



UNIVERSITY OF
BIRMINGHAM

Library Services



Memory techniques for effective revision



The aim of today's session

We will explore different techniques for remembering information and concepts and help you to consider which might work for you

My reason for attending today....

Please write down why you wanted to come to this workshop today. Please also write down your subject area and how you feel about revision.



What kind of reviser are you?

Please note down answers to the following questions:

1. What kind of information do you have to learn for your exams (please tick all that apply)?

Facts?

Statistics?

Formulae?

Concepts, approaches or schools of thought?

Research studies?

Links between things?

Quotes?

Other_____

2. What kind of information do you find most difficult to remember?

3. Do you know whether you are a visual, auditory, or kinaesthetic learner?

(If you don't know, there is a short test with this pack that you can do at home)

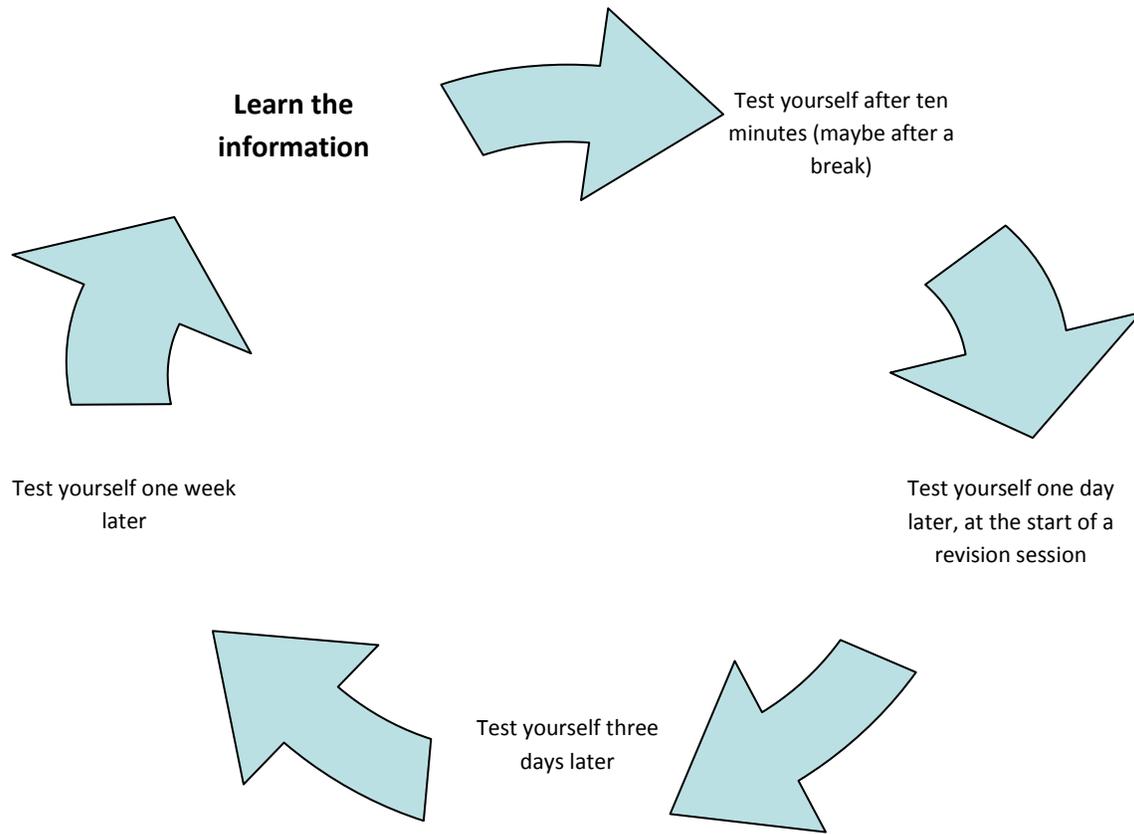
4. How do you normally revise and do you think it works for you?

