Year 11 Parent/Career subject information - subject guide to success

Science (combined and Triple)

Course Breakdown

Combined Science (most students take this)

Students take 6 1 hours and ten minute exam. There are two papers in each of biology, chemistry and Physics. Each paper is out of sixty marks. This means students will get a total score out of 360 marks. This score will be used to decide their grade.

Grades are award from 1-1, 2-1, 2-2 up to 8-8, 8-9, 9-9. This is because the combined science GCSE is equivalent to two full GCSEs. A 4-4 is considered a passing grade in science, but a 4-3 is not.

The content on each paper is as follows:

Biology paper 1:
Topic 1: Key Concepts in Biology*
Topic 2: Cells and Control
Topic 3: Genetics
Topic 4: Natural Selection and Genetic Modification
Topic 5: Health, Disease and the Development of Medicine

Biology paper 2:
Topic 1: Key concepts in biology*
Topic 6: Plant Structures and their Functions
Topic 7: Animal Coordination, Control and Homeostasis
Topic 8: Gas Exchange and Transport in Animals
Topic 9: Ecosystems and Material Cycles

Chemistry paper 1
Topic 1: States of Matters
Topic 2: Methods of Separating and Purifying Substances
Topic 3: Atomic Structure*
Topic 4 The Periodic Table*
Topic 5: Ionic Bonding*
Topic 6: Covalent bonding*
Topic 7: Types of Substance*
Topic 8: Acids and Alkalis
Topic 9: Calculations involving Masses*
Topic 10: Electrolytic Processes*
Topic 11: Obtaining and using Metals
Topic 12: Reversible Reactions and Equilibria

Chemistry Paper 2
Topics 3, 4, 5, 6, 7 and 9 are also examined on this paper.
Topic 13: Groups in the Periodic table
Topic 14: Rates of Reaction
Topic 15: Heat Energy changes in Chemical Reactions
Topic 16: Fuels
Topic 17: Earth and Atmospheric Science.

Physics paper 1:
Topic 1: Motion
Topic 2: Forces and Motion
Topic 3: Conservation of Energy
Topic 4: Waves
Topic 5: The Electromagnetic Spectrum
Topic 6: Radioactivity

Physics paper 2:
Topic 7: Energy- Forces Doing Work
Topic 8: Forces and their Effects
Topic 9: Electricity and Circuits
Topic 10: Magnetism and the motor effect
Topic 11: Electromagnetic induction
Topic 12: Particle Model
Topic 13 Forces and Matter

Triple Science

Triple science students take 3 separate GCSE qualifications in Biology, Chemistry and Physics. Each GCSE is requires 2 1 hour and 45 minute exams. In total, this means that the students will sit six exams for science

The content on the paper is similar to combined science, with the following topics added.

Biology- no new topics

Chemistry paper 1:
Transition Metals, Alloys and Corrosion.
Quantitative Analysis
Dynamic Equilibria, calculations involving volumes of gases
Chemical Cells and Fuel Cells

Chemistry paper 2:
Hydrocarbons
Alcohols and Carboxylic acids
Polymers
Qualitative Analysis: Tests for Ions
Bulk and Surface Properties of Matter, including Nanoparticles.

Physics paper 1:
Astrophysics

Physics paper 2:
Static Electricity.

Revision Resources

For each of these resources, please remember that the exam board we are studying is Edexcel.

Free websites:

Educake: https://www.educake.co.uk/forstudents

Seneca: https://senecalearning.com/en-GB/
Free science Lessons: https://www.youtube.com/c/Freesciencelessons
BBC bitesize: https://www.bbc.co.uk/bitesize/examspecs/zqkww6f

Paid Websites
Tassomai: https://www.tassomai.com/

Revision books/ flashcards

Edexcel revision guides, work books and flash cards can all be found here:

https://www.cgpbooks.co.uk/secondary-books/gcse/science?sort=best_selling&quantity=36&page=1&view=grid&currentFilter=KeyStage_59&filter_key%20stage=KeyStage_59&filter_exam%20board=ExamBoard_143%2CExamBoard_284

Revision Strategies

There are five stages to effective revision in science

Stage 1: Identify Gaps- A student she find what they don't know in a topic by doing a short quiz
Stage 2: Understanding- A student fills in these gaps by working with a revision guide, online videos or support from their teacher
Stage 3: remembering. A student uses flashcards and other memory techniques to make sure they can always remember the topic
Stage 4: Retest. A student repeats the short quiz to make sure they have understood what they have learnt
Stage five: practice. A student completes many exam questions to practice applying their new knowledge to their exams.

Intervention/Catch up Sessions and Support

Science revisions runs on a Tuesday after school. Some students will also be invited to before school revision sessions on a Thursday.
Students also work from booklets in class. If students are absent or miss lessons for any reason, they are able to take these home to catch up on what they missed.