WHAT EVERY STUDENT needs to know about REVISION

- When to start?
- What techniques?
- What to revise?
- Where is best?
- How often?
I WAS NEVER taught how to revise…

In bringing this guide to you I have leaned heavily on the work of the Learning Scientists. They are a group of expert “cognitive psychological scientists interested in research on education” and their “main research focus is on the science of learning”.

Also, the way I have presented this guide is very different from the way in which I would have created it a year ago. I have tried to design this guide according to the principles of dual coding and my go-to expert is a man called Oliver Caviglioli. He has written an excellent book called “Dual Coding with Teachers”. And the icons I have used are from www.flaticon.com.

Oliver Caviglioli’s work, like the Learning Scientists’ work, is based upon cognitive science. In other words the science of learning.

Suffice to say, I have every confidence that this guide will not only help you navigate the tricky waters of revision but will ensure that your revision will be based upon the most up-to-date evidence-based researched on how we learn. So get revising and learning.

Find out more about the science behind your learning

www.learningscientists.org

www.olicav.com
ALL OF YOUR revision questions answered

This guide will provide answers to all of the questions below and give you methods of revision to help you revisit your previous learning to prepare for tests and exams. There is also a section at the end of this booklet for parents and carers so they can help you revise effectively.
WHEN IS THE best time to revise?

This WHEN section is not about planning revision timetables, I will give examples of revision plans later in this booklet. Rather, below shows two techniques which can be used separately or together (for maximum effect), to plan effective revision. The first is Spaced Practice.

Spaced Practice

6 hours over two weeks is BETTER than 6 hours all at once

Review information from class but NOT straight away

Maths lesson on Tuesday, period 3
Give yourself some space!
Review the Maths from Tuesday

After reviewing the most recent class information make sure you go back and review older important information

Review the Maths from Tuesday and…
…maths from 1 week ago…
…maths from 1 month ago…

Why does Spaced Practice work?

This may seem difficult and you may struggle to remember some information. But don’t worry, this is a good thing. Spaced Practice forces you to retrieve information from your memory. And that’s where it needs to be.
WHEN IS THE best time to revise?

On the previous page you learnt about Spaced Practice. This looked at information from subjects and showed you how to space out your revision to ensure that it lodges in your long-term memory. Interleaving alongside Spaced Practice upgrades your revision to PREMIUM learning!

Interleaving

During a revision session, switch topics. Don’t study one topic for too long.

Maths revision session

Go over the topics in a different order to strengthen your understanding.

Maths revision session 1  
Maths revision session 2  
Maths revision session 3

Make links between the topics as you switch between them.

Why does Interleaving work?

Interleaving will feel harder than just studying a single topic. Don’t worry, the switching is helpful to your learning and long-term memory.
HOW SHOULD YOU revise?

Knowing WHEN to revise based upon Spaced Practice and Interleaving is vital for successful revision but is only half the story. HOW you revise, choosing the most effective techniques to ensure that your learning sticks, is the key to your success. This next section is all about HOW you should revise. The ways to study I am sharing with you are designed to maximise your learning. Using the range of these techniques to suit the content you are studying and the time you have to revise are skills you will hone over time.

**Retrieval Practice**

Put away exercise books and text books then write and sketch everything you know about a topic you want to revise. THEN check for accuracy against the exercise books and text books, IT IS VITAL YOU CHECK!

<table>
<thead>
<tr>
<th>Put away resources</th>
<th>Write</th>
<th>Sketch</th>
<th>Check</th>
</tr>
</thead>
</table>

Take lots of practice tests. Create them yourself or swap with friends

<table>
<thead>
<tr>
<th>Take lots of practice test</th>
<th>Create your own tests</th>
<th>Swap with friends</th>
</tr>
</thead>
</table>

Create flashcards and practice retrieving the information on them. Make links between the ideas and topics on the cards.