Important things to know about memory

- Paradoxically, the reason you might struggle to remember things is because your brain is so efficient. When the brain sees things that are familiar and unthreatening, it tends to register them as unimportant. If you want to remember things, you have to make your brain stop and take note; understand what it is taking in, and attach meaning and importance to it.
- Just reading, highlighting or copying information will not work. You need to engage with it on a deeper level to remember it. You should re-organise the information in your notes, hand outs and books, turning it into charts, mind maps or pictures. Changing and simplifying the information forces you to make sense of it, and enables you to use the information more flexibly in an exam.
- Regular breaks are extremely important when you are revising. Studies have shown that recall goes down if you work solidly for too long. Short breaks every hour are important. Once you have had a break, try testing yourself on what you revised before the break.
- The more times you encounter something, the more likely you are to recall it. Therefore, when revising, it is better to cover the same thing several times for short periods, rather than spend a long time on the same material on just one occasion (Cottrell, 2006).
- We build up a more exact memory if we are exposed to the same information from lots of different perspectives. This builds a more in-depth mental picture of the material. Therefore, it is a good idea to revise using lots of different books, journals and sources rather than reading the same hand-out or book all the time.

The Revision Cycle

Tony Buzan's revision cycle is based on the idea of transferring information from your short term memory to your long term memory. This means embedding it more deeply in your memory so that you will be able to recall it long after you have learned it.



If at any stage you cannot remember the information, you should return to the start of the cycle.

Any ideas as to how you might test yourself?

Remember: testing yourself can be an important part of the process. You could test yourself by creating a mind map or an essay plan using the facts that you have learned. This will help you to practise applying the information you have learned as well.

NB: When you are in a deep, slow wave sleep, a part of your brain known as the cortex goes to work in making sense of what you have learned and experienced during the day. So you might be surprised by what you recall and understand after a good night's sleep.

Mnemonics

Mnemonics are memory tools that you can create yourself, to form associations with information that is otherwise quite difficult to recall. This might involve creating vivid mental pictures; making up stories to remember a sequence of information; or picturing facts as locations on a map.

The key idea is that by using vivid mental images, you can reliably code both information and the structure of information. And because the images are unusual, they are easy to recall, and will then trigger a memory of the original information.



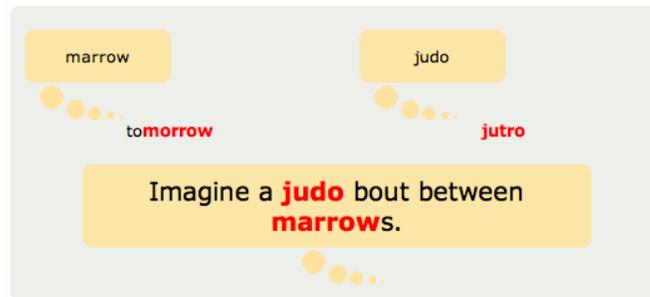
©Cory Thoman * www.ClipartOf.com/1091489

For example, if a medical student wanted to recall that the three types of depressants are **barbiturates**, **alcohol** and **tranquilizers**, they could picture a depressed **bat** who'd taken all three.

(Image courtesy of Cory Thoman and Clipart. Available at http://www.clipartof.com/gallery/clipart/sad_bat.html)

You can do the following things to make your mnemonics more memorable:

- Use positive, pleasant images. Your brain often blocks out unpleasant ones.
- Use all your senses.
- Give your image three dimensions, movement and space.
- Exaggerate the size of important parts of the image.
- Use humour! Funny or peculiar things are easier to remember.



Memory Activity: building a Memory Palace

We are now going to try a technique that uses our innate spatial memory to learn sequences of information. The technique involves associating the information you need to remember with vivid mental images and locations in a place you know well. We are going to try learning the Geologic Periods over which animal life has evolved by imagining them around the space of a generic home.

NB: It is better that you create the locations and the mental images yourself, but this demonstrates how you can do it. Read the story and then try to test yourself on the geological periods in order.

Imagine a small home with an upstairs and downstairs. We'll learn the Geologic periods round this home. The most recent Geologic period is called "quaternary" – this is the period during which modern humans emerged. We'll plant an image to help us remember this at the front door of the house. Quaternary sounds like "quartering", and we could imagine someone in the hall cutting a huge quiche in quarters. The more vivid and ridiculous the image the better. Quartering a quiche equals quaternary. That's at the front door.

Neogene, the next period, sounds like "New Jeans" so let's imagine some attractive person in new jeans in the kitchen, our next place on our memory route. New Jeans is talking to someone in Pale Jeans (Paleogene), giving us Neogene, Paleogene. Moving through to the sitting room, we find a Cretin (Cretaceous) talking to a Dinosaur (Jurassic), trying to persuade him to compete in a Triathlon (Triassic). Perhaps you can turn that into a humorous image. Cretaceous, Jurassic, Triassic.

