

Year 11 Preparation & Revision Evening

Monday 18th November 2019

Thank you for coming!

An ambitious school at the heart of the community

Remember The Time Is Now...

With the 'Real Thing' and Mock Exams coming up, beginning the process now to make life easier in the future!

An ambitious school at the heart of the community

6 Steps to Improving Independent Study & Revision



What do I need to study? – gather information about Units, Topics and Concepts for each subject



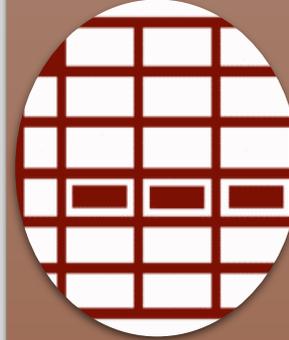
When/ where do I focus best? – set time and place to work



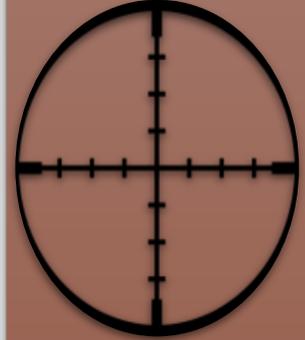
What order should I study? – plan a study timetable



How do I study best? – quizzing, elaborating, chunking, etc...



What do I now know? - review progress e.g. PLC



What else do I need to know? – focus on areas for development



An ambitious school at the heart of the community

Plan of Action

Units, Topics & Concepts

Ensure that you have a clear understanding of Units, Topics and Concepts for each subject.

Ask your teachers if you do not have this.

Study Timetable

Plan a study timetable that is clear about what you will study, where and when.

Think about "Spacing" while you do this and include "Chunking", "Quizzing", "Elaboration" & "Metacognition"

Study

Use "Chunking", "Quizzing", "Elaboration" & "Metacognition"

Review

What do I now know?
What else do I need to know?
Practice questions & papers

Study

Use "Chunking", "Quizzing", "Elaboration" & "Metacognition"

Review

What do I now know?
What else do I need to know?

Study

Use "Chunking", "Quizzing", "Elaboration" & "Metacognition"

Review

What do I now know?
What else do I need to know?
Practice questions & papers

...Study & Do

An ambitious school at the heart of the community



Planning Revision



Chunking & Spacing

Chunking – Is breaking down large amounts of information into smaller, more manageable, parts. Most of us are able to store only about four to seven different items in our short-term memory. One way to get past this limit is to use the technique called chunking. By grouping several items into one larger whole, you'll be able to remember much more.

Spacing – Is about the timing and type of revision that you use. Studies have shown the benefits of a variety of revision and learning strategies have an impact on retention. Spacing combines timing and types of revision to encourage the learner to think about what they are reviewing and distributing their efforts over time.

An ambitious school at the heart of the community

Chunking & Spacing

CHUNKING & SPACING OF REVISION

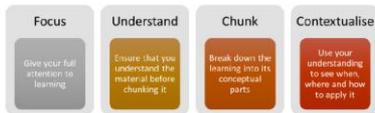
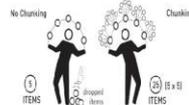


COMBINING PRINCIPLES TO PLAN REVISION AND SUCCEED

Attached to this are an example and blank, printable, template of a 'Chunked & Spaced' Revision Timetable for you to be able to see and use. But before you get on to using them, take a moment to understand the principles...

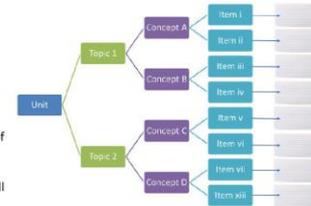
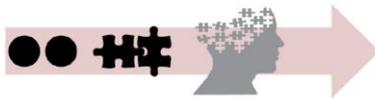
WHAT ARE 'CHUNKING' & 'SPACING'?

- Chunking** – Is breaking down large amounts of information into smaller, more manageable, parts. Most of us are able to store only about four to seven different items in our short-term memory. One way to get past this limit is to use the technique called chunking. By grouping several items into one larger whole, you'll be able to remember much more.
- Spacing** – Is about the timing and type of revision that you use. Studies have shown the benefits of a variety of revision and learning strategies have an impact on retention. Spacing combines timing and types of revision to encourage the learner to think about what they are reviewing and distributing their efforts over time.



HOW DOES 'CHUNKING' WORK?

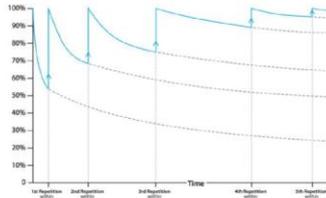
Chunking is all about breaking down learning into little, manageable, bite-sized pieces. The great thing is that the 'specifications' that exam boards write allow for this to



be done quite easily and you can break down the learning from units of work into their topics, concepts and individual items, as shown below.

Therefore, if you plan your revision out over time, you can cover the all the items from a unit of learning in each subject.

To help make your chunking more effective, target revision at the items that you are less confident with. Where Personal Learning Checklists (PLCs) are available, make use of them. They provide a great framework for planning out chunking and checking your confidence in your learning against them.



HOW DOES 'SPACING' WORK?

Spacing works through cleverly using varied repetition to cover the chunked revision and prevents you from becoming bored and stale.

As shown by the chart to the left, the amount of information remembered increases with repetitions that are spaced out over a period of time.



revising each 'chunk'. Many studies have found that shorter chunks of 30 minutes (and at very most 45 minutes) work best. They prevent becoming stale and allow for the age-old saying to come through, "A change is as good as a rest."

Mr Andy Pilbury – Deputy Headteacher

'CHUNKED' & 'SPACED' REVISION TIMETABLE

Monday	Tuesday	Wednesday	Thursday	Friday
Date:	Date:	Date:	Date:	Date:
Subject Topic (Revision 'Chunk' up to 30mins):				
Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____
Revision Guide Page Number: _____				
Subject Topic (Revision 'Chunk' up to 30mins):				
Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____
Revision Guide Page Number: _____				
Subject Topic (Revision 'Chunk' up to 30mins):				
Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____	Rate how you feel about your knowledge of this after revision: <input type="checkbox"/> Not sure <input type="checkbox"/> OK <input type="checkbox"/> Great I must recap: _____
Revision Guide Page Number: _____				
Revision Guide Page Number: _____				
Other notes from this cycle: _____				

- Start with the most important or most difficult subject topics.
- Split the knowledge content of subjects into manageable chunks... Choose a 'chunk' at a time to memorise... Review and recap...
- Space the subject topics out to ensure you cover them and review your revision on a regular basis.

Example Timetable

'CHUNKED' & 'SPACED' REVISION TIMETABLE

Monday	Tuesday	Wednesday	Thursday	Friday																														
<p>Date: _____</p> <p>Subject Topic (Revision 'Chunk' up to 30mins): <i>English</i></p> <ul style="list-style-type: none"> • <i>Macbeth James</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td>✓</td> <td></td> <td></td> </tr> </table> <p>I must recap: <i>Questions that are linked to themes of 'Supernatural' and 'Conflict'</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!	✓			<p>Date: _____</p> <p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Biology - Stem Cells</i></p> <ul style="list-style-type: none"> • <i>What are stem cells?</i> • <i>Where are they found in animals?</i> • <i>What can they be used to treat?</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>What are the ethical issues with the use of stem cells?</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Date: _____</p> <p>Subject Topic (Revision 'Chunk' up to 30mins): <i>History</i></p> <ul style="list-style-type: none"> • <i>Medieval Medicine:</i> <ul style="list-style-type: none"> ◦ <i>Surgery</i> ◦ <i>Public Health</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </table> <p>I must recap: _____</p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!			✓	<p>Date: _____</p> <p>Subject Topic (Revision 'Chunk' up to 30mins): <i>English</i></p> <ul style="list-style-type: none"> • <i>Paper 2, Question 5 - Practice Writing in Timed Conditions</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Using a variety of sentence starters</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Date: _____</p> <p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Physics - Ohm's Law Equation</i></p> <ul style="list-style-type: none"> • <i>What is the equation?</i> • <i>How do the QV graphs show us if they support Ohm's law</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </table> <p>I must recap: _____</p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!			✓
Not sure	OK	Great!																																
✓																																		
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
		✓																																
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
		✓																																
<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>History</i></p> <ul style="list-style-type: none"> • <i>Medieval Medicine:</i> <ul style="list-style-type: none"> ◦ <i>Ideas about causes of disease</i> ◦ <i>Treatments</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Medieval Surgery</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Geography, Living World - Deserts</i></p> <ul style="list-style-type: none"> • <i>Location, Distribution</i> • <i>Climate, Soils and Adaptations</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Characteristics of Deserts</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Physics - Drawing QV Curves</i></p> <ul style="list-style-type: none"> • <i>What are the graphs for diode, resistor and filament lamp?</i> • <i>How do you experimentally obtain the graphs?</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Why do the graphs look like they do?</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Chemistry - Bonding</i></p> <ul style="list-style-type: none"> • <i>Ionic bonding properties</i> • <i>What do they bond?</i> • <i>What do Ionic Bonds look like?</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </table> <p>I must recap: <i>Move on to Covalent Bonding and compare with Ionic Bonding</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!			✓	<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Geography, Living World - Deserts</i></p> <ul style="list-style-type: none"> • <i>Desertification - Causes and Solutions</i> • <i>Sahel Desert Case Study</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </table> <p>I must recap: _____</p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!			✓
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
		✓																																
Not sure	OK	Great!																																
		✓																																
<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Physics - Electricity</i></p> <ul style="list-style-type: none"> • <i>What are the current and voltage rules for Series and Parallel circuits?</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </table> <p>I must recap: <i>Electrical Circuit Symbols</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!			✓	<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>English</i></p> <ul style="list-style-type: none"> • <i>Sign of Four - Re-Reading Chapter 1</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Be able to summarise the chapter in four points</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Biology - Therapeutic Cloning</i></p> <ul style="list-style-type: none"> • <i>What is therapeutic cloning?</i> • <i>How does therapeutic cloning happen?</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>What are the advantages of using therapeutic cloning over a transplant?</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>Geography, Living World - Deserts</i></p> <ul style="list-style-type: none"> • <i>Hot Desert Case Study</i> • <i>Opportunities and Challenges</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>Opportunities and Challenges in the Hot</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓		<p>Subject Topic (Revision 'Chunk' up to 30mins): <i>History</i></p> <ul style="list-style-type: none"> • <i>Renaissance Medicine Pioneers:</i> <ul style="list-style-type: none"> ◦ <i>Vesalius</i> ◦ <i>Fara</i> <p>Rate how you feel about your knowledge of this after revision:</p> <table border="1"> <tr> <td>Not sure</td> <td>OK</td> <td>Great!</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table> <p>I must recap: <i>H Harvey</i></p> <p>Revision Guide Page Number: _____</p>	Not sure	OK	Great!		✓	
Not sure	OK	Great!																																
		✓																																
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
	✓																																	
Not sure	OK	Great!																																
	✓																																	
<p>Other notes from this cycle:</p> <ul style="list-style-type: none"> • <i>Must continue on with Biology and Chemistry revision next week</i> • <i>History - Review Germany topics</i> • <i>English - Attempt more timed questions within my revision</i> 																																		