<table>
<thead>
<tr>
<th>Create flashcards</th>
<th>Make links between ideas and topics on the cards</th>
</tr>
</thead>
</table>

**Why does Retrieval Practice work?**

Retrieval Practice works best when you check for accuracy. You also need to make sure that you recall ideas and links as well as words and definitions.
HOW SHOULD YOU revise?

Retrieval Practice will work for most topics, and is crucial when you are using Spaced Practice and Interleaving to plan your revision. If you like to talk things through while you revise then Elaboration will ensure that you focus on the right things to talk through. Elaboration is a useful technique to use with Retrieval Practice. And if you revise with others, it will help focus your revision on the most effective learning.

**Elaboration**

Ask yourself how and why things work. Find the answers in your revision materials. Discuss the answers with revision buddies.

As you elaborate make connections between different ideas. Explain similarities and differences.

Link ideas and topics you are studying to you and your experiences. Keep making these connections.

**Why does Elaboration work?**

Elaboration works best when you check the accuracy of your explanations against the original material.
HOW SHOULD YOU revise?

Using Concrete Examples as part of your Elaboration will ensure that you consolidate the topics you are revising. You can create the examples while revising on your own but Concrete Examples shared with your friends will provide additional benefits to your learning.

Concrete Examples

Find examples that link with ideas and topics from class notes, your teacher and exercise books and collect them together.

Make links between the examples and the idea/topic you are studying so you understand how the example applies to the idea/topic.

Share examples with revision buddies and explain the examples

Why do Concrete Examples work?

Concrete examples work if they are your own and relevant to you. However, do make sure they are correct examples; check with your teacher.
HOW SHOULD YOU revise?

Using visuals with words helps your revision stick. It lodges information in your long term memory as you take in both the visual representation of the idea or concept and the words explaining it. Use Dual Coding as a main method of your note taking, sketching and writing when using Retrieval Practice, Concrete Examples and Elaboration.

**Dual Coding**

Look at your exercise books, text books and revision materials, look over the visuals and compare to the words.

Look at your visuals and explain in your own words what they mean.

Take information you are trying to learn and draw visuals to go along with it.

**Why does Dual Coding work?**

Dual Coding works when you look at visuals along with words. Try to come up with different ways to represent the information visually: Infographics, Diagrams, Cartoon Strips, Graphic Organisers, Timelines. Examples will be on the next few pages.
DUAL CODING examples

Themes through Day and Night

**Identity**
Family defines identity in Verona

**Youth**
The young lovers rush to wed after one day

**Passion**
Impassioned violence results in two murders

**Banishment**
Romeo is banished from Verona for ever

**Sacrifice**
Confronted with death the families reconcile

Romeo and Juliet

**Identity**
Faces concealed, Romeo and Juliet meet

**Youth**
Driven by impulse they meet secretly at night

**Passion**
After the tragedy the lovers still share the night

**Banishment**
Juliet seeks escape through pretend death

**Sacrifice**
In a double suicide the lovers sacrifice all
DUAL CODING examples

Infographic
Diagrams
Cartoon Strip
Graphic Organiser
Timelines

THE DIGESTIVE SYSTEM

- Mouth: where food is ingested
  - Salivary glands: produce saliva
  - Teeth: cut, chew, grind
  - Pharynx: moves food down
  - Esophagus: moves food down

- Stomach: where food is digested
  - Gastric juice: hydrochloric acid, enzyme pepsin
  - Muscles: mix food and digest
  - Peristalsis: moves food through

- Small intestine:
  - Jejunum: absorption of nutrients
  - Ileum: absorption of water

- Large intestine:
  - Cecum: storage of waste
  - Colon: absorption of water
  - Rectum/Anus: elimination of waste

- Pancreas: produces digestive enzymes
  - Gallbladder: stores bile
  - Liver: produces bile
DUAL CODING examples

- Infographic
- Diagrams
- Cartoon Strip
- Graphic Organiser
- Timelines

"Boy, this shall not ease the lilies that thou hast done me. Therefore turn end draw" (3.1.67-68).

"But I love you! I can't hurt you!"

"O calm, dishonorable, vile submission" (3.1.74).

