Combined Science Unit 1 Revision list

Biology Unit 1

- Microscopes (RP)
- Animal and plant cells
- Eukaryotic and prokaryotic cells
- Specialised animal and plant cells
- Diffusion
- Osmosis (RP)
- Active transport
- Exchange of materials

- Cell division
- Growth and differentiation
- Stem cells
- Problems with stem cells

- Tissues and organs
- Digestive system
- Chemistry of food (RP)
- Catalysts and enzymes
- Factors affecting enzymes (RP)
- Making digestion more efficient – Bile etc.

- Blood
- Blood vessels
- The heart
- Problems with the heart – pacemakers etc.
- Breathing and gas exchange
- Tissues and organs in plants
- Transport systems in plants
- Evaporation and transpiration

- Health and disease
- Pathogens
- Preventing infection
- Viral diseases
- Bacterial diseases
- Diseases caused by fungi and protists
- Human defences

- Vaccination
- Antibiotics and painkillers
- Discovering and developing drugs

- Non communicable diseases
- Cancer
- Smoking and disease
- Diet and exercise
- Alcohol and other carcinogens

- Photosynthesis
- Factors affecting photosynthesis (RP)
- Plants using glucose
- Maximising photosynthesis

- Aerobic respiration
- Response to exercise
- Anaerobic respiration
- Metabolism and the liver

Chemistry Unit 1

- Atoms
- Chemical equations
- Ways of separating mixtures
- History of the atom
- Structure of the atom
- Ions, atoms and isotopes
- Electronic structures

- History of the periodic table
- Electronic structures and the periodic table
- Group 1 metals
- Group 7 non-metals
- Explaining trends in reactivity

- States of matter
- Atoms into ions
- Ionic bonding
- Giant ionic structures
- Covalent bonding
- Structure of simple molecules
- Giant covalent structures
- Fullerenes and graphene
- Metallic bonding
- Giant metallic structures

- Moles and relative masses
- Calculating reacting masses
- Balancing equations using masses
- Limiting reactants
- Expressing concentrations

- The reactivity series
- Displacement reactions
- Extracting metals
- Making salts (RP)
- pH scale and neutralisation
- Strong and weak acids

- Electrolysis (RP)
- Changes that occur at the electrodes
- Extraction of aluminium and (aq) solutions

- Exothermic and endothermic reactions (RP)
- Using energy transfers from reactions
- Reaction profiles
- Bond energy calculations

Physics Unit 1

- Changes in energy stores
- Conservation of energy
- Energy and work
- Gravitational potential energy
- Kinetic energy and elastic energy stores
- Energy dissipation
- Energy and efficiency
- Electrical appliances
- Energy and power

- Conduction
- Specific heat capacity
- Heating and insulating buildings

- Energy demand
- Energy from wind and water
- Energy from the Sun and the Earth
- Energy and the environment
- Energy issues

- Current and charge
- Potential difference and resistance
- Electrical component characteristics
- Series and parallel circuits

- Alternating current
- Cables and plugs
- Electrical power and potential difference
- Electrical current and energy transfer
- Appliances and efficiency