Revision Techniques

Here are some hints and tips

Different ways to revise:

- **Reading**
- **Making notes**
- **Checklists**
- **RAG rating**
- **Revision cards**
- **Mnemonics**
- **Association**
- **Record Information**
- **Example questions and answers**
- **Past paper questions**
- **‘Revise, test, analyse’**
- **Mind Map**

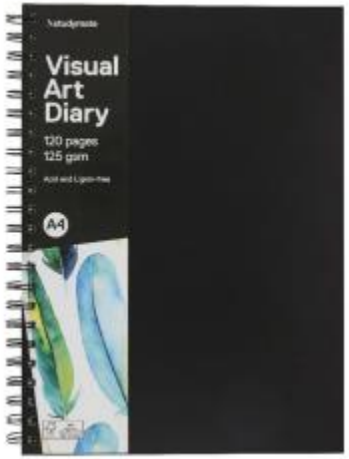
What type of learner are you?

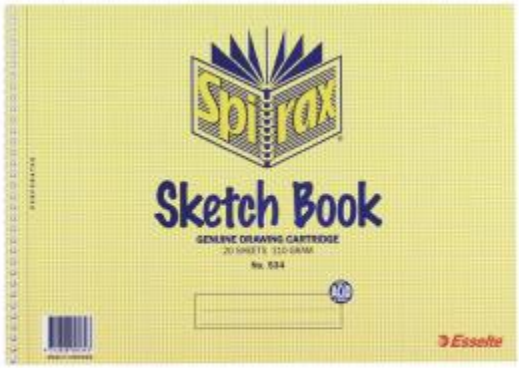
Visual learner	Auditory learner	Reader and writer	Active learner
• rewrite your notes as mind-maps • use colour to highlight important facts • draw diagrams and sketches to help you remember points	• read your notes aloud • record yourself reading key points aloud to listen back to • revise in groups • try singing the key points and associate them with a tune	• copy out your notes again • read over old notes • rewrite key points using different phrases • try to write key points from memory, and test yourself	• move around the room or carry out an activity as you revise • mentally test yourself while you are exercising to see what you can remember

Mind Map

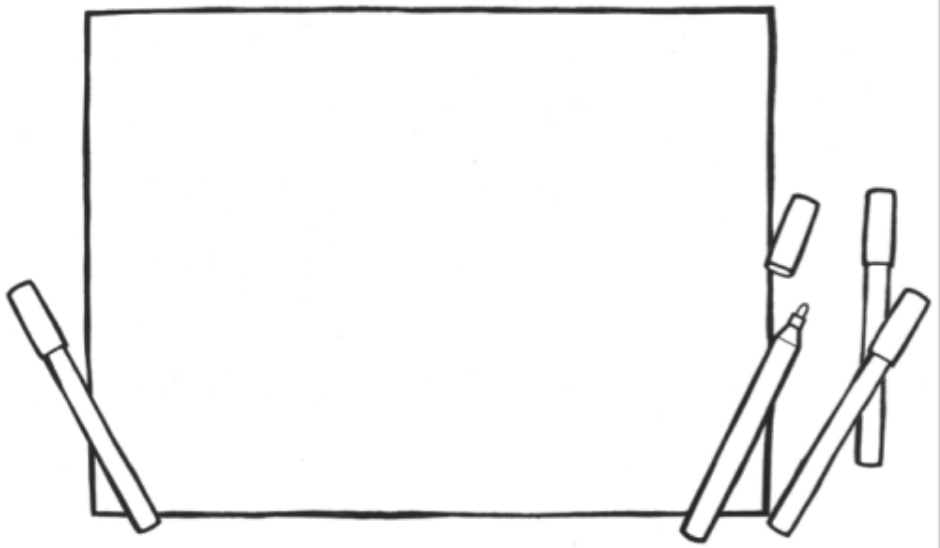
- Start at the centre with the page with a circle or square (‘central node’) indicating the main topic.
- The main ideas that make up the topic should be represented by thick branches that emanate from the central node. Your branches should have one word or two for the purpose of clarity. Think of each branch as a heading in an essay or a book.
- Create smaller sub-branches which extend out from every branch. Think of these as sub-headings.
- At the end of each branch, write out one key word or concept. This will make it easier to remember key concepts during revision.
- Find images or pictures which illustrate your ideas and paste them onto key areas in your diagram.
- Try to find connections between the various branches and sub-branches; this is a crucial aspect of critical thinking.
- Use colours and pictures ….

