

Science GCSE 2021 pupil guidance

Exam board: Edexcel

Over the coming weeks Y11 need to be revising their science work.

The below resources have been uploaded onto Teams or classcharts by class teachers. All pupils know how to access these 2 platforms.

As time progresses more information relating to the content of the low stakes assessments and paper 2 Timed assessment will be sent to pupils.

Any concerns please do not hesitate to contact the class teacher or Mrs Shore (Head of Science) : e.shore@bishopchalloner.bham.sch.uk

Resource	How resource can be used
Mock sets 1 and 2 (provided by class teacher through Teams or classcharts)	<ul style="list-style-type: none">• 2 sets of practice papers for you to work through.• Check the numbers of marks awarded for each question eg. 2 marks = 2 pieces of information.• Use the markscheme to check your answers.• When you come across a question you do not understand spend time revising that section of the course again.
Edexcel 9-1 GCSE science revision pack v2 (provided by class teacher through Teams or classcharts)	<ul style="list-style-type: none">• This covers the complete course for all 3 sciences.• Video links to help your understanding.• Check your understanding by answering the Quick fire questions.
Core practical revision (provided by class teacher through Teams or classcharts)	<ul style="list-style-type: none">• Use the images and information on this resource to remind yourself of all the core practicals you need to be familiar with.
https://senecalearning.com/en-GB/	<ul style="list-style-type: none">• Information and quizzes covering the whole course.• Choose the correct tier
https://www.physicsandmathstutor.com/	<ul style="list-style-type: none">• Past papers• Revision questions and notes

Science assessment timetables

Monday 26th April Period 2 – Science **BIOLOGY PAPER 1**

11x1 = Osborne
11x2 = Ram
11x3 = Mayor
11x4 = Shore
11y1 = Coughlan-J
11y2 = Jameson
11y3 = Sutton
11w1 = Cunnane
11w2 = Akhtar

Wednesday 28th April Period 1 – Science (x-band only) **CHEMISTRY PAPER 1**

11x1 = Osborne
11x2 = Akhtar
11x3 = Sutton
11x4 = Coughlan-J

Thursday 29th April Period 2 – Science **PHYSICS PAPER 1**

11x1 = Sutton
11x2 = Akhtar
11x3 = Shore
11x4 = Jones
11y1 = Brown C
11y2 = Jameson
11y3 = Start
11w1 = Wilson R
11w2 = Bissett

Friday 30th April Period 1 – Science (y and w bands only) **CHEMISTRY PAPER 1**

11y1 = Brown C
11y2 = Wilson R
11y3 = Mayor
11w1 = Cunnane
11w2 = Beard
11w1 = Giubertoni
11w2 = Brown C

Week of 4th May : Low stakes assessment paper 1 content.

Time: about 30 mins but pupils can take as much of the lesson time as they like.

Revision guides, exercise books, revision notes etc are allowed.

The content of the assessment will be shared with pupils after Easter.

Tuesday 18th May Period 3 – Science (x-band only) BIOLOGY PAPER 2

11x1 = Osborne

11x2 = Ram

11x3 = Sutton

11x4 = Shore

Tuesday 18th May Period 4 – Science (y and w bands only) BIOLOGY PAPER 2

11y1 = Coughlan-J

11y2 = Jameson

11y3 = Sutton

11w1 = Ram

11w2 = Beard

Wednesday 19th May Period 1 – Science (x-band only) CHEMISTRY PAPER 2

11x1 = Start

11x2 = Ram

11x3 = Sutton

11x4 = Coughlan-J

Thursday 20th May Period 1 – Science (y and w bands only) CHEMISTRY PAPER 2

11y1 = Brown C

11y2 = Jones

11y3 = Start

11w1 = Ram

11w2 = Akhtar

Friday 21st May Period 2 – Science (x-band only) PHYSICS PAPER 2

11x1 = Sutton

11x2 = Akhtar

11x3 = Mayor

11x4 = Coughlan-J

Friday 21st May Period 4 – Science (y and w bands only) PHYSICS PAPER 2

11y1 = Lindow

11y2 = Jameson

11y3 = Mayor

11w1 = Giubertoni

11w2 = Bissett

Week of 24th May : Low stakes assessment paper 2 content.

Time: about 30 mins but pupils can take as much of the lesson time as they like.

Revision guides, exercise books, revision notes etc are allowed.

The content of the assessment will be shared with pupils after Easter.

