

## Introductory Unit to Science

- Hazards, risks and safety
- Key laboratory equipment
- Making measurements and appropriate equipment
- Variables
- Method writing
- Results table - (anomalous, mean, uncertainty)
- Errors – types / sources of errors
- Graph - (reading, describing, constructing)
- Reliability, Reproducible

## Forces (Part 1)

- Measuring forces
- Contact and non-contact forces
- Balanced and unbalanced forces
- Speed
- Distance/Time Graphs
- Gravity

RP 1

## Matter (Part 1)

- The Particle Model and States of Matter
- Changing States
- Diffusion
- Gas Pressure
- Inside particles
- Pure substances and mixtures
- Solutions and solubility
- Filtration
- Chromatography
- Evaporation and distillation

RP 2

RP 3

RP 4

## Required Practical

**RP1 – Investigating the speed of objects**  
(Focus - Variables / method writing)

**RP2 - Separating salt from rock salt**  
(Focus – method writing)

**RP3 - Chromatography**  
(Focus - Planning / method writing)

**RP4 - Distillation**  
(Focus - Analysis)

**RP5 - Microscopy**  
(Focus - method writing)

**RP6 - Energy content in food**  
(Focus - Obtaining evidence / evaluation)

**RP7 - Investigating plant distribution**  
(Focus - Analysis)

## Earth (Part 1)

- Structure of Earth
- Sedimentary Rocks
- Igneous and Metamorphic Rocks
- Rock Cycle
- Ceramics
- The Night Sky
- The Solar System
- The Earth
- The Moon and changing ideas

## Energy (Part 1)

- Food and Fuels
- Energy Resources
- Energy and Power
- Energy Stores
- Dissipated Energy
- Energy Efficiency

RP 6

## Organisms (Part 1)

- Levels of Organisation
- The Skeleton
- Joints and Movement
- Muscles
- Observing Cells
- Animal and Plant Cells
- Specialised Cells
- Movement of substances
- Unicellular Organisms

RP 5

## Ecosystems (Part 1)

- Food chains and food webs
- Disruption to food chains and food webs
- Ecosystems
- Competition
- Flowers and Pollination
- Fertilisation and Germination
- Seed Dispersal