Set yourself up …

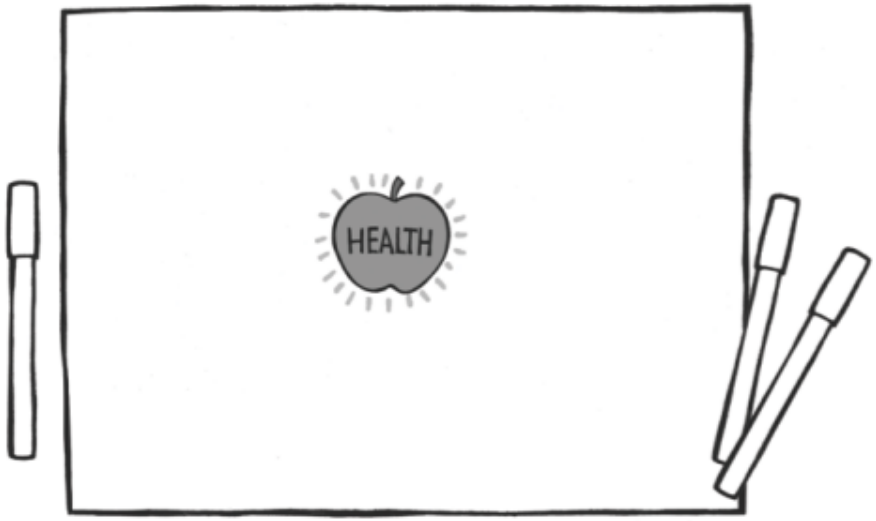




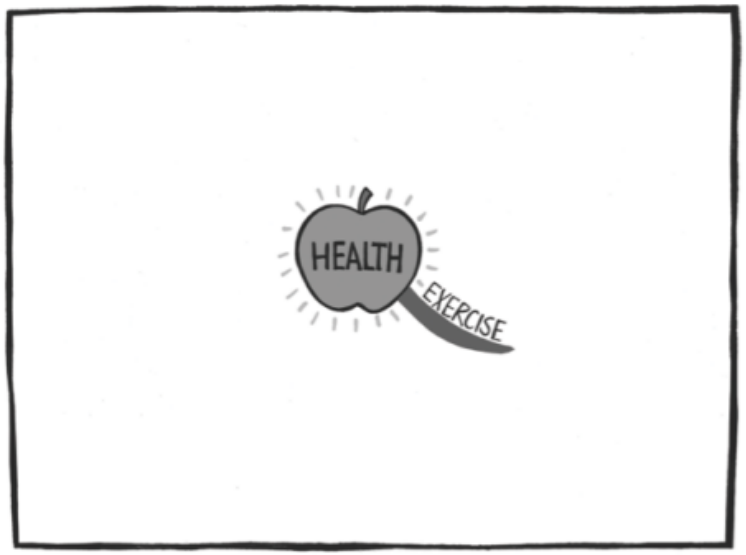
STEP 1 : YOU WILL NEED THE FOLLOWING MATERIALS : COLOURED PENS AND BLANK PAPER (NO LINES).