Revision lists for paper 1 Timed assessment

Combined science

Biology

FOUNDATION

Combined Science Paper 1

Foundation

Content	Specification Range
Cell structures, microscopy and magnification	1.1 to 1.6
Enzymes	1.7 to 1.12
Growth	2.1 to 2.9
The nervous system	2.13 to 2.14
DNA and genetic inheritance	3.3 to 3.16
Evolution	4.2 to 4.5

Topic 5 is not included.

Combined science

Biology

HIGHER

Higher

Content	Specification Range
Cell structures, microscopy and magnification	1.1 to 1.6
Growth	2.1 to 2.9
The nervous system	2.13 to 2.14
DNA and genetic inheritance	3.3 to 3.16
Evolution	4.2 to 4.5
Genetic manipulation and modification	4.10 to 4.14

Topic 5 is not included.

Combined science

Chemistry

FOUNDATION

- The periodic table
- Protons, neutrons and electrons
- Isotopes
- Chromatography
- Precipitation
- Electrolysis (you do not need to learn the copper sulfate core practical)
- Relative formula mass
- Balancing equations
- Gas tests
- Different properties of differently bonded substances
- Empirical formula
- Dot and cross diagrams
- Metal extraction

Combined science

Chemistry

HIGHER

- Empirical formula calculations
- Gas tests
- Properties of Ionic and covalent bonded substances
- Dot and cross diagrams
- Potable water
- Changes of state
- Cooling curve
- Electrolysis of molten substances – you do not need to know about electrolysis of solutions. You also do not need to learn the copper sulfate core practical.
- Calculations from balanced equations
- Concentration calculations
- pH and indicators
- equilibrium
- extraction of metals

Combined science

Physics

FOUNDATION

- The structure of the atom
- The electromagnetic spectrum
- Typical speed values
- Gravitational potential energy
- Energy transfer diagrams and efficiency
- Two types of wave
- Braking distances and interpreting graphs
- Advantages and disadvantages of ways to generate electricity

Combined science

Physics

Higher

- Reaction time practical
- Kinetic energy and energy changes
- Investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid (Core practical)
- Calculating force and acceleration
- Velocity time graphs
- Momentum

Separate Sciences Paper 1 revision guidance

Biology

HIGHER

- Enzymes and the factors effecting enzymes (Topic 1)
- Cells and their sub-cellular structures, Specialised cells (Topic 1)
- DNA (Topic 3)
- Natural selection (Topic 4)
- Genetics and Genetic diagrams (Topic 3)
- Mitosis (Topic 2)
- Meiosis (Topic 3)
- Neurones and reflex arc (Topic 2)
- Protein Synthesis (Topic 3)
- Mutations (Topic 3)

Separate Sciences

FOUNDATION

- Natural selection (Topic 4).
- Cells and their sub-cellular structures, Specialised cells (Topic 1)
- Cell size (Topic 1)
- DNA (Topic 3)
- Genetics and Genetic diagrams (Topic 3)
- Enzymes and factors (Topic 1)
- Mitosis (Topic 2)
- Stem cells (Topic 2)
- Nervous system; Neurones and reflex arc (Topic 2)
- Mutations and proteins (Topic 3)
- Microscopes; Light and electron microscopes (Topic 1).

Separate Sciences

Chemistry

HIGHER

- Changes of state
- Separation techniques
- Atomic Structure and formation of ions
- Empirical formula
- Mass in reactions
- Concentrations
- Isotopes
- Solubility of compounds
- Acids and Indicators
- Transition Metals
- Titrations
- Equilibria and changing the position of the equilibrium

Separate Sciences

FOUNDATION

- The periodic table
- Protons, neutrons and electrons
- Isotopes
- Separation techniques and distillation
- Electrolysis of molten substances
- State symbols
- Particles and changes of state
- Empirical formula
- Dot and cross diagrams
- Thermal decomposition
- Metals and their reactions with acids
- Properties of transition metals and group 1 metals.

Separate Sciences

Physics

HIGHER

- Evidence for the big bang theory
- Ultrasound and its uses
- Convex lens
- Velocity – time graphs
- Newton's 1st and 2nd Law of Motion
- Nuclear decay and half – life
- Evolution of stars
- Absorption and emission of thermal radiation

Separate Sciences

Physics

Foundation

- Calculating resultant forces and how they affect motion
- Distance - time graphs
- Wave characteristics
- Star formation
- Energy transfers and efficiency
- Electromagnetic Waves
- Colour and absorption of thermal energy