

Tudor Grange Academy Solihull

CURRICULUM MAP

Biology

KEY
STAGE

3

Y7

AUTUMN

- Life

SPRING

- What are we made of?
- You are what you eat

SUMMER

- Why do we breathe?

Y8

- Respiration
- Movement and Health

- Reproduction

- Plants

Y9

- Ecology
- Our world

- Cells

- Organisation 1 – How our body works

KEY
STAGE

4

Y10

AUTUMN

- Organisation 2 – The cardiovascular system
- Bioenergetics 1 - Respiration

SPRING

- Infections and Response

SUMMER

- Bioenergetics 2 - Photosynthesis

Y11

- Ecology 1 – Humans and the environment
- Homeostasis 1, 2, 3
- Inheritance, variation and evolution 1 - DNA

- Ecology 2 – Organisms and the environment
- Inheritance, variation & evolution 2 - Evolution

- Inheritance, variation & evolution - Genetics

KEY
STAGE

5

Y12

AUTUMN

- Biological molecules
- Cells

SPRING

- Organisms exchange substances with their environment

SUMMER

- Genetic information, variation and relationships

Y13

- Energy transfers in and between organisms

- Organisms respond to changes in their internal and external environments
- Genetics, populations, evolution and ecosystems

- The control of gene expression

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CURRICULUM MAP

Chemistry

KEY
STAGE 3

Y7

AUTUMN

- Particles

SPRING

- Elements compounds and mixtures,.

SUMMER

- Separating mixtures

Y8

- Simple chemical reactions

- Acids and alkalis

- Periodic Table

Y9

- Chemical reactions
- Earth

- Atomic structure
- Structure and bonding

- Periodic Table

KEY
STAGE 4

Y10

AUTUMN

- Quantitative chemistry (part 1)
- Chemical reactions

SPRING

- Energy Changes
- Rates and reversible reactions.

SUMMER

Organic Chemistry 1 (crude oils + fuels).

Y11

- Electrolysis
- Quantitative chemistry (part 2)

- *Organic Chemistry (separate science only)*
- Atmosphere
- Organic Analysis

- Using Resources.

KEY
STAGE 5

Y12

AUTUMN

- Atomic structure
- Amount of
- Bonding
- Energetics
- Nomenclature
- Alkanes

SPRING

- Energetics
- Kinetics
- Chemical equilibria and K_c
- Halogenoalkanes
- Alkenes
- Alcohols

SUMMER

- Oxidation, reduction and REDOX equations
- Organic analysis
- Periodicity
- Group 2 – the alkaline earth metals
- Group 7 – the halogens

Y13

- Thermodynamics
- Rate equations
- Equilibrium constant, K_p
- Optical isomerism
- Chromatography
- Aldehydes and ketones
- Carboxylic acids and derivatives
- Aromatic chemistry

- Electrode potentials and electrochemical cells
- Acids and bases
- Transition metals
- Structure determination
- Amines
- Polymers
- Amino acids, proteins and DNA

- Organic synthesis
- Nuclear magnetic resonance spectroscopy
- Properties of period 3 elements and their oxides
- Reactions of ions in aqueous solution

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CURRICULUM MAP

Physics

KEY
STAGE

3

Y7

AUTUMN

- Energy

SPRING

- Forces

SUMMER

- Motion

Y8

- Density and Matter

- Waves

- Pressure

Y9

- Electricity
- Space

- Energy crisis
- Electricity

- Particle model of matter

KEY
STAGE

4

Y10

AUTUMN

- Atomic structure and nuclear

SPRING

- Electricity

SUMMER

- Motion

Y11

- Waves
- Forces

- Magnetism & electromagnetism
- Space

- Revision

KEY
STAGE

5

Y12

AUTUMN

- Forces in Equilibrium
- Motion and Forces
- Momentum and Energy
- Particles and The Particle Model
- Quantum Physics

SPRING

- Waves
- Optics and Interference
- Materials
- Electricity

SUMMER

- Periodic Motion Part 1
- Further Electricity

Y13

- Periodic Motion Part 2
- Engineering Mechanics
- Gravitational Fields
- Electric Fields
- Capacitance
- Magnetic Fields

- Thermal Physics
- Thermodynamics
- Electromagnetic Induction
- Radiation
- Nuclear Physics

- Revision