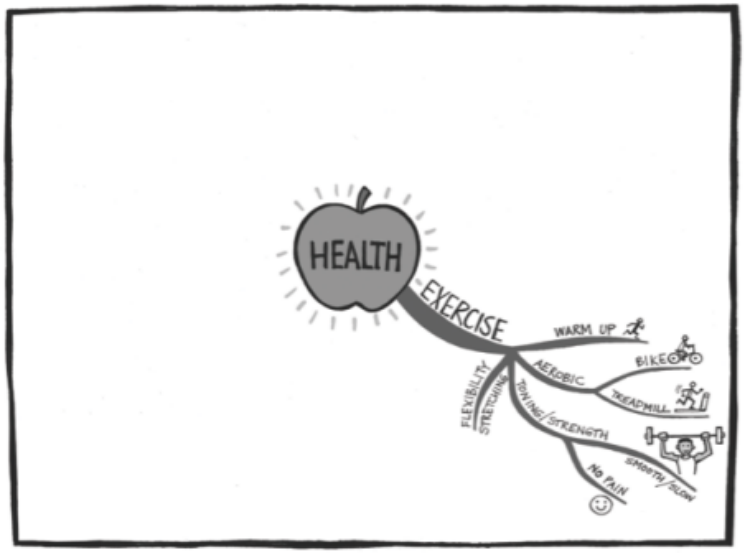
STEP 2 : MAKE SURE YOUR PAGE IS TURNED SIDEWAYS (LANDSCAPE STYLE), THINK OF YOUR TOPIC FOR A MOMENT AND THEN DRAW THE FIRST IMAGE THAT JUMPS TO MIND IN THE CENTRE OF THE PAGE.



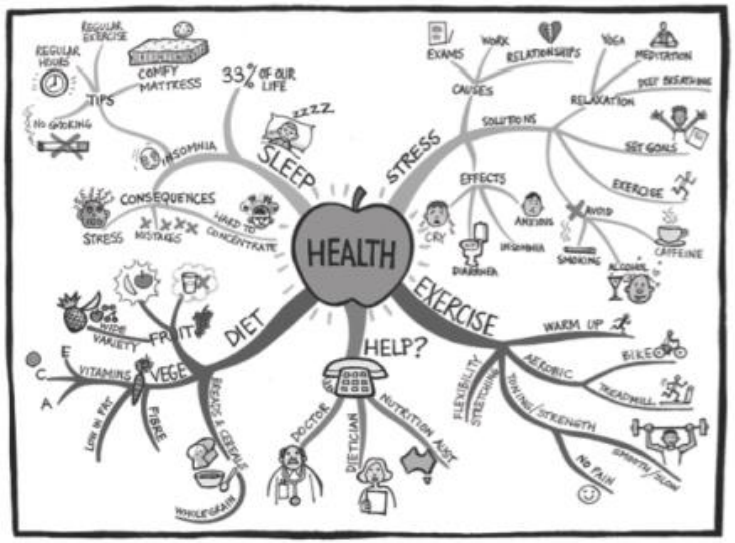
STEP 3 : BRANCH OFF. THINK OF THE BRANCH AS BEING LIKE A CHAPTER IN A BOOK. IT'S ONE OF YOUR MAIN IDEAS.



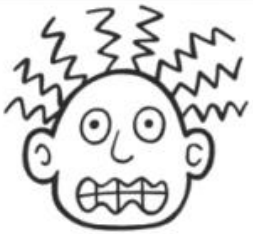
STEP 4 : NEXT CREATE YOUR SUB-BRANCHES. THESE BRANCHES ARE LIKE THE SUB-HEADINGS WITHIN THE CHAPTER OF A BOOK. FROM THE ENDS OF THESE BRANCHES, YOU CAN CREATE MORE BRANCHES. (WHAT YOU ARE DOING IS CREATING ASSOCIATIONS BETWEEN DIFFERENT IDEAS).



STEP 5 : DRAW PICTURES. IF I TOLD YOU "DON'T THINK ABOUT MONKEYS", WHAT WOULD COME TO MIND? THE PICTURE OF MONKEYS! MY POINT IS, WE THINK IN PICTURES, NOT IN WORDS. THE MORE EXAGGERATED YOU MAKE THE IMAGES ON YOUR MIND MAP, THE EASIER IT WILL BE FOR YOU TO RECALL THEM.



