Year 11

Subject Name:	Science

Key Stage 4 - GCSE

Curriculum Intent Statement

As Science teachers, it is our intent is to provide a science curriculum, which will develop scientific knowledge, skills and conceptual understanding through the disciplines of Biology, Chemistry and Physics. Our teaching of science must encourage students to be scientifically literate, think critically about the world, so that in their futures they will recognise the impact of science on their everyday lives.

Autumn Term 1

- Principles of homeostasis
- The structure and function of the nervous system
- Reflex actions
- RP: Investigate a factor of human reaction time
- The brain (T)
- The eye (T)
- Common problems of the eye (T)
- End of topic test

- Principles of hormonal control
- The control of blood glucose levels
- Treating diabetes
- Negative feedback
- Human reproduction
- Hormones and the menstrual cycle
- The artificial control of fertility
- Infertility treatments
- Plant hormones and response (T)
- Using plant hormones (T)
- RP: Investigate the effect of light or gravity on the growth of newly germinated seeds
- End of topic test

- Variation
- Evolution by natural selection
- Selective breeding
- Genetic engineering
- Cloning (T)
- Adult cell cloning (T)
- Ethics of genetic technologies
- End of topic test

- History of genetics (T)
- Theories of evolution (T)
- Darwin's idea's (T)
- Evolution and speciation (T)
- Evidence for evolution
- Fossils and extinction
- Antibiotic resistant bacteria
- Classification
- New systems of classification
- End of topic test

Autumn Term 2

- Feeding relationships
- Materials cycling
- The carbon cycle
- Rates of decomposition (T)
- RP: Investigate the effect of temperature on the rate of decay of fresh milk
- End of topic test

- History of our atmosphere
- Our evolving atmosphere
- The human population explosion
- Land and water pollution
- Air pollution
- Deforestation and peat destruction
- Greenhouse gases
- Global warming & Global climate change
- The impact of change (T)
- Maintaining biodiversity
- Trophic levels and biomass (T)
- Biomass transfers (T)
- Factors affecting food security (T)
- Making food production efficient (T)
- Sustainable food production (T)
- End of topic test

- Finite and renewable resources
- Portable water
- Treating waste water
- Extracting metals from ores
- Life cycle assessments
- Reduce, reuse and recycle
- End of topic test

Spring Term 1
• Rusting (T) • Useful alloys (T) • The properties of polymers (T) • Glass, ceramics composite (T) • Making ammonia – the Haber process (T) • Making fertilisers in the lab (T) • End of topic test
Spring Term 2
Summer Term 1
Summer Term 2