- Start with the most important or most difficult subject topics.
- Split the knowledge content of subjects into manageable chunks... Choose a 'chunk' at a time to memorise... Review and recap...
- Space the subject topics out to ensure you cover them and review your revision on a regular basis.

Revision Techniques & Subject Specific Support

A quick tour of a variety of methods and resources

An ambitious school at the heart of the community

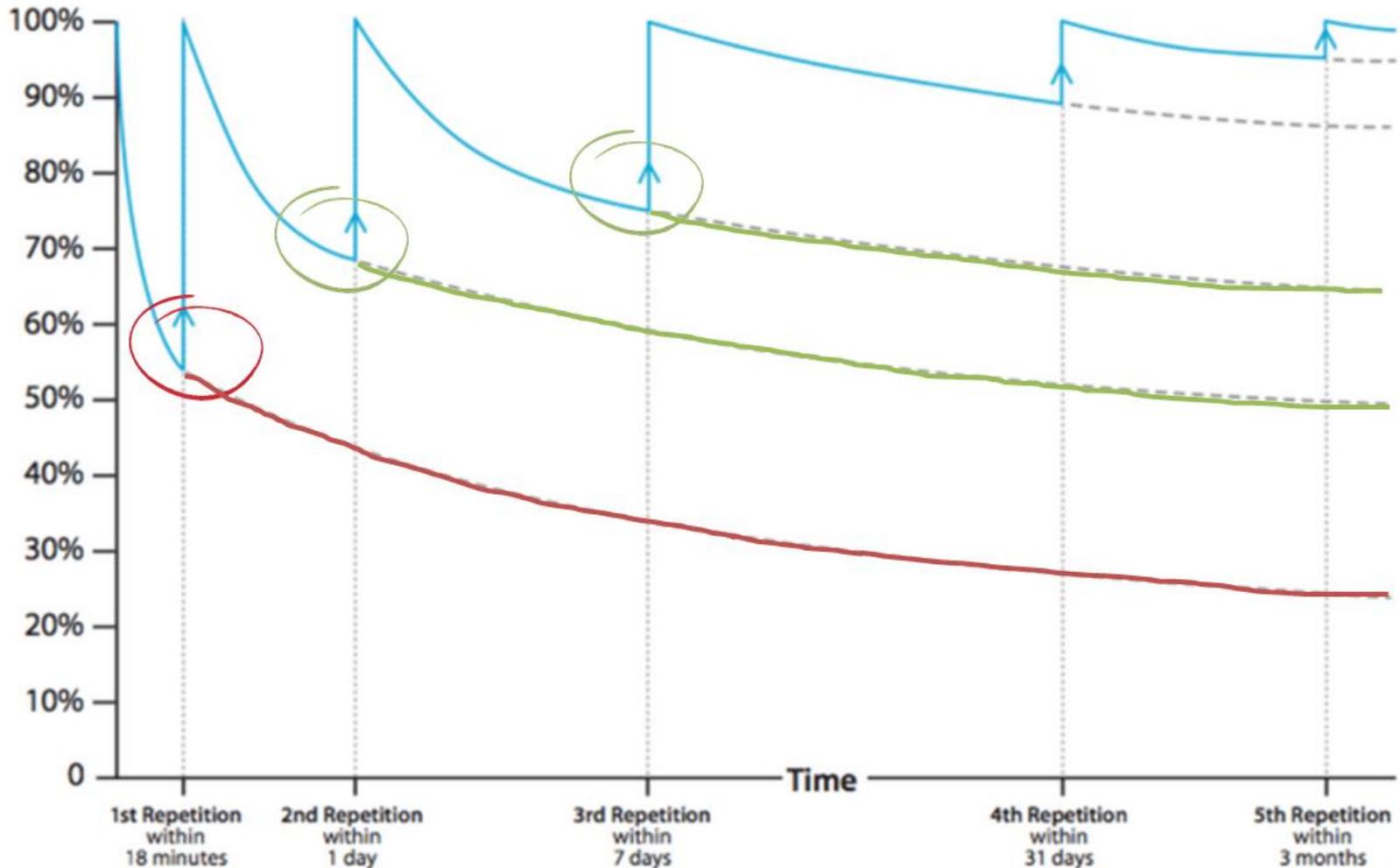


Quizzing

Studies have repeatedly demonstrated that quizzing each other based on studied material promotes remembering that material for an examination, a phenomenon called the “testing effect” ...

An ambitious school at the heart of the community

What is “Quizzing” and why does it work?



An ambitious school at the heart of the community

What does “Quizzing” look like?

1. Comprehension & Context - an example from “An Inspector Calls”

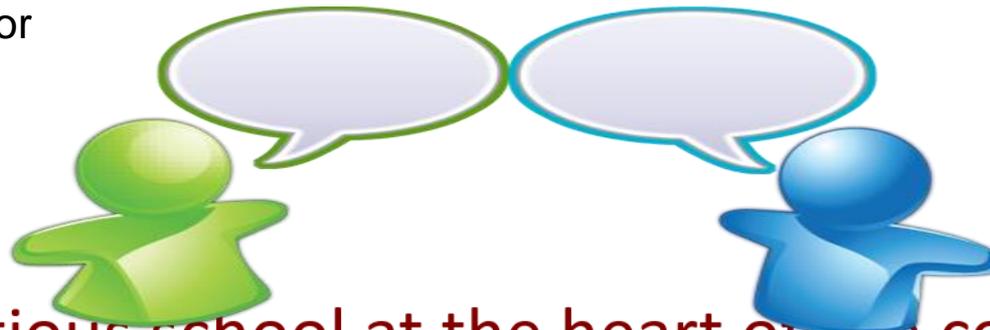
- Where did Priestley grow up and how did this inform his political opinions?
- How were women’s roles different in 1912 (when the play is set) and 1945 (when the play was written)?

2. Cued Recall - an example from “Macbeth”

- Complete this line: “When the battle’s _____”
- Complete this line: “Stars, hide your fires; Let not light see my _____”

3. Multiple Choice – an example from “An Inspector Calls”

- In the opening stage directions, who is described as Mr Birling’s social superior?
 - a. Gerald
 - b. Sir George
 - c. Mrs Birling
 - d. The Inspector



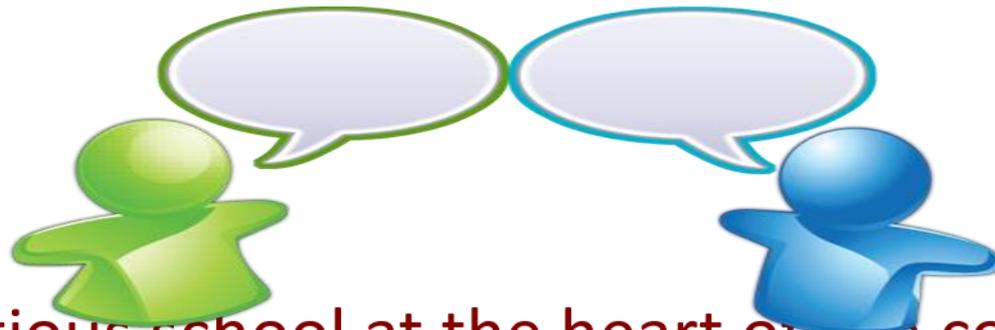
An ambitious school at the heart of the community

What does “Quizzing” look like?

4. Cued Recall as Multiple Choice - an example from “Macbeth”

- Complete this line: “When the battle’s _____”
 - a. over.
 - b. said and done.
 - c. lost and won.
 - d. gone and run.

- Complete this line: “Stars, hide your fires; Let not light see my _____”
 - a. soul as it expires.
 - b. blade beneath the briars.
 - c. dark, deadly desires.
 - d. black and deep desires.



An ambitious school at the heart of the community

Setting up some “Cue-Cards”

Cell Biology

Cell Membrane – Thin layer around a cell controlling the substances passing in and out.

Cell Wall – Surrounds the cell, provides strength.

Chloroplast – Contains chlorophyll, for photosynthesis.

Cytoplasm – Material inside a cell where most chemical reactions take place.

Nucleus – Contains genetic material, DNA.

Vacuole – Space filled with cell sap in the cytoplasm.

