

Additional Science Revision Checklist

Biology B2

- Development of microscope
- Microbes
- Plant and animal cell structure
- Structure of Yeast cell
- Structure of a virus
- Proteins and their functions
- Enzymes – optimal conditions and active site
- Digestive enzymes
- Structure of DNA including base pairing
- Mitosis and Meiosis
- Growth patterns in animals and plants
- Stem cells – uses and ethical issues
- Visking tubing as a model of diffusion and link to cell membrane
- Osmosis
- Active transport
- Conditions needed for photosynthesis
- Explain photosynthesis including word equation
- Uses of glucose in plants
- Aerobic respiration
- Anaerobic respiration
- Know that digestion is the breaking down of large molecules into small molecules
- Role of enzymes in digestion
- Visking tubing as a model gut
- Know what proteins, fats and starch are broken down into
- Label parts of the digestive system
- Peristalsis
- Know that fats and carbohydrates provide energy for the body
- Label parts of the Respiratory system
- Model lung
- Know function of mucus and cilia
- Effects of smoking
- Quadrats and transects
- Principle of sampling
- Biodiversity
- Biological control agents

Chemistry C2

- Mass and charges on proton, neutrons and electrons
- Electron shells
- Atomic and mass numbers
- Isotopes
- Reaction of group 1 metals with, Oxygen, water and group 7 elements
- Reaction of iron with group 7 elements
- Group 7 displacement reactions
- Flame test for Na, Li and K
- Silver nitrate test for Cl^- , Br^- and I^-
- Describe the structure and properties of ionic and simple molecular covalent substances, metallic and Giant Covalent structures.
- Sea of electron model of a metal
- Draw dot and cross diagrams of ionic and covalent bonding

- Describe structures of diamond, graphite and nanotubes.
- SMART materials and uses
- Explain how rates are affected by concentration, temperature, particle size and a catalyst
- Fractional distillation of crude oil
- Alkanes and alkenes
- Addition reactions
- Additional polymerisation of alkenes to form polymers and repeating units
- Thermoplastics and thermosets
- Calculate Mr values and formula of compounds
- % composition and yield
- Calculate masses from equations
- Bond energy calculations
- Treatment of water supplies
- Desalination of sea water
- Distillation
- Chromatography and Rf values
- Solubility curves
- Hardness of water and its treatment.
- Health benefits of hard water

Physics P2

- Measuring voltages and currents in circuits
- Series and parallel circuits
- Understand relationships between current, voltage, resistance and power and use equations in calculations.
- Inertia
- Momentum
- Momentum = Mass x velocity
- Weight and mass □ Terminal speed □ Newton's 3rd law
- Work = Force x distance
- Kinetic and potential energy
- Crumple zones, stopping distances and seat belts
- Radioactive decay and decay curves
- Becquerel
- Half-life calculations
- Uses of radioactive materials
- Alpha, beta and gamma radiations
- Nucleon number (A), proton number (Z) and isotopes.
- Nuclear symbols related to nuclear transformations
- Nuclear equations.
- Chain reaction
- Role of moderator and control rods in Nuclear Fusion reactor
- High energy collisions between light nuclei – hydrogen
- Containment problems in fission and fusion reactors.