"Tybalt! Mercutio! The prince expressly hath forbid this butchering in Verona streets. Hoist, Tybalt! Good Mercutio!" (3.1.89-93).

"A plague o' both your houses" (3.1.103-104).

"Romeo slew him; he slew Mercutio" (3.1.193).

"Not Romeo, Prince; for were Mercutio’s friends, this fault concludes but what the law should end, that life of Tybalt (3.1.293-295).

"Immediately we do exile him hence" (3.1.197).

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THE CAUSES OF WWI
(M.A.N.I.A)

- NATIONALISM - Pride in one’s nation, encouraging unity, this created rivalry and mistrust (nationalism was really strong in the Balkans)
- MILITARISM - Building up strong armed forces to prepare for war (European nations expanded armies and navies)
- ALLIANCES - Formed rival alliances, the allies had agreed to support each other in case of an attack
- IMPERIALISM - When the strong takes over the weak, also there were rivalries among powerful nations (this led to wars)

Create your own at Storyboard That!
DUAL CODING examples
DUAL CODING examples

Infographic
Diagrams
Cartoon Strip
Graphic Organiser
Timelines

**TIMELINE**
History of Popular Social Media Platforms

- **2002**
  - LinkedIn
  - A business- and employment-oriented social networking service that operates via websites and mobile apps

- **2004**
  - Facebook
  - An online social media and social networking service based in Menlo Park, California

- **2005**
  - YouTube
  - A business and entertainment-oriented social video-sharing website that enables users to watch videos online

- **2006**
  - Twitter
  - A service for friends, family, and coworkers to communicate and stay connected through the exchange of quick, frequent messages

- **2007**
  - Tumblr
  - A microblogging platform that allows users to share photos, videos, and links from their browser, phone, desktop, email

- **2008**
  - Instagram
  - The home for visual storytelling for everyone, from celebrities, newsrooms and brands, to learners, musicians and artists, with a creative passion

- **2010**
  - Pinterest
  - A visual bookmarking tool that helps you discover and save creative ideas

2002
LinkedIn
A business and employment-oriented social networking service that operates via websites and mobile apps

2004
Facebook
An online social media and social networking service based in Menlo Park, California

2005
YouTube
A large-scale video sharing website that enables users to watch videos online

2006
Twitter
A service for friends, family, and coworkers to communicate and stay connected through the exchange of quick, frequent messages

2007
Tumblr
Let you effortlessly share anything. Post text, photos, videos, links, audio, and more

2010
Instagram
The home for visual storytelling for everyone, from celebrities, newsrooms and brands, to learners, musicians and artists, with a creative passion

2010
Pinterest
A visual bookmarking tool that helps you discover and save creative ideas
Here are two examples of revision timetables put together using Spaced Practice and Interleaving. The first is KS3 Science Y7 with the test on Friday 6 March and the second for KS3 Y9 Maths, and Science with the tests at different times. 10 minutes was spent on each topic using retrieval practice, dual coding, concrete examples and elaboration. Both timetables were fairly short revision windows so the Spaced Practice is a little squeezed but the Interleaving works reasonably well.

### KS3 Y7 Science Revision

<table>
<thead>
<tr>
<th></th>
<th>Saturday</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>Date</td>
<td>29 Feb</td>
<td>1 Mar</td>
<td>2 Mar</td>
<td>3 Mar</td>
<td>4 Mar</td>
<td>5 Mar</td>
<td></td>
</tr>
<tr>
<td>Topics</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>Adolescence</td>
<td>Reproductive Systems</td>
<td>Fertilisation and implantation</td>
<td>Development of a foetus</td>
<td>Menstrual cycle</td>
<td>Pollination, fertilisation and germination</td>
<td>Seed dispersal</td>
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</tbody>
</table>

For KS3 Y9 Maths and Science, the revision plan is as follows:

### KS3 Y9 Maths and Science Revision

<table>
<thead>
<tr>
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<th>Sunday</th>
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<th>Tuesday</th>
<th>Wednesday</th>
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<tbody>
<tr>
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<td>24 Feb</td>
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<td>28 Feb</td>
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<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>Algebra</td>
<td>Angles</td>
<td>Trigonometry</td>
<td>Probability</td>
<td>Fractions</td>
<td>Decimals</td>
<td>Percentages</td>
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</tbody>
</table>

Maths: 30 mins per night; Science 30 Mins per night
RECIPE FOR EFFECTIVE revision

The table below shows very clearly what ingredients are needed for effective revision. The credit for this table goes to Kate Jones from her excellent book “RETRIEVAL PRACTICE Research & Resources for every classroom”. Her chapter on revision starts with the table below. This table will provide you with a simple way of deciding how effective your current revision strategies are and what you need to do to improve them.

<table>
<thead>
<tr>
<th>Retrieval Practice</th>
<th>Spaced Practice + Interleaving</th>
<th>Motivation</th>
<th>Support</th>
<th>Attendance</th>
<th>=</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrieval Practice</td>
<td>Spaced Practice + Interleaving</td>
<td>Motivation</td>
<td>Support</td>
<td>Missing</td>
<td>=</td>
<td>Lower results</td>
</tr>
<tr>
<td>Retrieval Practice</td>
<td>Spaced Practice + Interleaving</td>
<td>Motivation</td>
<td>Missing</td>
<td>Attendance</td>
<td>=</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Retrieval Practice</td>
<td>Spaced Practice + Interleaving</td>
<td>Missing</td>
<td>Support</td>
<td>Attendance</td>
<td>=</td>
<td>Under performance</td>
</tr>
<tr>
<td>Retrieval Practice</td>
<td>Missing</td>
<td>Motivation</td>
<td>Support</td>
<td>Attendance</td>
<td>=</td>
<td>Cramming</td>
</tr>
<tr>
<td>Missing</td>
<td>Spaced Practice + Interleaving</td>
<td>Motivation</td>
<td>Support</td>
<td>Attendance</td>
<td>=</td>
<td>Ineffective strategies</td>
</tr>
</tbody>
</table>

This booklet is not the only way to approach revision but it is based on strategies which have been proven by experts to be highly effective. Spaced Practice and Interleaving, together with the strategies centred around Retrieval Practice, Elaboration, Concrete Examples and fuelled by Dual Coding will ensure that WHEN you revise and HOW you revise are going to help you succeed.

However, you need to be motivated, this can only come from you but will be boosted by those around you (teachers, parents and carers, friends and peers). You will also need support, from home and if it’s not going to be easy to revise at home, you will get support from your teachers at school, just ask them. And crucially, you have to commit to the revision. Don’t skip days on your plan, you must attend to the revision. In other words be present and deal with it!
HOW CAN I help?

The last words of this booklet are for parents and carers.

If you find yourself struggling to support your son/daughter through their revision, having told them for the umpteenth time to knuckle down and revise. If you’ve bought yet another pack of highlighter pens so they can continue to plaster their exercise books in dayglow green and orange, if you’ve helped them plan yet another revision timetable because they’ve not managed to stick to the last eight iterations, and if you are trying to manage stress levels for all members of the family as the exam deadline looms, then all is not lost.

It’s an onerous task being the parent/carer of a revising student. Learning is messy and complicated and any help we can get with the process is most welcome.

The content of this booklet is not simply about revision, rather it is promoting effective study habits that will stay with students throughout their lives. The more we can support young people in developing effective study habits, the better they will become at studying and performing in tests and exams.

HOWEVER, if you simply don’t have the time to go through every aspect of the booklet on your own but want to know what will make the biggest difference to your son/daughter’s revision then below is an infographic for you to use to help make you son/daughter’s revision more effective.

Go through this booklet together
Help them plan their revision timetable
Keep them motivated

Make sure they stick to their plan
Help them revise
Make sure they have a clam and peaceful place to revise

Make sure they eat well and don’t skip meals
Make sure they get the right amount of sleep
Make sure they exercise

And don’t forget to build in some time for them to relax, with or without you!