

APPENDIX 4: TOPICS FOR THE YEARS 8 TO 10 SCIENCE CURRICULUM

The topics for Year 7 Science were never listed and distributed to the whole department, as Dennis taught all except one of the Year 7 classes. Dennis and Jenny, who taught the other Year 7 class, developed the sequence of Year 7 topics between them.

Year 8 Science Overview

Chemistry

Metals: 5 Properties, reactivity series, displacement reactions, corrosion, bonding.

Non-metals: Properties, comparison to metals.

Chemical and physical reactions.

Rates of reaction: temperature, concentration and catalysts.

Consumer chemistry project

Physics

Energy forms: heat, light, nuclear, chemical, sound, etc.

Flame tests, spectrometry.

Potential and kinetic.

Energy converters.

Mass / energy conservation.

Uses of electrical energy.

Electric circuits / diagrams / symbols.

Uses of multimeters.

Series and parallel.

Ohm's law.

Circuit breakers / fuses / power meters

Biology

Human body systems.

Main focus on reproduction, respiratory, circulatory, digestive.

Minor focus on skeletal, muscular, nervous, excretory, endocrine

Geology

Minerals and ores.

Colour, cleavage, crystal, lustre, streak, Moh's hardness.

Mining methods.

Mineral processing.

Distribution of metals in Tasmania.

Environmental impact of mining.

Prospecting methods.

Geological mapping

Year 9 Science Overview

Chemistry

Periodic table trends

Electron configuration

APPENDIX 4

Ion formation / valencies
Ionic and covalent bonds
Solubility reactions / rules

Physics

Sun / stars facts and figures, structure, life cycle
Solar system / Milky Way information
Other objects in the Universe
Space exploration
Planetarium visit

Biology

Photosynthesis
Nitrogen / carbon / water cycles
Food chains / webs
Interdependence in habitats
Forest ecology

Geology

Geological timeline
Radioactive dating
Contour mapping
Dipping beds
Geological cross section
Correlation

Year 10 Science Overview

Review

Review Year 9 chemistry for 2 weeks
Writing formulae / balancing equations

Chemistry

Mole / molarity calculations
Titrations (dilute / concentrated vs. strong / weak)
Alternative work:
– Volatility of different fuels
– Thermal capacity of different fuels
– Energy content of different foods
– Alcohol distillation
– Calorimeter work

Physics

Force / mass / weight
Vector diagram (right angled)
Equations of motion (conversion of units)