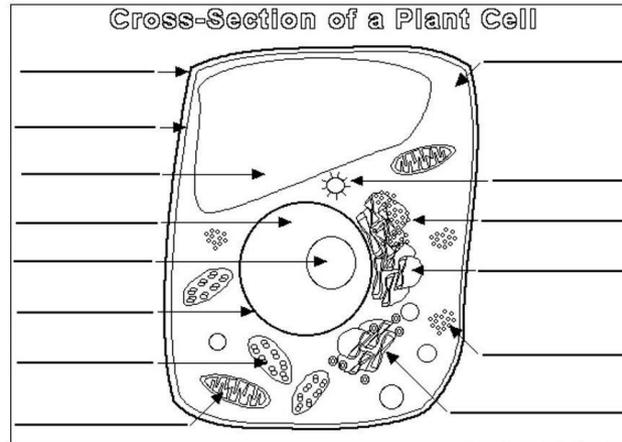
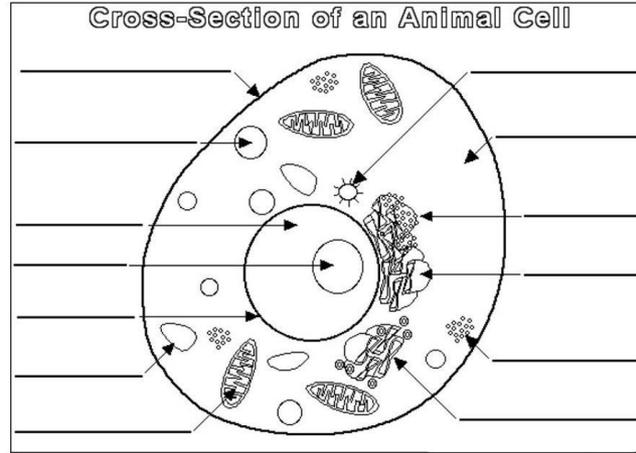
Mitochondria – Site of aerobic respiration.

Ribosome – Site of protein synthesis.

Plasmid – Small ring of DNA found in bacterial cells.

An ambitious school at the heart of the community

Annotating Diagrams



An ambitious school at the heart of the community

Past Papers – “High Effectiveness”

AQA

<https://www.aqa.org.uk/find-past-papers-and-mark-schemes>

For...

English – Language & Literature
Biology
Chemistry
Physics
Trilogy Science (Combined)
Geography
History
Food
Product Design
Religious Studies

EdExcel

<https://qualifications.pearson.com/en/support/support-topics/exams/past-papers.html>

For...

Mathematics
French
German
Spanish
Business Studies
Drama
Physical Education

An ambitious school at the heart of the community

Past Papers – “High Effectiveness”

WJEC/Eduqas	OCR (inc. OCR National)	NCFE
https://www.wjec.co.uk/students/past-papers/	https://www.ocr.org.uk/qualifications/past-paper-finder/	https://www.qualhub.co.uk/qualification-search/qualification-detail/ncfe-level-12-technical-award-in-engineering-4593#SupportMaterials
For... Music	For... Textiles Computer Science Child Development	For... Engineering

An ambitious school at the heart of the community

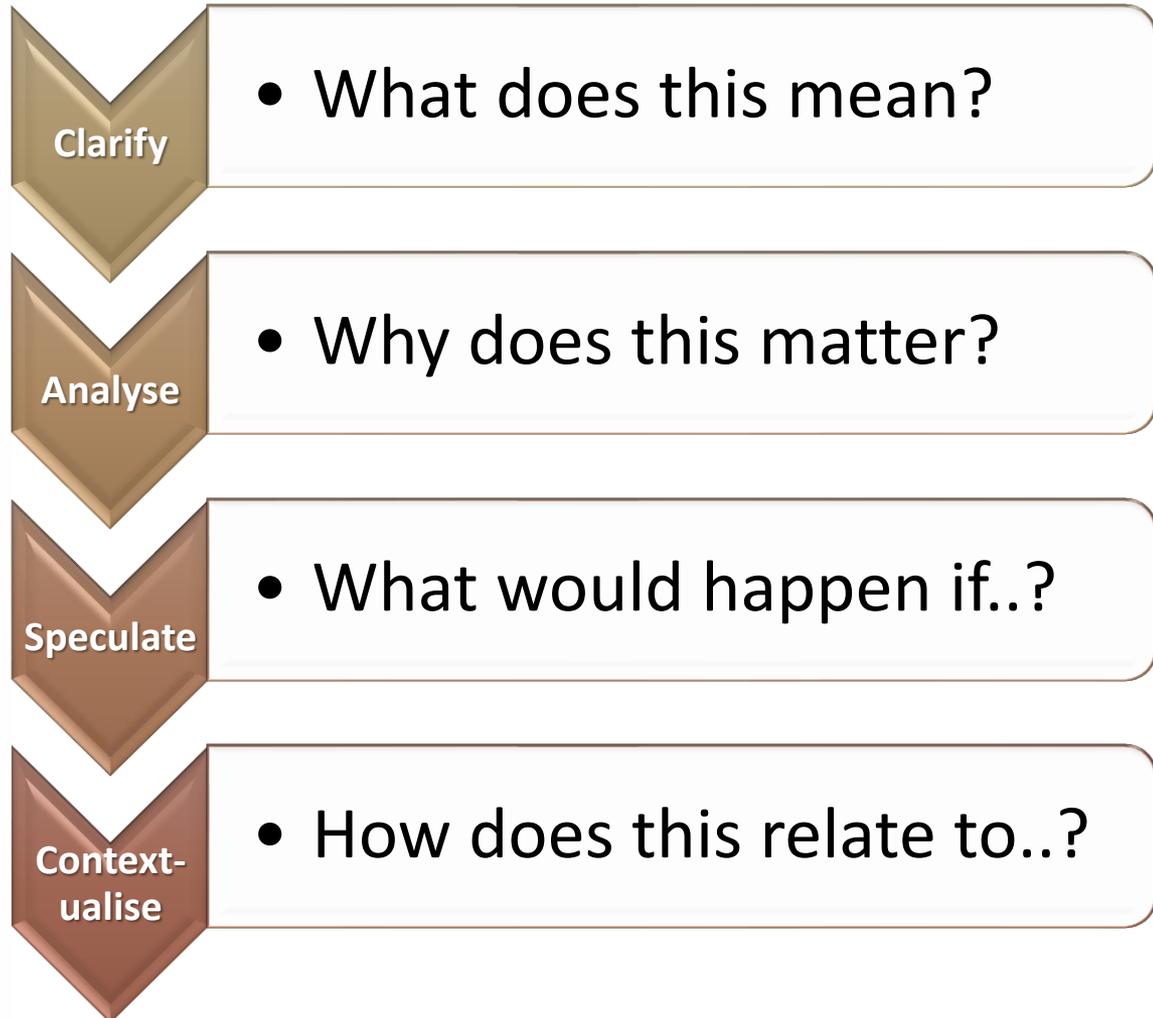


Elaboration

Students often struggle to provide concrete examples that demonstrate their understanding of the content being assessed, and with connecting their ideas back to the focus of the question. The “Elaboration” technique leads to greater understanding of the content of learning and enables better explanation and evidence...

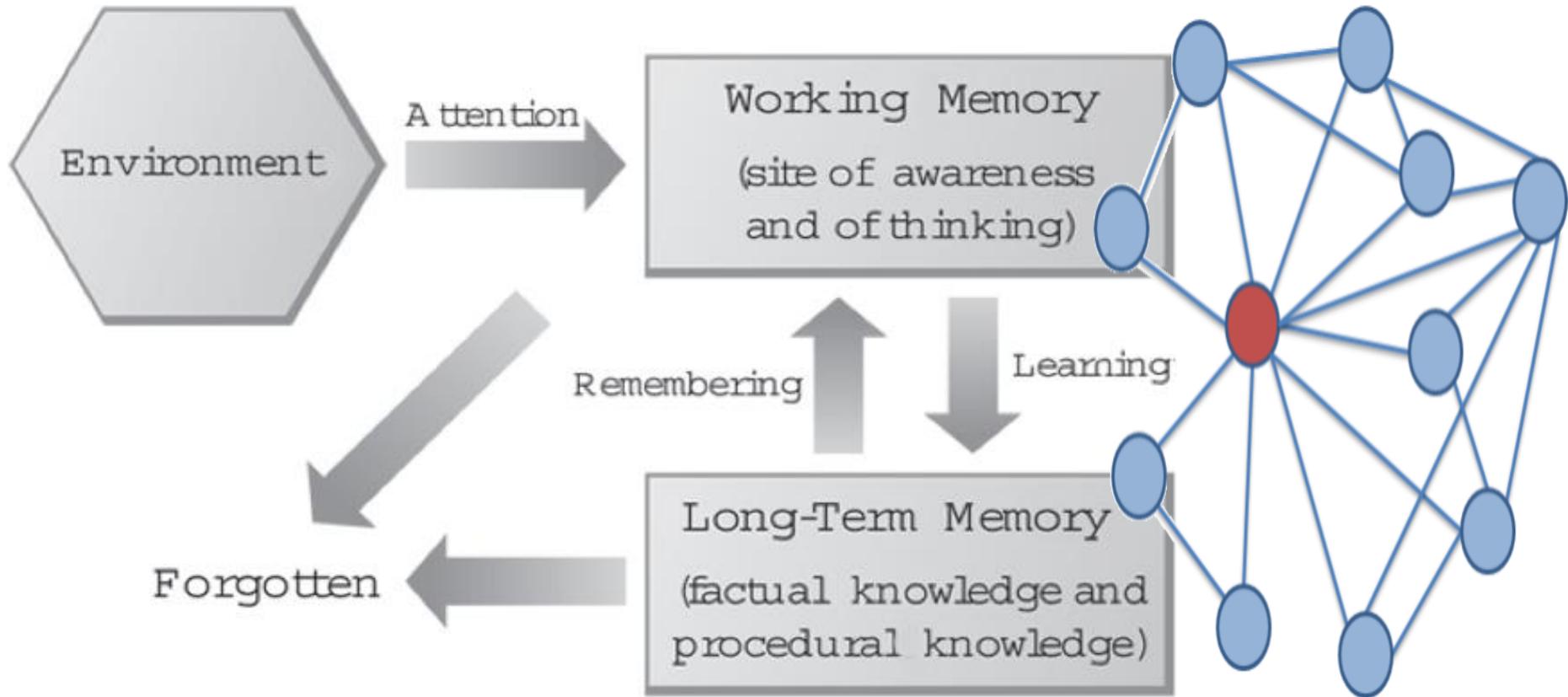
An ambitious school at the heart of the community

What is “Elaboration”?