We'll keep going, next upstairs. On the staircase, someone's having a Perm (Permian). At the top of the stairs, on the landing, there's a man dining on coal. He's carboniferous. His date is eating Devon custard (Devonian). The two of them give us Carboniferous, Devonian.

In the bedroom, a child is being Silly (Silurian), while her brother is Ordering her around Viciously (Ordo-vician). In the bathroom, two parents argue. The one with a degree from Cambridge (Cambrian) is mocking the one from an Edwardian University (Edia-caran).

Ed Cook (2013), 'Building a Memory Palace,' *The Telegraph*, 2nd March [online]. Available at: <http://www.telegraph.co.uk/education/educationadvice/9900341/Revision-techniques-how-to-build-a-memory-palace.html> (Accessed 3rd March 2013)

Now try to test yourself! As it's the first time you've learned this information, you probably won't remember it all, and you might get the spellings wrong. But some of it should have stuck in your mind. If you'd already learned this and were revising it, it would stick even more strongly.

Mind Maps

- Particularly good for visual learners
- A good way of re-organising and simplifying information
- A good way of seeing connections between the different aspects of a topic
- Use key words, colours and images to help make the information meaningful and memorable
- Also a good way of planning or brainstorming essays or exam answers

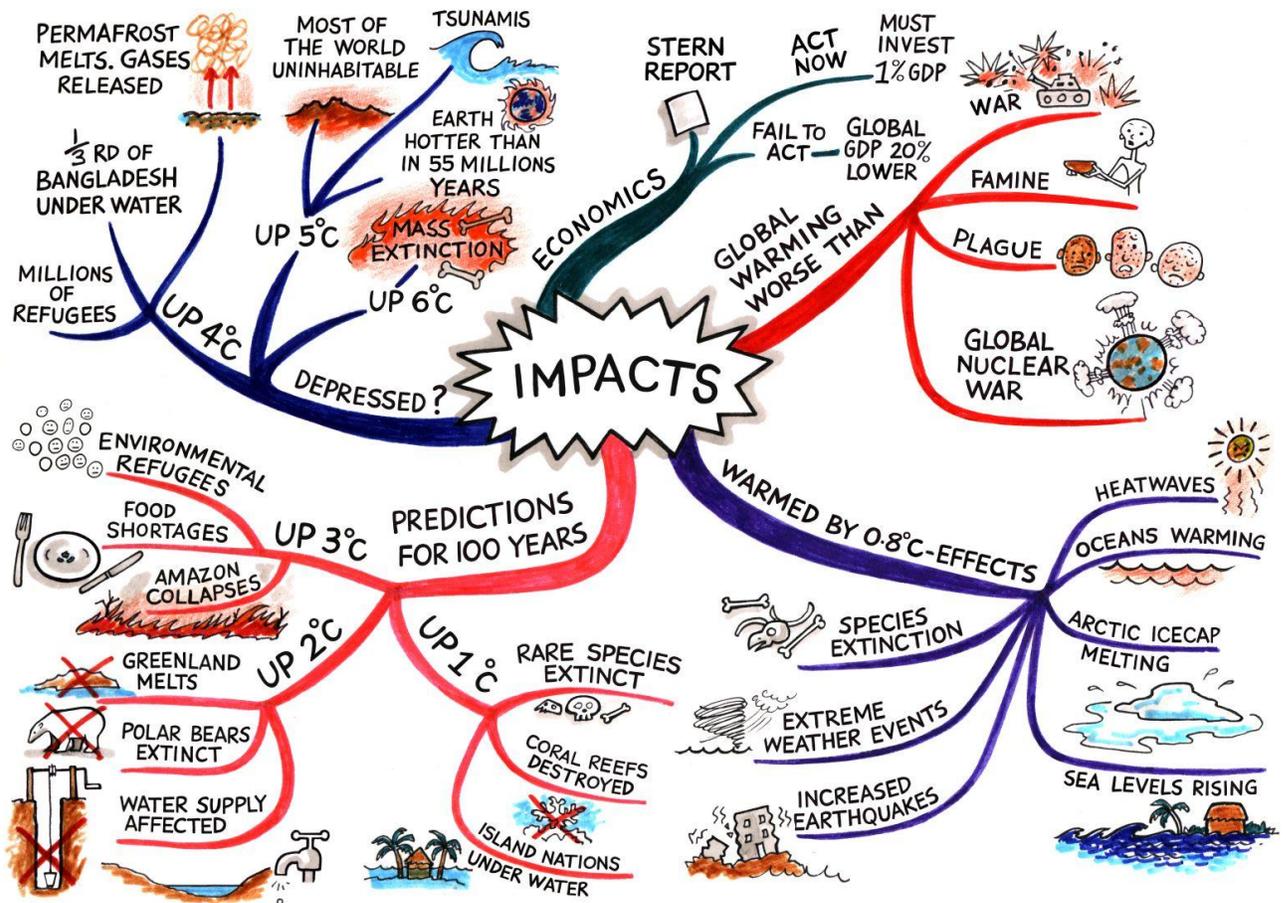


Image from Tony Buzan, *Mind-map Central*, available at: <http://mindmapcentral.com/how-to-mind-map-with-tony-buzan/#> (Accessed 1st March 2013)



Image from the blog *The24hourtala*. Available at: <http://the24hourtala.wordpress.com/2011/04/07/research-mind-maps/> (accessed 1st March 2013)

Tips for mind mapping

- ✚ Don't write more than a few words at the end of your branches
- ✚ Write words so that they sit on top of the branches, stretching along them – this encourages the flow of thought
- ✚ Draw arrows to show things that are connected

Other Techniques

- ❖ Try the 'layering' technique for remembering complex information. First, learn the easiest and simplest facts or ideas about a topic. Use these to provide a basic foundation before adding gradually more complex information, layer upon layer. Working in this way means that, if you get anxious in your exam, you should still remember the foundation layer of the material. If you start making notes about that, your memory of the higher layers will start to flood back.
- ❖ Write facts on index cards, in colour, and stick them in prominent places around your home, e.g. next to the kettle or on the bathroom mirror. Look at them and say them to yourself every day. When you think you know them, put them on a pile of cards that you will later test yourself on, then put some new facts in the prominent places.
