

## How to succeed in science?

1. Homework will be set weekly via EDULINK.
  - Teachers will set HW weekly on SPARX SCIENCE
  - The topics will be set based on your gaps and preparing you for your upcoming exams.
  - The topics also work to improve recall.
  - You **MUST** aim to get a 100% completion.
2. Reteach lessons will happen fortnightly where a 'gap' has been identified and the teacher will 'reteach' and 'extend' pupils. Later pupils will be retested.

## Personalised Revision: How to Revise in Science. (30 minute chunks)

### Step 1: Know your Exam Board and GCSE:

- The exam board we use in science is AQA.

There are a few varieties of GCSES in science and it is important that you know which one you are taking.

- Separate Science
- Combined Science Trilogy Higher
- Combined Science Trilogy Foundation

### Step 2: Knowing where your 'gaps' are:

- Your teacher will provide you with a revision booklet that contains all the topics across all six papers. Your teacher can highlight the weaker areas. (Given at parents evening)

### Step 3: How to address the 'gap':

- Select topic you are weakest on.
- Find information and produce a *mind map*, *flash cards* or *1 page of notes* using the revision booklet. Choose what works best for you, notes or videos to find the **information**.

## Paper 1

### 1. Cell Biology

- Cell structure (animal, plant, bacterial)
- Specialised cells
- Microscopy (basic calculations)
- Cell division (mitosis)
- Stem cells (uses and ethics)
- Transport in cells: diffusion, osmosis, active transport



Notes



Videos



Flashcards

**Step 4:** Test yourself on the topic you have just found out about. This can be done by using the flashcards link on the booklet or by using the independent learning section on sparx science.

### Paper 1

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Flashcards

### Independent Learning

Previous tasks

#### Personal practice

Let Sparx choose practice questions for you, based on what you've done in your homework.

[Start new >](#)

#### My Flashcards

Practise key facts based on your homeworks

[Practise Flashcards >](#)

Improving

Strong

1

0

#### Choose a topic

Search topics:  [Q](#) Level: **Level 2** (Default) Curriculum: AQA GCSE

^ Biology

v 4.1: Cell biology

[Flashcards >](#) [Questions >](#)

**Step 5:** Repeat with a different topic next week.

**BIOLOGY**

**Paper 1**

**1. Cell Biology**

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Notes



Videos



Flashcards

**2. Organisation**

- Digestive system and enzymes
- Heart and blood vessels
- Blood components
- Coronary heart disease
- Plant tissues (xylem and phloem)
- Transpiration



Notes



Videos



Flashcards

**3. Infection and Response**

- Types of pathogens
- Communicable and non-communicable disease
- Human defence systems
- Vaccination
- Antibiotics and painkillers
- Drug development



Notes



Videos



Flashcards

**4. Bioenergetics**

- Photosynthesis
- Factors affecting photosynthesis
- Respiration
- Exercise and metabolism
- Energy transfers



Notes



Videos



Flashcards

**Paper 2**

**5. Homeostasis and Response**

- Nervous system and reflexes
- Hormones and endocrine system
- Menstrual cycle
- Contraception
- Fertility treatment (IVF)
- Blood glucose control
- Thyroxine and adrenaline



Notes



Videos



Flashcards

**6. Inheritance, Variation and Evolution**

- DNA, genes, chromosomes
- Sexual and asexual reproduction
- Genetic inheritance
- Variation
- Evolution and natural selection
- Selective breeding
- Genetic engineering
- Extinction



Notes



Videos



Flashcards

## 7. Ecology

- Levels of organisation
- Food chains and webs
- Decomposition
- Carbon cycle
- Water cycle
- Biodiversity
- Human impacts



Notes



Videos



Flashcards

## CHEMISTRY

### Paper 1

#### 1. Atomic Structure and the Periodic Table

- Atoms, elements, compounds
- Subatomic particles
- Periodic table layout
- Groups 1, 7 and 0



Notes



Videos



Flashcards

#### 2. Bonding, Structure and Properties of Matter

- Ionic, covalent and metallic bonding
- States of matter
- Particle model



Notes



Videos



Flashcards

#### 3. Quantitative Chemistry

- Relative formula mass
- Conservation of mass
- Balancing equations
- Concentration (g/dm<sup>3</sup>)



Notes



Videos



Flashcards

#### 4. Chemical Changes

- Reactivity series
- Extraction of metals
- Acids, alkalis and salts
- pH scale
- Electrolysis



Notes



Videos



Flashcards

#### 5. Energy Changes



- Exothermic and endothermic reactions
- Reaction profiles

Notes

Videos

Flashcards

## **Paper 2**

### **6. Rate and Extent of Chemical Change**

- Factors affecting rate
- Collision theory
- Reversible reactions
- Equilibrium



### **7. Organic Chemistry**

- Crude oil
- Alkanes and alkenes
- Cracking
- Polymers
- Ethanol



### **8. Chemical Analysis**

- Pure and impure substances
- Chromatography
- Flame tests
- Gas tests



### **9. Chemistry of the Atmosphere**

- Composition of the atmosphere
- Greenhouse gases
- Climate change
- Air pollution



### **10. Using Resources**

- Earth's resources
- Potable water
- Waste water treatment
- Life cycle assessments
- Recycling



## **PHYSICS**

### **Paper 1**

#### **1. Energy**

- Energy stores and transfers
- Energy efficiency
- Heating and insulation
- Energy resources



#### **2. Electricity**

- Circuits
- Current, voltage and resistance
- Series and parallel circuits
- Mains electricity



- Electrical safety

### 3. Particle Model of Matter

- States of matter
- Internal energy
- Density
- Gas pressure



Notes



Videos



Flashcards

### 4. Atomic Structure

- Structure of the atom
- Radioactive decay
- Half-life
- Background Radiation



Notes



Videos



Flashcards

## Paper 2

### 5. Forces

- Types of forces
- Resultant force
- Distance-time graphs
- Acceleration and Required Practical
- Speed
- Newton's laws
- Stopping distance



Notes



Videos



Flashcards

### 6. Waves

- Types of waves
- Wave properties
- Sound
- Light
- EM spectrum



Notes



Videos



Flashcards

### 7. Magnetism and Electromagnetism

- Magnetic fields
- Electromagnets
- Electric motors
- Transformers
- National Grid



Notes



Videos



Flashcards