An ambitious school at the heart of the community

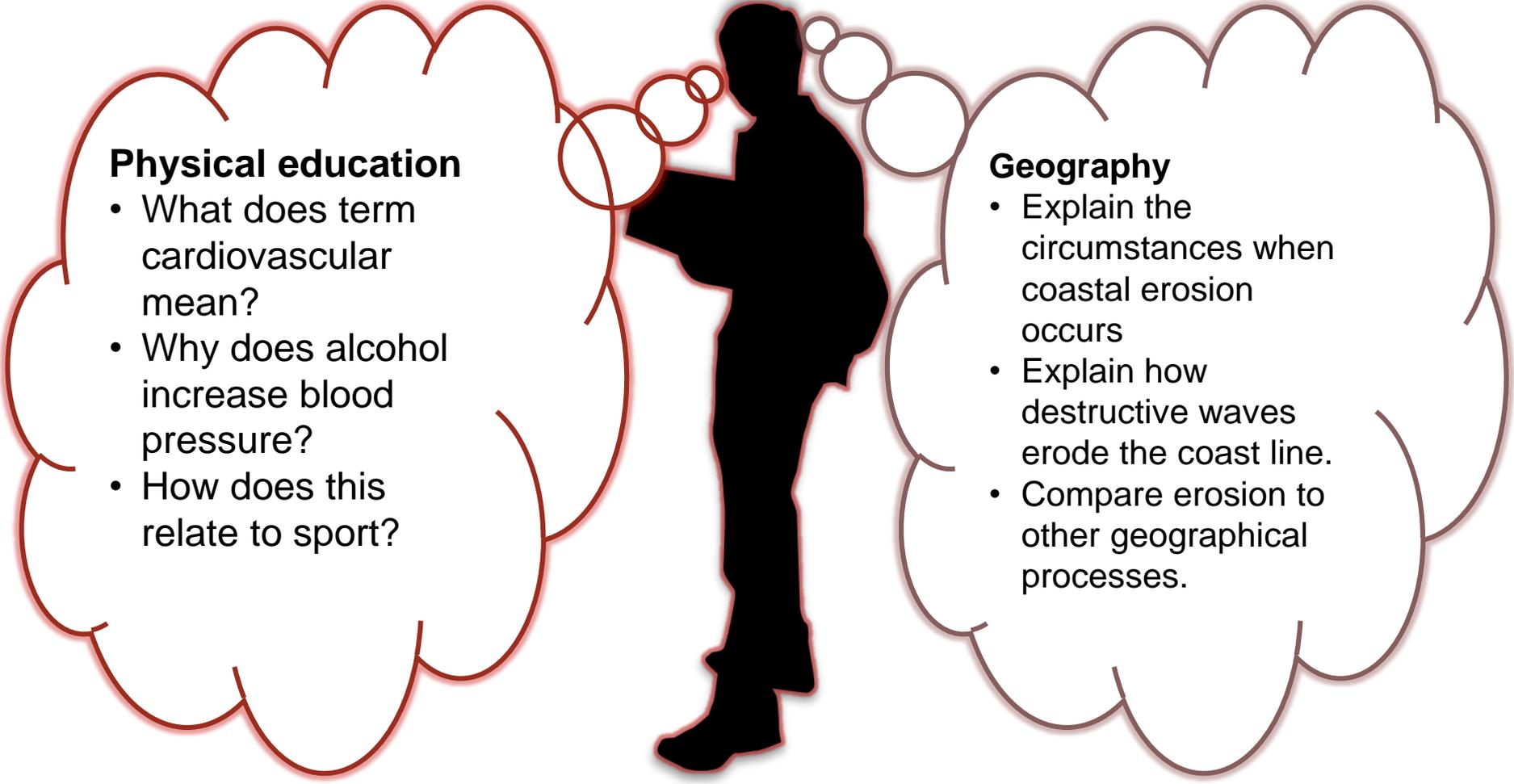
Why does “Elaboration” work?



“Elaboration” work to combine learning and remembering to form a network of links between knowledge that exists within your memory. Making it easier to retain and recall detailed information and use it when answering examination questions, and in life in general.

An ambitious school at the heart of the community

What does “Elaboration” look like?



Physical education

- What does term cardiovascular mean?
- Why does alcohol increase blood pressure?
- How does this relate to sport?

Geography

- Explain the circumstances when coastal erosion occurs
- Explain how destructive waves erode the coast line.
- Compare erosion to other geographical processes.

An ambitious school at the heart of the community

What does “Elaboration” look like?

Transformation Technique

- Have a go at transforming the stages to the right into a diagram.

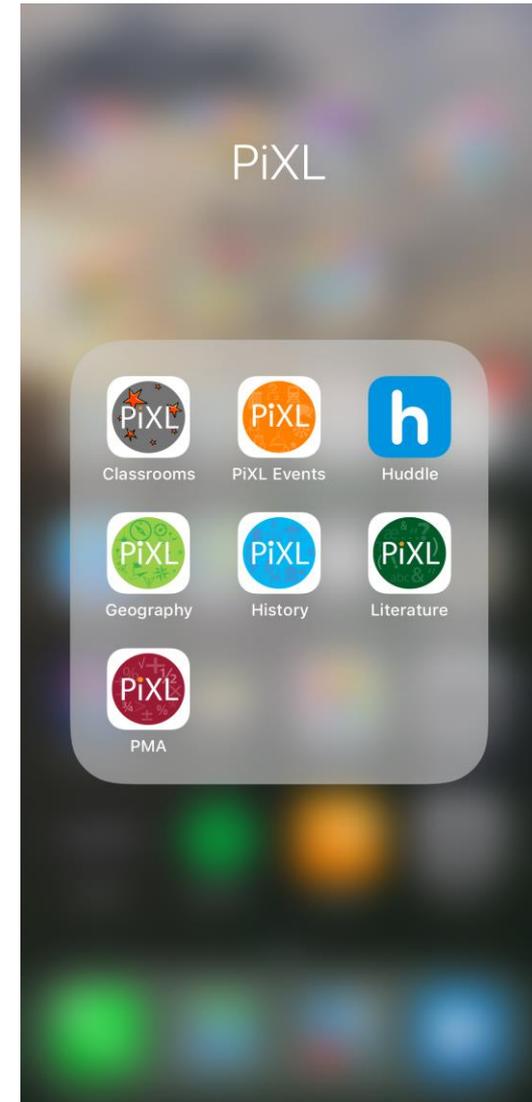
Constructive Plate Margin/Boundary

1. Plates move apart from each other.
2. Lava erupts onto the surface to fill the gap.
3. Lava cools and forms new rock.
4. The process continues and as plates move, more lava erupts and so a volcano builds.

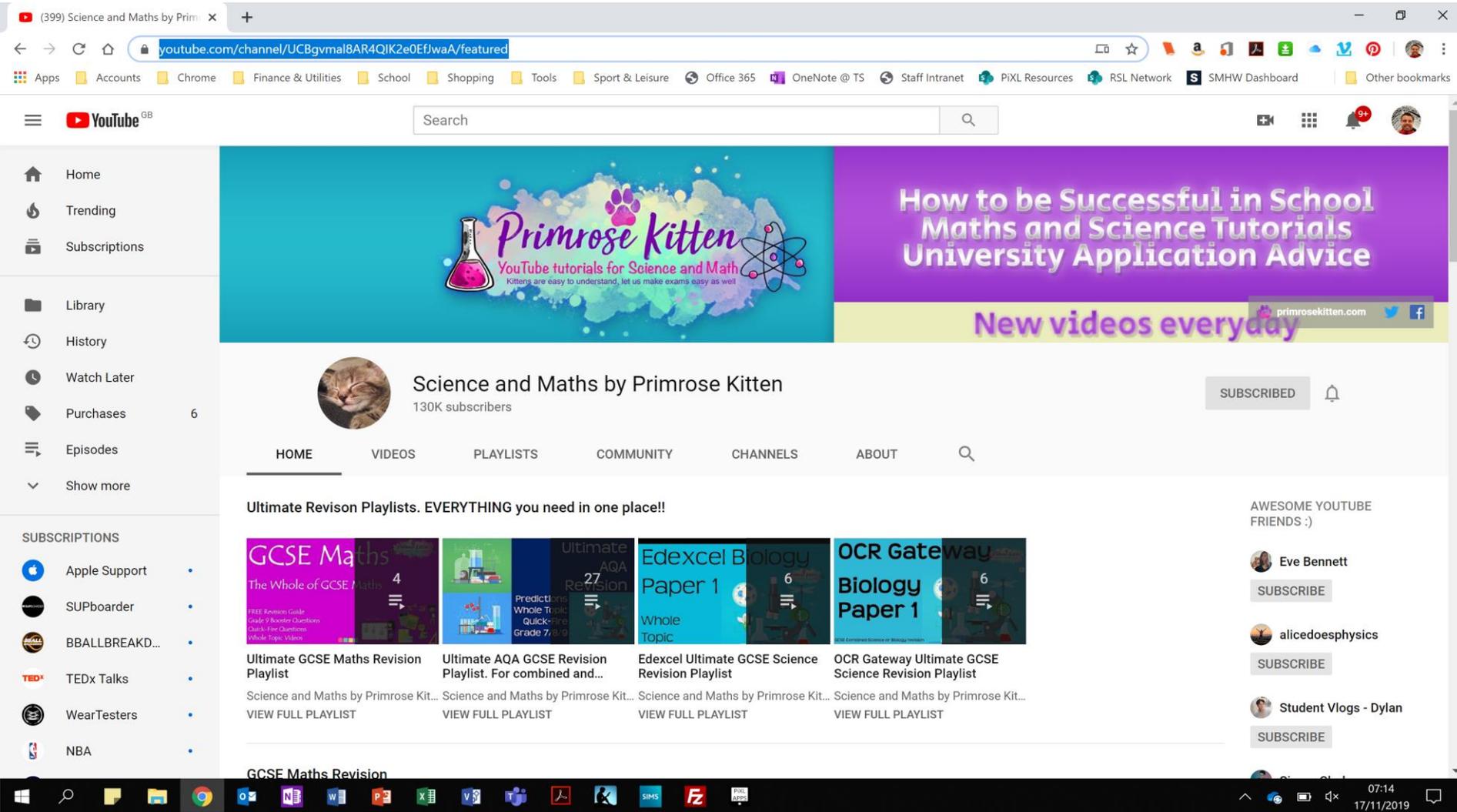
An ambitious school at the heart of the community

Being 'Appy'!

