction
Digestive system, enzymes and food tests
The circulatory system
Health and disease
B7 Ecology: Adaptations; Organisation of an ecosystem
Principles of organisation
B2 Organisation

YEAR 9

P1 Energy: Energy changes in a system and stores; National and global energy resources
P2 Electricity: Current, potential difference and resistance; Series and parallel circuits
P3 Particle model: Domestic uses and safety; Changes of state; Internal energy and energy transfers
P4 Atomic Structure: Atoms and isotopes
C1 Atomic structure & periodic table: Model of the atom; Relative atomic mass; Periodic table
C7 Organic Chemistry: Carbon compounds
C10 Using resources: Life cycle assessments and recycling; Potable water
Transport in cells Diffusion, osmosis and active transpo
Cell division and stem cells
B1 Cell biology: Cell structure, specialisation and microscopy
C2 Bonding & properties: Structure and bonding of carbon; Chemical bonds, ionic, covalent and metallic
C8 Chemical Analysis: Chromatography; Purity and formulations

welcome

Scientists have become the bearers of the torch of discovery in our quest for knowledge – Stephen Hawking