- ❖ Make boring facts unique and amusing by creating a ridiculous image in your mind. For example, if you wanted to remember that the capital of Equatorial Guinea is Malabo, you could imagine a guinea pig smoking a pack of Marlboro Lights.
- ❖ If you are good at remembering song lyrics, change the lyrics of your favourite songs so that they become the facts you are trying to remember. If you are trying to remember quotes, try putting a tune to them.
- ❖ Try explaining what you have learned to a friend. Teaching others cements our understanding of a topic and therefore our memory of it. During revision breaks, you could try telling your family member, friends or housemates about what you have just revised. Encourage them to ask questions and see if you have enough understanding of the topic to answer.
- Practise planning answers to old exam questions. You don't have to write the answers, but just making a plan will help you to test your ability to remember concepts and connections between ideas. Jot down which areas of a topic you would draw on to answer that question – which approaches or research studies you would use. Then test yourself on key facts or dates you'd need to for your answer. Remember: you need to be able to be flexible with knowledge in your exam, so don't learn things too rigidly.

Can you think of any more?

Conclusion

Please write down any new memory techniques that you have picked up today and are going to try.

Further reading

A handy guide to revision and exams:

Stella Cottrell (2006), *The Exam Skills Handbook*, Palgrave Macmillan.

More articles by Ed Cook:

Cooke, E (2013), 'Revision: how to break down complex concepts,' *The Telegraph*, 23 Feb [Online]. Available at: <http://www.telegraph.co.uk/education/educationadvice/9888492/Revision-techniques-how-to-learn-complex-concepts.html> (Accessed 3rd March 2013)

Cooke, E (2013), 'Revision techniques: How to learn boring facts.' *The Telegraph*, 26 Jan [Online]. Available at: <http://www.telegraph.co.uk/education/educationadvice/9826494/Revision-techniques-How-to-learn-boring-facts.html> (Accessed 3rd March 2013)

Cooke, E (2013), 'The real test of learning? Not forgetting,' *The Telegraph*, 09 Feb [Online]. Available at: <http://www.telegraph.co.uk/education/educationadvice/9855799/The-real-test-of-learning-Not-forgetting.html> (Accessed 3rd March 2013)

Cooke, E (2013), 'Why do spider diagrams work?' *The Telegraph*, 05 Feb [Online]. Available at: <http://www.telegraph.co.uk/education/educationadvice/9839678/Spider-diagrams-how-and-why-they-work.html> (Accessed 3rd March 2013)