- The PiXL Apps are great!
- “Feedback is clear and instant.”
- Allows tracking of progress and easy access to revision.
- All Year 11 students had their log-in details emailed to their school email accounts in September.



An ambitious school at the heart of the community



The screenshot shows a web browser window displaying the YouTube channel page for 'Science and Maths by Primrose Kitten'. The browser's address bar shows the channel URL: [youtube.com/channel/UCBgvmlBAR4QIK2e0EfjwaA/featured](https://www.youtube.com/channel/UCBgvmlBAR4QIK2e0EfjwaA/featured). The browser's bookmark bar includes various sites like 'Apps', 'Accounts', 'Chrome', 'Finance & Utilities', 'School', 'Shopping', 'Tools', 'Sport & Leisure', 'Office 365', 'OneNote @ TS', 'Staff Intranet', 'PIXL Resources', 'RSL Network', 'SMHW Dashboard', and 'Other bookmarks'. The YouTube interface shows the channel's banner with the 'Primrose Kitten' logo and the text 'YouTube tutorials for Science and Math'. Below the banner is the channel name 'Science and Maths by Primrose Kitten' with 130K subscribers and a 'SUBSCRIBED' button. The channel's navigation tabs include HOME, VIDEOS, PLAYLISTS, COMMUNITY, CHANNELS, and ABOUT. The main content area features a section titled 'Ultimate Revision Playlists. EVERYTHING you need in one place!!' with four featured playlists: 'GCSE Maths', 'Ultimate AQA GCSE Revision', 'Edexcel Ultimate GCSE Science', and 'OCR Gateway Ultimate GCSE Science'. The right sidebar shows 'AWESOME YOUTUBE FRIENDS :)' with profiles for 'Eve Bennett', 'alicedoesphysics', and 'Student Vlogs - Dylan', each with a 'SUBSCRIBE' button. The Windows taskbar at the bottom shows various application icons and the system clock displaying 07:14 on 17/11/2019.

An ambitious school at the heart of the community

Quizlet, SENECA, and other online resources

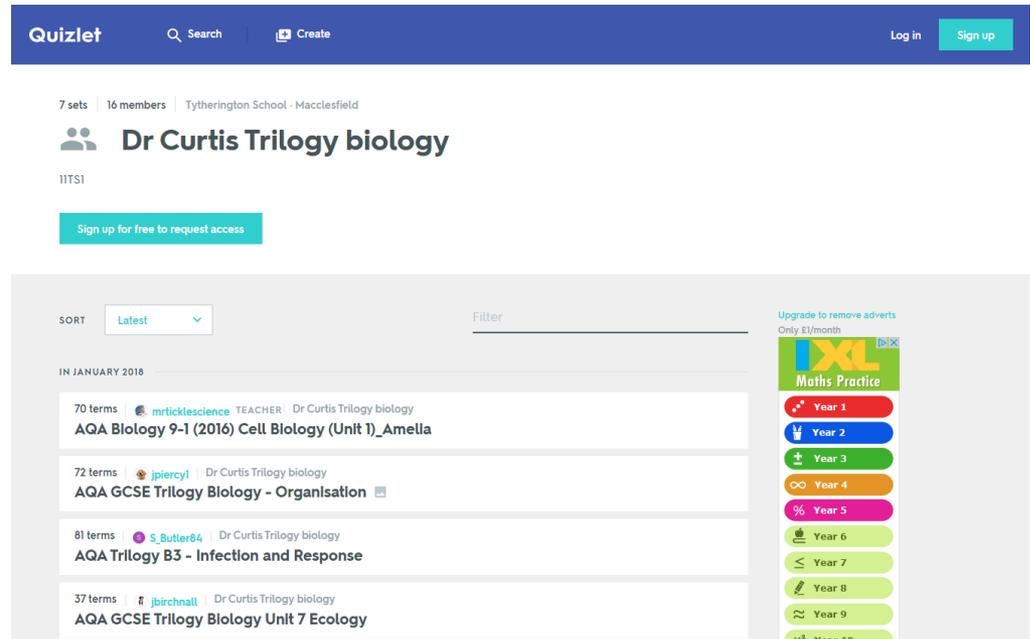
Quizlet is a good resources for making your own revision aids...

...Have you seen Dr Curtis' Quizlet page?

SENECA Learning offers a number of revision 'courses' by subject...

Mrs Wearne has purchased [Kerboodle](#) for her Religious Studies class to use.

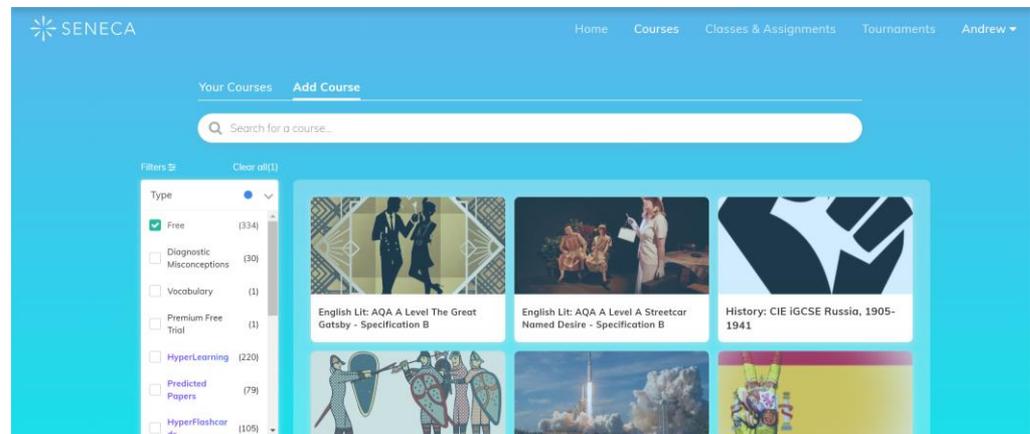
Have you had a good look through the KS4 MicroSite on the school website..?



Quizlet interface showing a search bar, 'Log in' and 'Sign up' buttons, and a list of sets for 'Dr Curtis Trilogly biology'. The sets listed are:

- 70 terms | mrtickscience TEACHER | Dr Curtis Trilogly biology: AQA Biology 9-1 (2016) Cell Biology (Unit 1)_Amella
- 72 terms | jpercyl | Dr Curtis Trilogly biology: AQA GCSE Trilogly Biology - Organisation
- 81 terms | S_Butler84 | Dr Curtis Trilogly biology: AQA Trilogly B3 - Infection and Response
- 37 terms | jbirchnall | Dr Curtis Trilogly biology: AQA GCSE Trilogly Biology Unit 7 Ecology

Additional features include a 'Sign up for free to request access' button, a 'SORT Latest' dropdown, a 'Filter' input, and a sidebar for 'Maths Practice' with year-level buttons (Year 1-10).



SENECA Learning interface showing a search bar, navigation links (Home, Courses, Classes & Assignments, Tournaments, Andrew), and a 'Your Courses' section. The 'Filters' sidebar includes:

- Type: Free (334)
- Diagnostic Misconceptions (30)
- Vocabulary (1)
- Premium Free Trial (1)
- HyperLearning (220)
- Predicted Papers (79)
- HyperFlashcard (105)

The main content area displays a grid of course cards with images and titles:

- English Lit: AQA A Level The Great Gatsby - Specification B
- English Lit: AQA A Level A Streetcar Named Desire - Specification B
- History: CIE IGCSE Russia, 1905-1941

An ambitious school at the heart of the community

LearnIT! KnowIT!

Atoms, elements,
compounds and
mixtures PART 1

- Atoms, elements and compounds
- Word and symbol equations



Atoms, elements, compounds and mixtures - PART 1

All substances are made of **atoms** that cannot be chemically broken down. It is the smallest part of an **element**.

Elements are made of only one type of atom. Each element has its own **symbol**.
e.g. Na is sodium.

Compounds contain more than one type of atom. They are formed from elements by **chemical reactions**, which always involve the formation of one or more new substance, often involving an **energy change**.

The components of a compound **cannot** be separated by **physical** means. They can be separated only by **chemical** means.