EXAMPLES OF EXAGGERATED IMAGES



STRESS

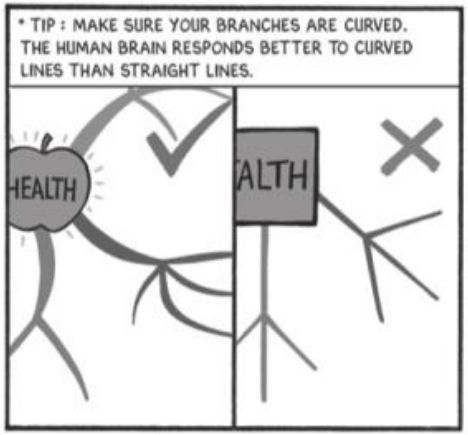
INSOMNIA

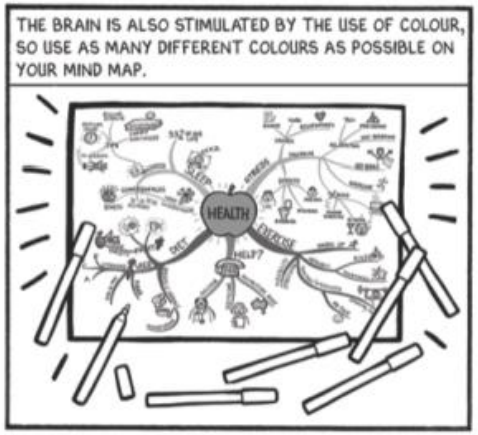
HARD TO CONCENTRATE

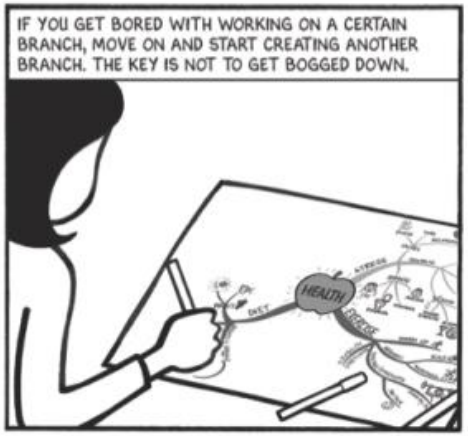
CRY

SET GOALS

ALCOHOL


* TIP : MAKE SURE YOUR BRANCHES ARE CURVED. THE HUMAN BRAIN RESPONDS BETTER TO CURVED LINES THAN STRAIGHT LINES.
HEALTH
ALTH


THE BRAIN IS ALSO STIMULATED BY THE USE OF COLOUR, SO USE AS MANY DIFFERENT COLOURS AS POSSIBLE ON YOUR MIND MAP.
HEALTH


IF YOU GET BORED WITH WORKING ON A CERTAIN BRANCH, MOVE ON AND START CREATING ANOTHER BRANCH. THE KEY IS NOT TO GET BOGGED DOWN.
HEALTH


THE ACT OF CREATING A MIND MAP HELPS YOU UNDERSTAND THE SUBJECT AT A DEEP LEVEL. IT ALSO HELPS YOU TO ORGANISE AND CLARIFY YOUR THOUGHTS.
WOW!
THIS IS GREAT. I AM UNDERSTANDING THIS.


LEARNING TO MIND MAP IS LIKE LEARNING TO DRIVE A CAR.
THE FIRST TIME YOU TRY TO DO IT YOU MAY FEEL AWKWARD AND A LITTLE SELF-CONSCIOUS.
?
!!


BUT THE MORE YOU DO IT, THE EASIER IT BECOMES.

