

How to revise in Science.

To make best use of your revision time you must interact with and think about the content being studied. Apply the following rules

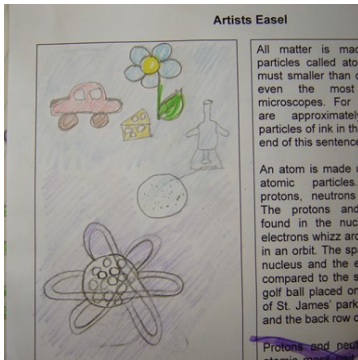
1. Break it down
2. Join it back up again
3. Practice remembering— so test yourself often
4. Practice example technique
5. Use more than one source of information

TOP TIPS:

If you want a good grade you have to do the work.

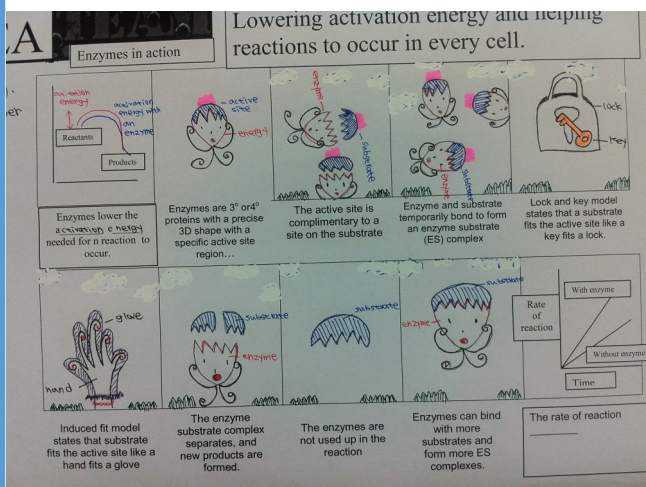
How to Break it down – Dual Coding

The brain remembers better information that it is pictures alongside words. This could be as simple as taking a block of text and turning it into simple images.



This might be good for: Linking structure to function eg The leaf and its adaptations to photosynthesis.

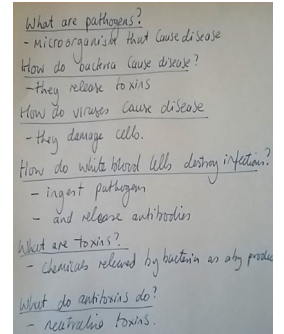
Or creating a comic strip of a sequence of events. Simply break a sequence into steps and then draw simple images



This might be good for: Required Practical methods and linking Cause and Effect e.g. Enzyme function and changes in pH and Processes such as Transpiration of water through a plant.

How to break it down – Questions and Answers.

1. Select on topic or page in the revision guide.
2. Read it once through.
3. Read it again, but this time write questions that pick out the detailed facts.
4. Answer the questions as simply as you can directly below each question
5. Cover each question with a piece of paper and review them before taking a break.

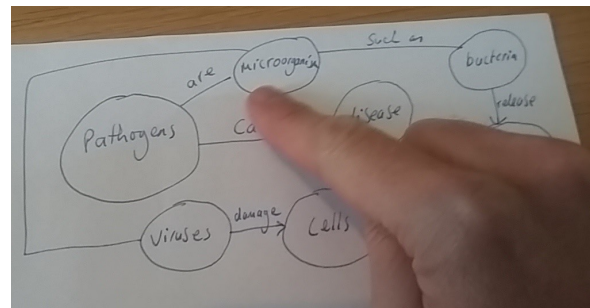


This might be good for: It all!

How to Join it back up again— Concept mapping.

This is probably best done after you have broken a topic down. The idea is to link how ideas affect one another or how they are related.

1. Again take one topic or page in your revision guide. Although some concepts are so important that they warrant their own multi-topic concept maps!
2. Identify a key idea and write it in a bubble.



3. Now find a linked idea and write it too in a bubble.
4. Draw a line between the two and on the line write why you have linked them.
5. Seek out all key ideas joining as you go.
6. Some ideas will have many connections.
7. Review by pole-bridging. Talking through the topic using your finger to trace the what you are talking about.

This might be good for: It all!

TOP TIPS:

Revise in chunks of around about 30– 40 minutes.

Start and end each session with a review of what you can remember

Have a five minute break in between each chunk.

How to join it back up again— Key concepts that the underpin Science.

If you only make concept maps for a few things make it one of these concepts.