There are about **100** different elements

1		2												3	4	5	6	7	0		
														1 H hydrogen 1						4 He helium 2	
														11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10		
7 Li lithium 3		9 Be beryllium 4												27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulphur 16	35.5 Cl chlorine 17	40 Ar argon 18		
23 Na sodium 11		24 Mg magnesium 12		45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36		
85 Rb rubidium 37		88 Sr strontium 38		89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54		
133 Cs caesium 55		137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86			
[223] Fr francium 87		[226] Ra radium 88	[227] Ac* actinium 89	[261] Rf rutherfordium 104	[262] Db dubnium 105	[266] Sg seaborgium 106	[264] Bh bohrium 107	[277] Hs hassium 108	[268] Mt meitnerium 109	[271] Ds dubnium 110	[272] Rg roentgenium 111	Elements with atomic numbers 112-116 have been reported but not fully authenticated									

You need to:

- Know the names and symbols for the first 20 elements and all of group 1, 7 and 0
- Name compounds when given the formulae or symbol equations



Atoms, elements, compounds and mixtures - PART 1

Compounds contain **two or more** elements **chemically** combined in **fixed proportions** and can be represented by formulae using the symbols of atoms from which they formed.

Naming a compound with **two elements** (usually a metal and a non metal) apply these rules:

- The metal name does not change
- The non-metal's name ends in **ide**

For example: Na_2S = sodium sulfide
 K_2O = potassium oxide

When a compound contains a transition metal, the names become a bit more complicated. To distinguish them, Roman numerals indicate the charge on the metal ion
e.g. iron(II) chloride.

Naming a compound with a metal that reacts with ions that consist of **two or more** non-metal atoms covalently bonded together apply these rules:

- The metal name does not change
- The non-metal's name ends in **ate** if oxygen is present

For example: Na_2CO_3 = sodium carbonate
 KNO_3 = potassium nitrate

Atoms, elements, compounds and mixtures - PART 1

Chemical equations: Show the reactants (what we start with) and the products (what we end with). No **atoms** are **lost** or **made**. The **mass** of the **products** equals the **mass** of the **reactants**.

You need to:

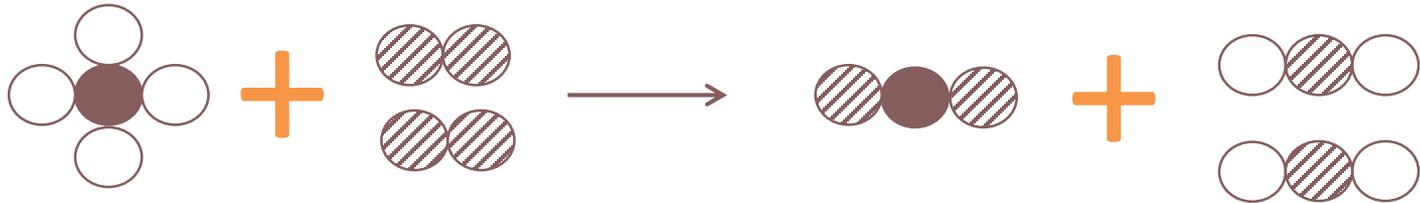
- Write word equations and balanced symbol equations



There are 4 hydrogens here, bonded together.

There are 2 molecules of oxygen not bonded together.

There are 4 hydrogens here. You multiply the big number by the little number.



Equations **MUST** balance

- We can **ONLY** add **BIG** numbers to the front of a substance
- We can tell elements within a compound by **BIG** letters
- We can check an equation is balanced by counting the number of each type of atom on either side

Atoms, elements, compounds and mixtures - PART 1

We can add **state symbols** to a symbol equation to show whether the reactants and products in a chemical reaction are solids, gases, liquids or dissolved in water.

Solid = s

Liquid = l

Gas = g

Aqueous (dissolved in water) = aq

Word equation:

sodium + water → sodium hydroxide + hydrogen

Symbol equation:

$2\text{Na}(s) + 2\text{H}_2\text{O}(l) \rightarrow 2\text{NaOH}(aq) + \text{H}_2(g)$

The reaction between copper sulfate and sodium hydroxide is:

copper sulfate + sodium hydroxide → sodium sulfate + copper hydroxide

$\text{CuSO}_4(aq) + 2\text{NaOH}(aq) \rightarrow \text{Na}_2\text{SO}_4(aq) + \text{Cu}(\text{OH})_2(s)$

You can tell that the copper hydroxide forms a solid (the precipitate) because its state symbol is (s) for solid, rather than (aq) for aqueous (dissolved in water).

HT only – write balanced half equations and ionic equations

The reaction can also be shown by an **ionic equation**:

$\text{Cu}^{2+}(aq) + 2\text{OH}^{-}(aq) \rightarrow \text{Cu}(\text{OH})_2(s)$

QuestionIT!

Atoms, elements, compounds and mixtures PART 1

- Atoms, elements and compounds
- Word and symbol equations



Atoms, elements, compounds and mixtures PART 1 – QuestionIT

1. Around how many different types of element are there in the periodic table?
2. Why is it useful to have symbols for atoms of different elements?
3. What is the difference between an element and a compound?
4. Explain why it is difficult to separate a compound, compared to an element.

Atoms, elements, compounds and mixtures PART 1 – QuestionIT

5. Solid sodium reacts with water to form a sodium hydroxide (NaOH) solution and hydrogen gas.

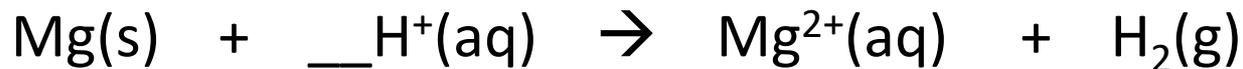
a) Write a word equation to represent this reaction.

b) Give the balance symbol equation for the reaction.

HT only:

6. When magnesium reacts with sulfuric acid, the hydrogen ions in the acid will be displaced from the solution by magnesium.

Balance the following ionic equation.



AnswerIT!

Atoms, elements,
compounds and
mixtures

PART 1

- Atoms, elements and compounds
- Word and symbol equations



Atoms, elements, compounds and mixtures PART 1 – QuestionIT

1. Around how many different types of elements are there in the periodic table?

100

2. Why is it useful to have symbols for atoms of different elements?

When elements join together to form a compound, it tells you how many atoms there are

3. What is the difference between an element and a compound?

Elements contain one type of atom and compounds contain more than one type

4. Explain why it is difficult to separate a compound, compared to an element.

A compounds elements are chemically joined together

Atoms, elements, compounds and mixtures PART 1 – QuestionIT

5. Solid sodium reacts with water to form a sodium hydroxide solution and hydrogen gas.

a) Write a word equation to represent this reaction.

Sodium + water → sodium hydroxide + hydrogen

b) Give the balance symbol equation for the reaction.

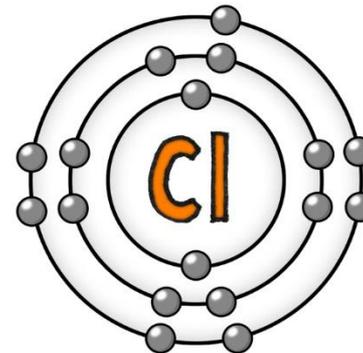
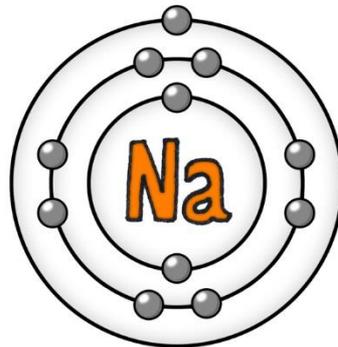
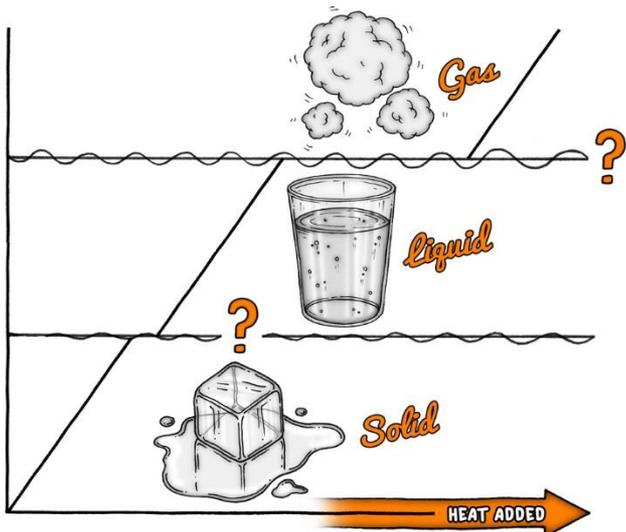
$2\text{Na(s)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{H}_2\text{(g)}$

HT only:

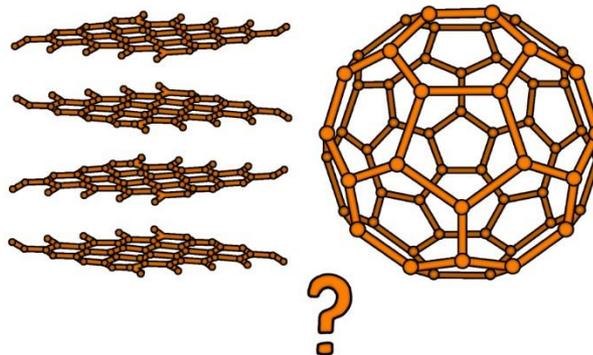
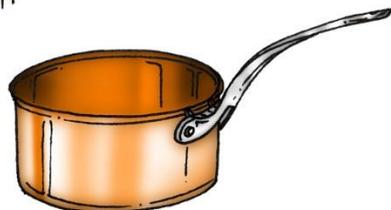
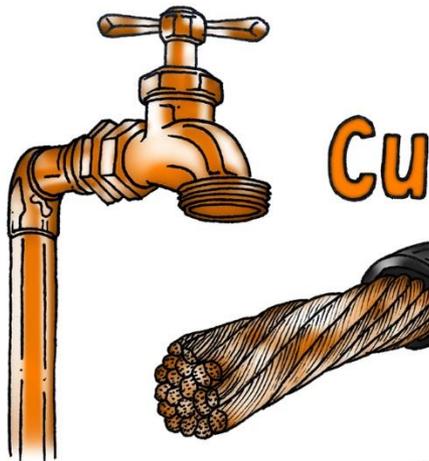
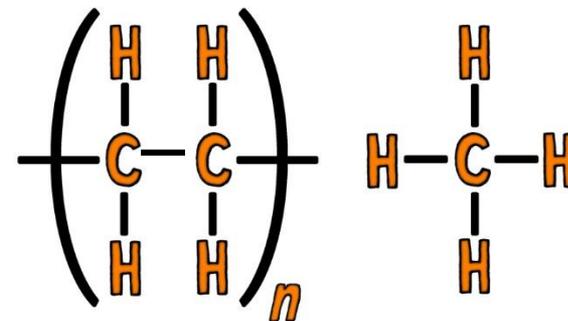
6. When magnesium reacts with sulfuric acid, the hydrogen ions in the acid will be displaced from the solution by magnesium.

