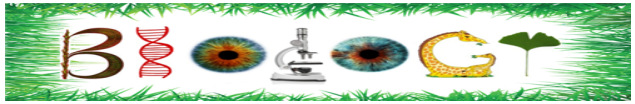



## B1 - Cell Biology

Cell structure -animal/plant, microscopes
Cell Division -mitosis, stem cells
Transport - osmosis, diffusion, active transport

## B2 - Organisation

Tissues/organs, digestive system, enzymes
Animals-blood, vessels, heart, CHD, cancer
Plant-tissues, xylem, phloem,

## B3 - Infection & Response

Non/communicable, pathogens, defence systems, vaccines, antibiotics, smoking, alcohol

## B4 - Bioenergetics

Photosynthesis -equation, factors
Respiration -aerobic, anaerobic, metabolism

## B5 - Homeostasis

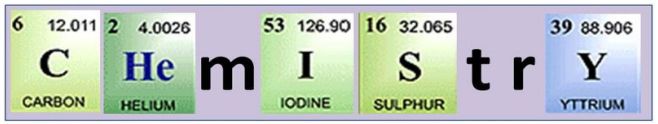
Thermoregulation, nervous system, reflex
Hormones -endocrine glands, blood glucose, menstrual cycle, negative feedback

## B6- Inheritance, variation & evolution

Reproduction –a/sexual meiosis, inheritance,
Variation & evolution - selective breeding, genetic engineering, natural selection,,
Genetics–fossils, extinction, resistant bacteria
Classification – 3 domain system

## B7- Ecology

Adaptations – competition, community, abiotic, biotic, interdependence
Organisation - food webs recycling, carbon cyce
Biodiversity – land use, deforestation, waste, global warming




## C1 - Atomic structure & Periodic Table

P,E,N Atomic mass, elements, development of atom, electronic structure, isotopes mixtures
Organization of P.T, periods, Group 1/7/0

## C2 Bonding & Structure

Ionic bond, ionic compound, dot & cross, covalent bonds, metallic, properties of Ion/Cov
Polymers, graphite, graphene, diamond,

## C3 Quantitative (calculations)

Conservation of mass, relative formula mass,
Moles, concentration, mass of product/reactant

## C4 Chemical Changes

Reactivity of metals - water, extraction, OIL RIG
Metals & acids - neutralisation, pH, salts,
Electrolysis - extraction aqueous solutions

## C5 Energy changes

Exo/endothermic - profiles, energy changes

## C6 rate & extent of chemical changes

Rate of reactions - Collison theory, catalysts
Reversible & Equilibrium - effects of Temp, conc

## C7 -Organic chemistry

Carbon Fuels - crude oil, hydrocarbons, alkanes, alkene fractional distillation cracking

## C8 Chemical analysis

Pure & impure substances, chromatography
Testing for gases - $H_2$, $O_2$, $CO_2$, $Cl_2$

## C9 The atmosphere

% of gases, early atmosphere, $O_2$ $CO_2$ increased
Greenhouse gases - causes, climate change, carbon footprint reduction.
Pollution - gases, causes, effects, acid rain

## C10 using resources

Potable water - finite resources, renewable resource
water treatment, life cycle assessment


## P1 Energy

Energy transfers - 9 stores, KE= ½ m $v^2$ P = E/t
EE = ½ KE $e^2$ GPE = m h g E = m c temp
Efficiency, renewable, non renewable (C,O,G)

## P2 Electricity

Symbols, current, voltage, potential difference charge, resistance, resistors, Series/parallel
AC/DC, plugs, appliances. P = V x I. P = $I^2$ x R
E = P x t E = Q x V National grid

## P3 Particle Model of matter

States=S/L/G, changes of state, Density D = m/V
Specific heat capacity, specific latent heat
E = m x c x Temp. E = m L. Gas pressure

## P4 Atomic Structure

P,E,N, isotopes, atomic mass, Bohr, Chadwick, plum pudding, scattering experiment
Nuclear radiation, half life, radioactivity

## P5 Forces

Scalar, vector, contact, non-contact, gravity resultant foces, Work done W=D x F, Elasticity, spring constant, F=k x E. Motion, displacement, speed, s=d/t
Velocity, acceleration, Newtons 3 laws, momentum
Stopping breaking distances

## P6 Waves

Transverse, longitudinal, amplitude, wavelength, frequency, period, Electromagnetic spectrum, uses, dangers, oscillations,

## P7 Magnetism & Electromagnetism

Poles, permanent/induced magnets, magnetic fields, Motor effect, electromagnet, Flemings left hand rule