Biology	Chemistry	Physics
<p>Molecule shape linked to function</p> <p>Adaptations of cells, tissues and organs to their function and organisms to their environment.</p> <p>Surface area and diffusion are key adaptations for the movement of materials</p> <p>All life is dependent upon Photosynthesis for organic compounds and oxygen.</p> <p>Energy released from respiration is used for other chemical reactions to occur.</p> <p>Chemicals in ecosystems are constantly recycling</p>	<p>Atom structure and how elements atom are different</p> <p>The periodic table shows relationships in chemical and physical properties.</p> <p>The structure of an atom determines an elements properties.</p> <p>Bonding occurs between atoms either by electrons being shared or transferred.</p> <p>Linking bonding type to the properties of a material</p> <p>The rate of reaction depends upon overcoming barriers.</p> <p>Energy and mass are conserved in chemical reactions— they cannot be created or destroyed.</p>	<p>Models help scientists work out how the world really works eg the particle model and the wave model of light and sound.</p> <p>Models often show a proportional relationship.</p> <p>Link cause and effect e.g. force and acceleration or radioactive decay and changes in atomic nuclei</p> <p>Action at distance explains electrical and magnetic fields.</p> <p>Differences in phenomena e.g. temperature or pressure leads to change</p> <p>Physics laws can be shown in the mathematical form</p>

How to practice remembering.

Testing what you know is a great tool that strengthens your memory. You could:

1. Use the questions and answers.
2. Make flash cards of definitions, questions and answers, scientific thinking key terms and calculation formula.
3. Use the Leitner method of practicing flash-cards. <https://youtu.be/C20EvKtdJwQ>
4. Cover your revision notes, maps etc and try to recreate them.
5. Space out your practice: Start by testing yourself on the topic you have just studied before beginning the next topic. Then revisit the next day, then leave 2 days, then 5 days before going

Practice example technique

Using old exam questions can help you practice recalling your knowledge and scientific skills.

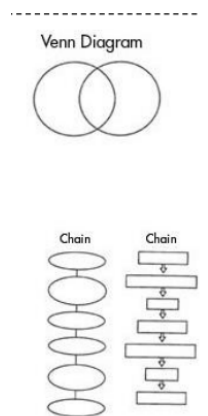
1. Select a topic, try to find something you can *just about* do.
2. Complete the question using the rule 1 minute for each point available.
3. Then use mark scheme and examiners report to improve your answers.
4. Find more resources here <http://www.aqa.org.uk/student-support/for-students/revision/revision-resources>

This might be good for: Data handling questions and the skills used in required practicals.

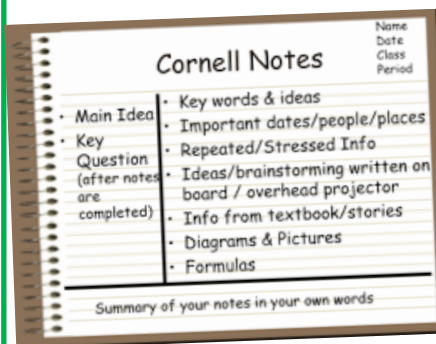
How to join it back up again: Graphic organisers.

These are useful tools to help structure complex ideas.

1. Use Venn diagrams to compare similar ideas eg Longitudinal and Transverse waves. Or with concepts that have advantages and disadvantages e.g. Stem Cell use in medicine.
2. Use flow charts to put steps into order. This could be to sequence events e.g. the Drug testing process and for Required Practical methods; linking cause and effect in explanations e.g. how temperature increases the rate of a chemical reaction.



How to join it back up again: Cornell notes



1. Select a topic.
2. Divide a page into three.
3. Bullet point notes on the left hand side of the page.
4. Keep this to the point— keep asking what is important.
5. Then title with the big idea and potential exam questions that could be asked.
6. Summarise it all in a few sentences.

Use other sources of information. One big problem you will have when revising is becoming too familiar with a resource. It may make you think you know it when you do not. So it is best to use several resources to make you think again.

1. Revision guide— good succinct notes
2. Your notes— helps you remember how you learned it in the first place
3. Kerboodle— The three trilogy books are available—all include questions
4. <http://freesciencelessons.co.uk/> has a comprehensive Youtube channel.
5. <https://www.youtube.com/user/virtualschooluk> useful animations
6. <https://www.bbc.co.uk/education/subjects/zrkw2hv>— good basic information that covers the whole syllabus. Please don't get distracted by random quizzes!