Balance the following ionic equation.





AQA GCSE
 BONDING, STRUCTURE AND
 THE PROPERTIES OF MATTER
THINK IT!



Changes in State:

- Ammonia is a liquid between -77.7°C and -33.3°C . Use the kinetic theory to explain the three states of matter in this case.
- Using the particle theory, predict how temperature and pressure affect the density of a fixed mass of gas.
- *HT only - Explain the limitations of the particle theory.*

Nanoparticle (chemistry only):

- Sun cream uses nanoparticles. In terms of size, evaluate the advantages and disadvantages of using nanoparticles in this way.
- Some scientists believe there should be restrictions on the use of nanoparticles. Explain some of the possible risks associated with the use of nanoparticles.

Metallic bonding:

- Ionic lattices are brittle. Compare and contrast metallic and ionic bonding to explain why metallic compounds are not brittle.
- Explain, in terms of structure and bonding why metals are good conductors of heat energy and electricity.
- Explain why alloying a metal can make the metal harder.

Ionic Bonding:

- Explain, using a diagram, how and why the atoms of Group 1 and Group 7 elements react with each other, in terms of their electronic structure.
- Explain, using their position in the periodic table, what the charges on metallic and non-metallic ions relates to.
- Explain how the ions are held together in solid magnesium oxide (MgO).

Ionic Compounds:

- Describe in terms of electrons what happens when magnesium reacts with fluorine to form the ionic compound magnesium fluoride (MgF_2).
- Explain why sodium chloride is NaCl , but sodium oxide is Na_2O .
- Explain why the ball and stick model is not a true representation of the structure of an ionic compound.

Properties of Ionic compounds:

- NaCl has a very high melting point, but can be easily crushed. Use your knowledge of bonding to explain this.
- Explain why ionic compounds conduct electricity only when molten or dissolved in water.
- Suggest how electrolysis can be used to separate lead selenide (PbSe).

AQA

Bonding, Structure and the Properties of matter

ThinkIT!

© Copyright The PiXL Club Ltd, 2017

Structure and bonding of carbon:

- Explain the properties of diamond in terms of its structure and bonding.
- Explain how graphite can be used to reduce the friction between two substances.
- Diamond coating would make smartphones and tablets far stronger but would remove their touch-screen capability. Use your knowledge of bonding to explain why.

Covalent Bonding:

- Nitrogen gas is a diatomic molecule. Explain how the atoms are joined together.
- Explain why the melting point of hydrogen chloride is -115°C , whereas sodium chloride's melting point is 801°C .
- Sulphur hexafluoride SF_6 is an insulating gas. Suggest the type of bonding present and explain why it is gaseous at STP (Standard Temperature and Pressure).



Metacognition

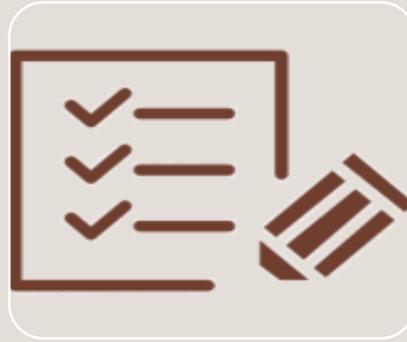
Before competing, many athletes will close their eyes and visualise themselves performing the perfect jump/throw/race/etc... This is a form of “Metacognition” called mental rehearsal, and with other forms they can combine to give you a great advantage in preparation for examinations...

An ambitious school at the heart of the community

What is “Metacognition”?



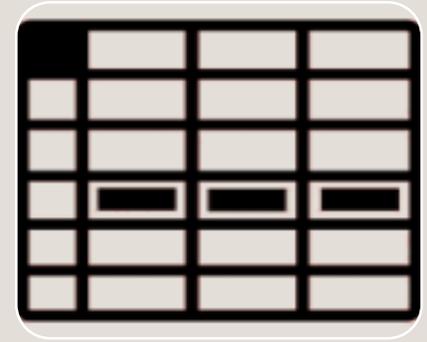
Knowing steps and timings involved in assessments e.g. through “Walking Talking Mocks” (WTM)



Drawing on coping strategies e.g. acronyms, checklists



Using aids to recall key information e.g. “*memory palaces*” and mnemonics



Evaluating your work against objectives or targets set by yourself or a teacher e.g. a Personal Learning Checklist (PLC)

What does “Metacognition” look like?

When a question requires a long answer, having a plan of how you will work through providing that answer will help you to remain calm and focussed, and avoid any problems that might arise from nerves.

For example:

1. Highlight the key **command word** in the question (e.g. “Describe”, “Explain”, etc...).
2. Highlight the key **knowledge content** that the question is wanting you to respond to/with.
3. Think about what you know about that would help to answer the question and write those points quickly in the margin.
4. Use your quick notes to write your answer and then check back to make sure you have covered everything.

Analyse how the **writer uses language to describe** the accident.

An ambitious school at the heart of the community

What does “Metacognition” look like?

P

- **Point**

- At the start of the play, Macbeth is presented as a valuable asset to Duncan’s army.

E

- **Example**

- We see this in the quote, ‘For brave Macbeth – well he deserves that name – ‘

T

- **Technique**

- Here Shakespeare has used parenthesis to place extra information inside the dashes.

E

- **Explore**

- You can imagine the actor playing the Captain, emphasising these words as he spoke them.

R

- **Refer to question**

- By doing this he would be pointing out to the audience just how valued Macbeth was to the king at the start of the play.

When a question requires a long answer, having a plan of how you will work through providing that answer will help you to remain calm and focussed, and avoid any problems that might arise from nerves.

An ambitious school at the heart of the community

What does “Metacognition” look like?

GCSE English Language Paper 1 Section A asks you to answer 4 questions based on an extract from fiction

TOTAL TIME:

1
HOUR

QUESTION 1

Q.1 Read again the first part of the source, **lines 1 to 7**. List **four** things from this part of the source about the boy. **[4 marks]**

5
MINS

OUR TOP ADVICE:

- Read the question properly
- Only refer to the lines it gives you
- Only list 4 things
- Write each point in a short sentence

Terminology Top Ten:
imagery / metaphor / simile / personification / repetition / vivid word or phrase / onomatopoeia / semantic field / contrast / cyclical structure

QUESTION 2

Q.2 How does the writer use language here to describe the boy playing in the evening? You could include the writer's choice of:

- words and phrases
- language features and techniques
- sentence forms.

[8 marks]

15
MINS



OUR TOP ADVICE:

Before writing:

- Underline key words in the question
- First identify the words or phrases that answers the question (eg that describe the effects of the weather...)
- Look at what you have picked out, where has the writer made an effort with language? Use these quotations for your answer
- Finally add terminology - if not known, use alternative phrases eg. 'the vivid word '___' or the emotive phrase '___'

Writing your answer:

- Aim to write about 2 to 3 points about language using short quotes
- The effect is the most important aspect. Be specific!
- Building an interpretation using linked quotations gets you the higher marks
- If you do spot imagery, try to offer layers of meaning

Level 3
Clear, relevant explanation
5-6 marks

Shows clear understanding of language:
- Explains clearly the effects of the writer's choices of language
- Selects a range of relevant textual detail
- Makes clear and accurate use of subject terminology

Level 3
Clear, relevant explanation
5-6 marks

Shows clear understanding of structural features:
- Explains clearly the effects of the writer's choices of structural features
- Selects a range of relevant examples
- Makes clear and accurate use of subject terminology

QUESTION 3

Q.3 You now need to think about the **whole** of the source. This text is from the middle of a short story. **How has the writer structured the text to interest you as a reader?** You could write about:

- what the writer focuses your attention on at the beginning
- how and why the writer changes this focus as the source develops
- any other structural features that interest you.

[8 marks]

15
MINS



OUR TOP ADVICE:

Before writing:

- Divide text up where focus shifts (eg moves setting focus on different character etc..)
- Identify what the writer is focussing on in each bit and decide WHY/what's the effect?
 - Think about how the writer opens the extract (for example, are they focussing on scene setting or building an atmosphere? Hooking you into the narrative or establishing character?)
 - When the focus shifts, does it change scene/ atmosphere or focus on different characters/ relationships/character's thoughts
 - What does the writer focus on at the end – Try to link to the beginning
- Watch out for any clues the writer includes that lead the reader to wonder about or expect certain things to happen

Writing your answer:

- Aim to write about the opening and then 2 shifts in focus. (1 paragraph per aspect)
- Use quotations to support your points
- The effect is the most important aspect. Be specific!
- Use phrases such as:
The writer opens with...
_____ they focus our attention on...
the writer shifts focus to...
the writer _____ builds up/ _____ the idea...
the writer that...
Finally/at the end the writer...
 - For top band, look for patterns: contrasts/motifs/how an idea develops
 - Do not worry about terminology: use *narrative hook, cyclical structure, flashback* etc ONLY IF RELEVANT

QUESTION 4

Q.4 Focus this part of your answer on the second part of the source from **line 16 to the end**. A reviewer wrote: 'This end part of the extract where the boy's game comes to life takes a darker and more chilling tone.' To what extent do you agree? In your response, you could:

- consider your own impressions of the boy's game
- evaluate how the writer creates a dark and chilling tone
- support your response with references to the text.

