

Science GCSE

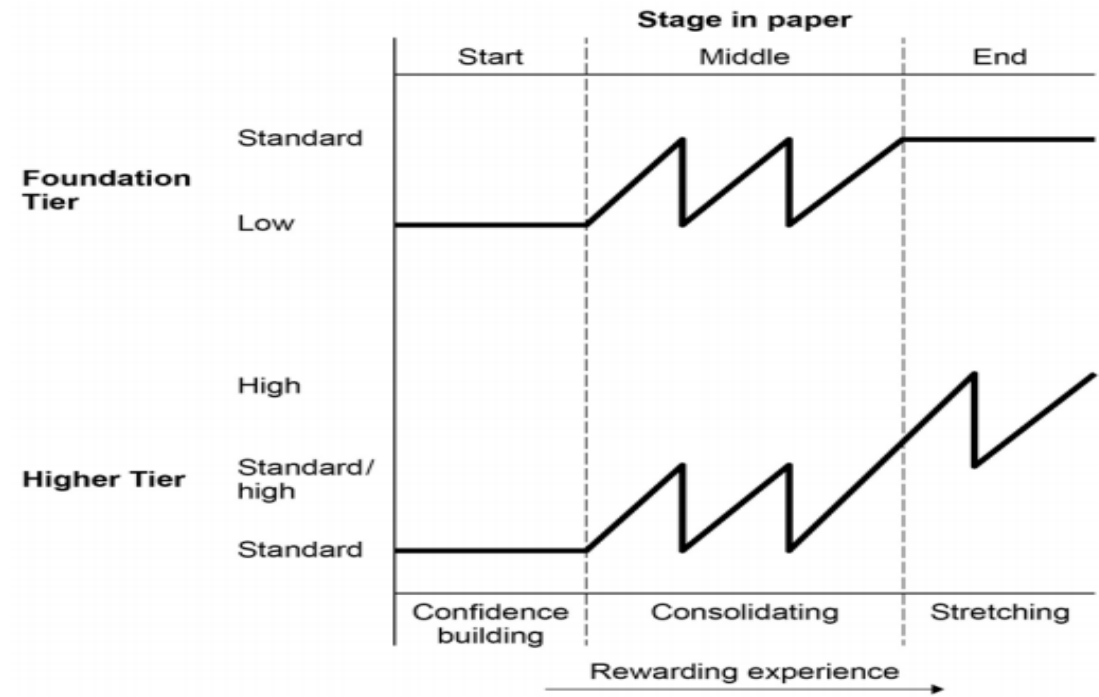


E-ACT Ousedale
School

Be Kind | Work Hard | Succeed Together

The exam paper

- ❑ At home, encourage them to make it all the way to the end of the paper and not give up if they struggle with half of each question as they all start off easy and build.



- ❑ Examiner makes it hard by: changing the context, requiring more precise terminology, assessing maths skills

Biggest problems students have in science...

- ❑ Sheer amount of content, high language level – Break this down into 30 min sessions 5x a week.
- ❑ Extended writing – Plan your answer
- ❑ Remembering required practicals – Watch them online and make a mind map / notes
- ❑ Numeracy and graph questions



Activity

Parents: Support students by asking them to **explain** a section they have rated green and make sure they are **reviewing** those topics that they have difficulty with.

Specification Point	R	A	G
The elements in the periodic table are arranged in order of atomic (proton) number and so that elements with similar properties are in <u>columns</u> , known as groups. The table is called a periodic table <u>because</u> similar properties occur at regular intervals. Elements in the same group in the periodic table have the same number of electrons in their outer shell (outer electrons) and this <u>gives</u> them similar chemical properties.			G
Students should be able to: • explain how the position of an element in the periodic table is related to the arrangement of electrons in its atoms and hence to its atomic number • predict possible reactions and probable reactivity of elements <u>from</u> their positions in the periodic table.		A	
Before the discovery of protons, neutrons and electrons, scientists attempted to classify the elements by arranging them in order of <u>their</u> atomic weights. The early periodic tables were incomplete and some elements were placed in inappropriate groups if the strict order of atomic weights <u>was</u> followed.	R		

“So what word describes the work done in a given time and what units is it measured in?”

“I can see you have struggled with this topic, what have you done to rectify that?”

Mark schemes

- ☐ Remember to get the marks it is all about precision and detail.
- ☐ We encourage students to use mark schemes to help, make cards/posters about a key concept including all the key words, statements that you can use and all those that you shouldn't use.
- ☐ e.g. Why does breathing increase when you exercise?
- ☐ Their muscles need energy x
- ☐ Muscle contraction requires respiration and respiration requires glucose and oxygen. **This means / because of this** breathing will go up to supply more oxygen.

Extended Writing 6 mark questions

- ❑ Often students just write down everything they know about the topic.

Decode

- Highlight the key word to identify the command word and topic that the question is in. Describe / Explain / Evaluate

Plan

- Plan the key words to include, flow diagram of practical steps or annotate the trends in a table or graph.

Respond

- Write a paragraph that includes at least a point and reason multiple times. Use **linking** e.g. because, and so, therefore.



Required Practical

- ❑ Revise the required practical's, including watching YouTube clips and learning HSW key word words.
 - ❑ 15% of every paper will contain questions related to the required practical tasks
 - ❑ What to revise:
 - Variables
 - How to make the practical reliable, valid, precise and accurate – repeat practical and take a mean
 - Drawing a conclusion
 - Evaluating the practical method.
- Memorise some model answers / mark schemes

DESCRIBE AN EXPERIMENT

Question stems

- Describe an experiment to prepare...
- Devise an investigation that...
- Describe how you could use X and Y to show that...

Levelled Answers

Level 1 (1-2 Marks)	Limited description of steps using simple scientific language. e.g. Mix the two reactants.
Level 2 (3-4 Marks)	Simple description of most stages using scientific terminology. e.g. Mix the reactants together in a beaker.
Level 3 (5-6 Marks)	Detailed description of nearly all stages written clearly and coherently using a range of scientific terminology accurately. e.g. Mix solutions of the reactants together in a beaker.

How to answer

Are you **SET** to answer this type of question? Follow the guidance below for each stage of the experiment you're describing:

- S**tep – Describe what needs to be done at this stage.
- E**quipment – Include what scientific equipment you would use.
- T**erminology – Make sure you use appropriate scientific terminology.

Maths in science

20 + formula across the 2 papers to memorise.

Not all of them are on the equation sheet e.g. Chemistry

The issue

- *Fewer candidates gained the marks in the questions requiring them to recall equations. This year all students need to know the units.*
- *Often when an equation had been recalled the student was then unable to rearrange it so that an answer could be calculated correctly. Students are advised to use the triangle method.*
- *The concept of significant figures was not well understood.*
- *Only 15% of candidates gained the mark requiring the use of standard form.*

Exam preparation

Invest time in knowledge enhancement

Cells

All living organisms are made up of cells. Cells are the basic unit of living organisms. provide structure and carry out certain functions. There are two different types of cell:



Eukaryotic cells

- Eukaryotic cells are found in plants, animals, fungi and protists (single-celled organisms that don't fit other categories).
- A eukaryotic cell is 10 - 100 micrometres in size.
- A eukaryote is an organism made up of eukaryotic cells.

Prokaryotic cells

- Prokaryotic cells are 0.1 - 5.0 micrometres in size.
- A prokaryote is an organism made up of prokaryotic cells.
- Bacteria are prokaryotes.

Study ▶



Support with content / terminology

- ❑ YouTube – video tutorials
- ❑ CGP Revision guides
- ❑ Past papers

