

CE13+ Science Revision Checklist

Biology

- Photosynthesis
 - Equation for photosynthesis
 - Adaptations of the leaf for photosynthesis
 - Factors affecting the rate of photosynthesis
 - Testing for starch in a leaf
 - Experiment for testing the rate of photosynthesis
 - Role of magnesium and nitrates in the growth of plants
 - The carbon cycle
- Reproduction in plants
 - Structure of a flowering plant
 - Stages of reproduction in a flowering plant
 - Pollination
 - Fertilisation
 - Seed dispersal
 - Germination
- Reproduction in animals
 - Structures of the male and female reproductive systems
 - Structures and adaptations of sperm and eggs cells
 - Fertilisation and the development of the fetus (including the function of the placenta and umbilical cord)
 - Birth
 - Puberty in boys and girls
 - Stages of the menstrual cycle
- Nutrition and digestion
 - Names and functions of the substances required for a balanced diet (including examples of foods containing each substance)
 - The tests for starch and glucose
 - Experiment to determine the amount of energy in different foods
 - Structure of the digestive system (including adaptations of the small intestine and the role of enzymes)

Chemistry

- Atoms, elements and compounds
 - Diagrams for solids, liquids and gases
 - Properties of solids, liquids and gases (including movement, arrangement, intermolecular forces and energy)
 - Diffusion and Brownian motion
 - Changes of state (including heating curves)
- Pure and impure substances
 - Filtration
 - Chromatography
 - Distillation
 - Crystallisation
 - How to identify a pure/impure substance using melting/boiling points
 - Solubility
- Acids and alkalis
 - pH scale
 - Indicators (including Universal Indicator, litmus paper and indicators made from plants)
- Chemical reactions
 - The difference between physical and chemical changes

Physics

- Equations
 - $Pressure = \frac{force}{area}$
 - $Speed = \frac{distance}{time}$
 - $Density = \frac{mass}{volume}$
 - $Weight = mass \times gravitational\ field\ strength$
 - Units for all of the quantities above
- Energy
 - Energy resources (including identifying renewable vs. non-renewable and giving advantages/disadvantages of each)
 - Energy stores and transfers
 - The law of conservation of energy (including the idea of dissipation to the surroundings)
- Forces and pressure
 - Pressure (including how it is used in everyday life)
 - Calculations
- Density
 - Calculations
 - Measuring density of regularly and irregularly shaped objects
 - Calculating volume
 - Floating and sinking
- Sound waves
 - How sound travels (including relative speed in a solid, liquid and gas)
 - The effect of increasing frequency
 - The effect of increasing amplitude
 - Experiment for measuring the speed of sound in air
- Light waves
 - How light travels
 - Reflection (including periscopes)
 - Refraction
 - Dispersion
 - Opaque, translucent and transparent objects
 - The different colours of light