[20 marks]

25
MINS



OUR TOP ADVICE:

Before writing:

- Read the question carefully and only refer to the line it asks you to.
- Check if question has two parts to it: you lose marks if you only write about one part.
- Find evidence that agrees with the statement - highlight quotes
- Find any evidence that disagrees - there might not be any
- Think before you start writing about your key points and the order you will write them in.

Writing your answer:

- This answer should be at least twice as long as Question 2 or 3
- Make at least 3 big points - lead with agreeing!
- Remember to write about methods: keep mentioning the writer and how he/she does things ..
- Keep referring back to the statement- keep evaluating!
- If relevant, and if it does not contradict other conclusions, make a point showing understanding of alternative point(s) of view.

Level 3
Clear, relevant evaluation
11-15 marks

Shows clear and relevant evaluation:
- Evaluates clearly the effect(s) on the reader
- Shows clear understanding of writer's methods
- Selects a range of relevant textual references
- Makes a clear and relevant response to the focus of the statement

An ambitious school at the heart of the community

What does “Metacognition” look like?

GCSE English Language Paper 2 Section A asks you to answer 4 questions based on two extracts from non-fiction

TOTAL TIME:

1
HOUR

QUESTION 1

Q.1 Read again source A from lines 1 to 15. Choose four statements below which are true.
 • Shade the boxes of the ones that you think are true
 • Choose a maximum of four statements [4 marks]

5
MINS

OUR TOP ADVICE:

- Read the statements very carefully! Some statements require you to read between the lines of the text
- Only choose 4 (any more and marks are taken off)
- Shade in the boxes so the computer can scan it

Terminology Top Ten:

imagery / metaphor / simile / triple / imperative / repetition / rhetorical question / vivid word or phrase / semantic field / contrast

QUESTION 2

Q.2 You need to refer to **source A** and **source B** for this question: Both sources give details about the places where the events occur. **Write a summary of the differences between Aberfan and London. [8 marks]**

15
MINS

OUR TOP ADVICE:

- Underline key words
- Answer the question

Before writing:

- Take your first source. Identify a few key ideas (you don't need lots) that answer the question
- Look at the second source for ideas to compare

Writing your answer:

- Support each point with at least one quotation or evidence from each of the sources, trying to embed them where possible.
- You **MUST** read between the lines: inference is the key to doing well on this question
- Use connectives that explicitly signpost the difference, e.g. whereas; however; on the other hand

Level 3
Clear, relevant
summary
5-6 marks

Shows clear synthesis and interpretation of both texts:
 - Makes clear inferences from both texts
 - Selects clear references/textual detail relevant to the focus of the question
 - Statements show clear differences between texts

QUESTION 3

Q.3 You now need to refer **ONLY to source A, lines 27 to 40**. How does the writer use language to describe the coal tips? [12 marks]

18
MINS



OUR TOP ADVICE:

- Identify lines
- Answer the question

Before writing:

- First identify the words or phrases that answer the question (eg that describe the coal tips).
- Look at what you have picked out, where has the writer made an effort with language? Use these quotations for your answer
- Finally add terminology – if not known, use alternative phrases eg. 'the vivid word ' _____ ' or the emotive phrase ' _____ '

Writing your answer:

- Aim to write about 2 to 3 points about language using short quotes
- The effect is the most important aspect. Be specific!**
- Building an interpretation using linked quotations gets you the higher marks**
- If you do spot imagery, try to offer layers of meaning

Level 3
Clear, relevant
explanation
7-9 marks

Shows clear understanding of language:
 - Explains clearly the effects of the writer's choices of language
 - Selects a range of relevant textual detail
 - Makes clear and accurate use of subject terminology

Level 3
Clear, relevant
9-12 marks

- Compares ideas and perspectives in a clear and relevant way
 - Explains clearly how writers' methods are used
 - Selects relevant detail to support from both texts
 - Shows a clear understanding of the different ideas and perspectives in both texts

QUESTION 4

Q.4 For this question, you need to refer to **the whole of source A** together with the whole of **source B**. Compare how the writers convey their different ideas and perspectives of the events that they describe.

In your answer, you could:

- consider their different ideas and perspectives
- compare the methods they use to convey their ideas and perspectives
- support your response with references to both texts [16 marks]

22
MINS



OUR TOP ADVICE:

Before writing:

- Find evidence from source A – highlight quotes
- Find evidence that links from source B – highlight quotes
- Identify the key viewpoint or perspective in each (For higher bands consider if this is influenced by the form or the audience?)
- Think before you start writing about your key points and plan

Writing your answer:

- Have a **brief** introduction which makes clear the different viewpoints (try to include a comparison)
- In the rest of your response, make sure you identify a viewpoint or perspective **before** analysing the methods used to present them
- Include short (ideally embedded) quotations to support your interpretations
- Methods is a broad term including:
 - Tone/language/structure/narrative voice
- Throughout the response, clearly signpost the thought/feeling/viewpoint/perspective of the writer e.g. the writer thinks ... /The writer clearly feels ...
- Remember to use connectives that show comparison whether that be similarities or differences e.g. however, on the other hand, whereas

An ambitious school at the heart of the community

Long-Answer Questions

Addressing those high-value questions with STRUCTURE,
STRUCTURE, STRUCTURE

An ambitious school at the heart of the community

Structure (i.e. Metacognition)

Tytherington GCSE P.E. - 9 Mark Questions – Steps to Success!

STEP 1: READ THE QUESTION carefully and **highlight** the following words:

Command Word: What is the question asking you to do? (Discuss, Analyse, Evaluate, Justify?)

Topic Word: This should provide the content for your answer, the question is asking you to demonstrate knowledge of this area of the specification e.g. guidance

Qualifying Word – this provides the context. This is what you will be linking your answer to e.g. improving sports performance

STEP 2: PLAN and STRUCTURE your answer. Ensure you include the following:

1. **Introduction** - give an overview of the topic. Think about re-wording the question and demonstrating knowledge and understanding of the topic
2. **Main Body** –3 paragraphs (1 x A01, 1 x A02, 1 x A03 IN EACH PARAGRAPH)
3. **Conclusion** – Summarise your answer

Don't forget to use paragraphs!

STEP 3, 4 & 5 REPEAT THIS STEP 3 TIMES (3 Paragraphs)

A01: Demonstrate knowledge and understanding – define, identify, state, outline, describe.

A02: Apply knowledge and understanding using sporting examples - demonstrate your understanding of HOW the topic links/applies to a sporting example

A03: Analyse and evaluate – explore and review the information you have provided, bringing it together to form a conclusion or judgement. Articulate contrasting viewpoints, look at advantages/disadvantages, strengths/weaknesses.

Make a POINT

(A01)

3 MARKS

Explain it using a sporting example

(A02) 3 MARKS

Analyse and Evaluate **(A03)**

3 MARKS

STEP 6: CUPS your work

Capitals

Understanding

Punctuation

Spelling

Remember to use **key**
vocabulary and
terminology throughout
your answer

An ambitious school at the heart of the community

Structure (i.e. Metacognition)

How to answer a 9 Mark Question

This is the same mark scheme/structure for all 9 mark questions

Pros and cons; Analyse information; Conclusion; Relate to question

Type I, slow, oxygen

Type IIa, fast, less oxygen

Type IIx, very fast, no oxygen

Long distance, fast finish

Evaluate the relevance of the different muscle fibre types for a 5000m runner. [9 marks]

Generic MarkScheme		
Level	Mark	Descriptor
	0	• No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding with limited technical language used (AO1) • Limited attempt to apply knowledge to question context (AO2) • Generic assumptions may be presented (AO3 - evaluation)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates mostly accurate knowledge and understanding, including appropriate use of technical language in places (AO1) • Applied knowledge to question context (AO2) • Attempts at drawing conclusion, with some support from relevant evidence (AO3 - evaluation)
Level 3	7-9	<ul style="list-style-type: none"> • Demonstrates accurate knowledge and understanding throughout, including appropriate use of technical language (AO1) • Applied detailed knowledge to question content throughout (AO2) • Reaches a valid and well-reasoned conclusion supported by relevant evidence (AO3 - evaluation)

AO1— Identifying key points and knowledge

AO2— Applying your knowledge to the question

AO3— Evaluation using evidence and reference to the

Introduction
 A 5000m runner would need all the fibre types at some point during the race. The three fibre types are Type I which are slow twitch and Type II (a and x) which are fast twitch.

Main Content
 Type I fibres are slow twitch fibres which means they can last a long time as they contract slowly and have a high oxygen supply. This would be relevant for a 5000m runner as it is a long-distance race. This means that they would be able to perform/run to a high standard for the whole race and not have to walk. Type IIa fibres are fast twitch fibres which means that they have less oxygen supply but allow the runner to run at a faster pace however they cannot maintain the exercise for long periods due to fatigue. A 5000m runner uses these in the last few laps as the pace increases to allow them to compete fully to the end of the race by increasing their pace and get in a good position for the finish.

Type IIx fibres are also fast twitch but have very limited oxygen supply so they fatigue quickly and can only last for up to a minute. These fibres are used for explosive movements such as sprinting. Therefore, a 5000m runner would use these fibres in the last 100/200m of the race to secure a fast finish and hopefully either win the race or set a personal best.

Conclusion
 In conclusion a 5000m runner would need all three muscle fibre types but to a varying degree. The slow twitch fibres are the most relevant to ensure the athlete can keep running throughout the whole distance. However, the fast twitch fibres would become more significant just in the last moments of the race to inject speed into the last 2 laps (Type IIa) and then to have a sprint finish down the last 100m (Type IIx) to beat opponents to the line or set new personal best.

Year 11 Preparation & Revision Evening

Monday 18th November 2019

Thank you for coming!

An ambitious school at the heart of the community