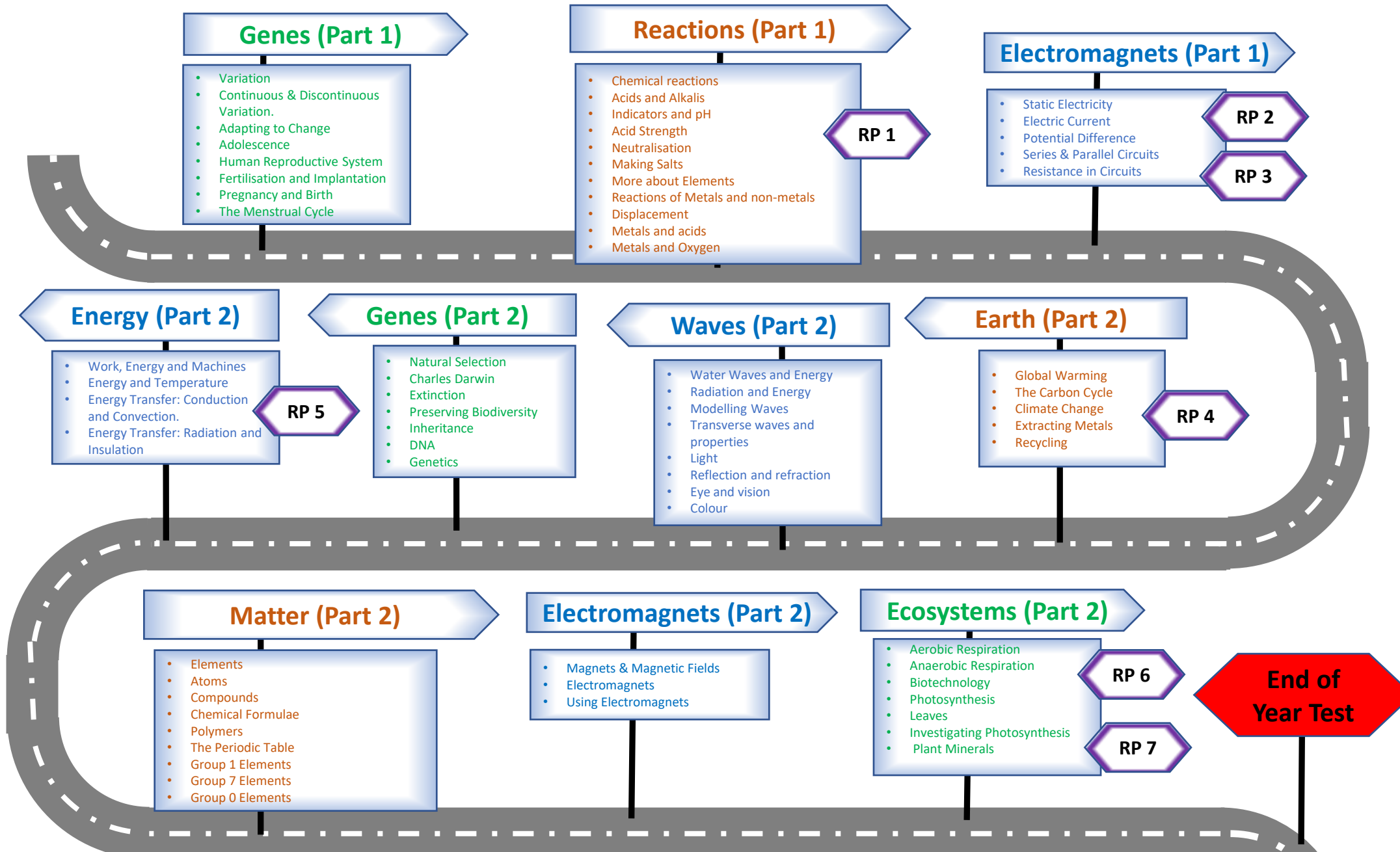
RP 7

## Waves (Part 1)

- Sound Waves and Speed
- Loudness and Amplitude
- Frequency and Pitch
- The Ear and Hearing

**End of Year Test**





**Required Practical**

**RP1 - Reactions of metals with acids**  
(Focus - Variables and risk assessment)

**RP2 - Series and parallel circuits**  
(Focus – Analysis)

**RP3 - Resistance of a wire**  
(Focus - Analysis)

**RP4 - Extraction of metals**  
(Focus – Risk assessment)

**RP5 - Energy Transfer - Insulation**  
(Focus - Risk assessment / evaluation)

**RP6 - Investigating the effects of exercise on breathing rates**  
(Focus - variables, analysis and evaluation)

**RP7 - Investigating photosynthesis**  
(Focus -Evaluation)

## Reactions (Part 2)

- Atoms in Chemical Reactions
- Combustion
- Thermal Decomposition
- Conservation of Mass
- Endothermic and Exothermic Reactions
- Energy Level Diagrams
- Bond Energies

RP 1

## Organisms (Part 2)

- The Breathing System
- Gas Exchange
- Drugs
- Alcohol
- Smoking
- Nutrients
- Food Tests
- Diet
- Digestive System
- Enzymes and Digestion

RP 2

RP 3

## Forces (Part 2)

- Friction and Drag
- Squashing and Stretching
- Turning Forces
- Pressure in Gases
- Pressure in Liquids
- Stress on Solids

RP 4

RP 5

## P1 - Fundamentals of Physics

- Energy stores
- Kinetic energy
- Gravitational potential energy
- Energy resources
- Work
- Power
- Efficiency
- Conservation of energy

## C1 - Fundamentals of Chemistry

- Atoms, Elements, Compounds and Mixtures
- Separating Mixtures - Solids
- Separating Mixtures - Liquids
- Separating Mixtures – Soluble Compounds
- Evolution of the Atomic Model
- The Structure of an Atom
- Electronic Structure
- Development of the Periodic Table
- Group 0 and Group 1
- Group 7

## B1 Fundamentals of Biology

- Cell structure
- Microscopy
- Specialised cells and differentiation
- Mitosis
- Stem cells
- Diffusion
- Osmosis
- tissues (osmosis)
- Active Transport
- Exchange surfaces

RP 6

RP 7

End of  
Year Test

## Required Practical

**RP1 - Endothermic and exothermic reactions**  
(Focus - Results tables)

**RP2 - Food tests**  
(Focus – Method writing)

**RP3 - Investigating the action of carbohydrase on the breakdown of starch**  
(Focus - Evaluation)

**RP4 - Extension of a spring**  
(Focus – variables, prediction and analysis)

**RP5 - Stresses on solids**  
(Focus - Analysis)

**RP6 - use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.**

**RP7 - investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.**