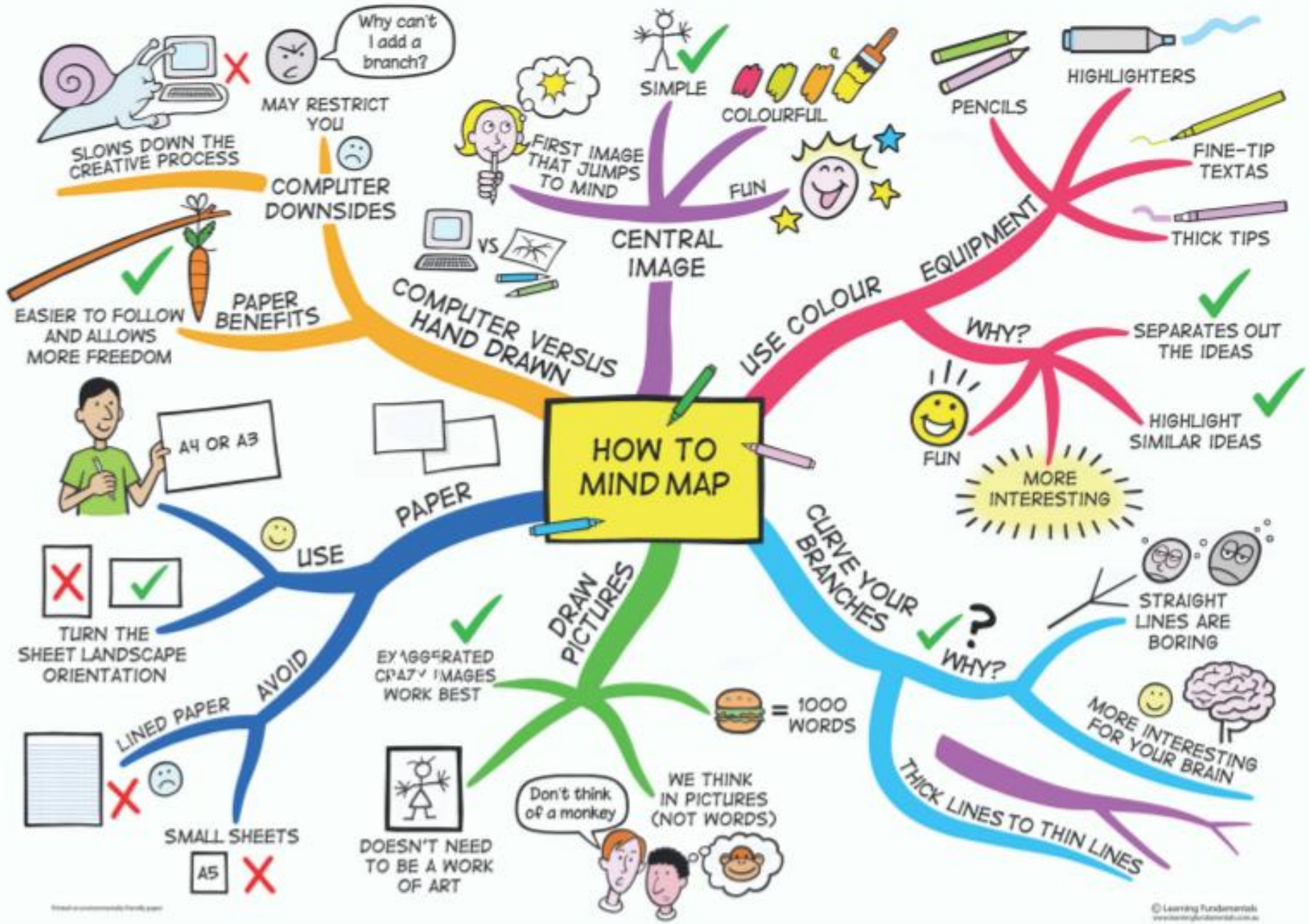
Only mind map the ‘good’ stuff …

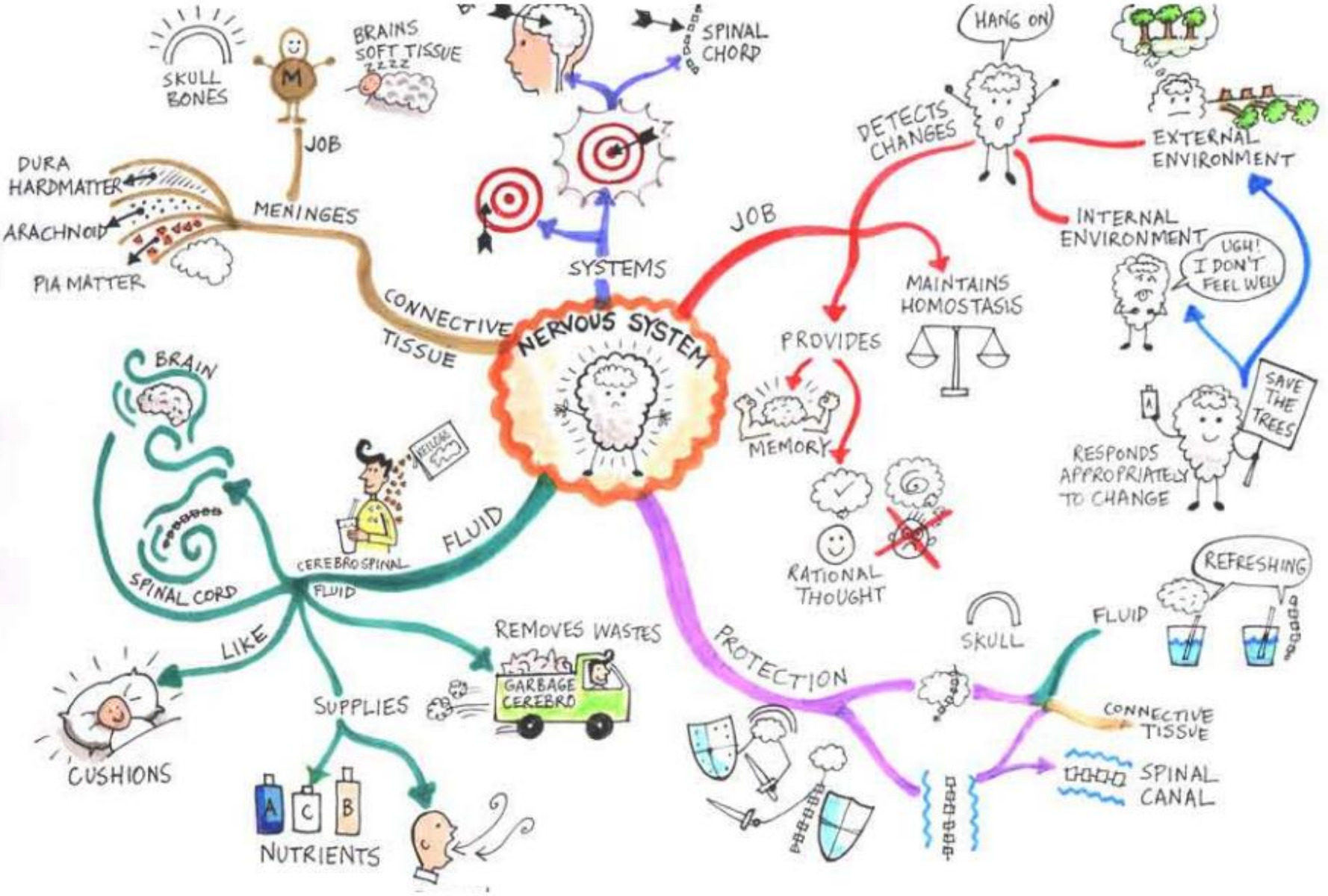
In my experience mind maps work best when you're trying to understand complex ideas. Some information you need to absorb will be straightforward and can be put straight onto a flashcard (you may not need to mind map it). Other information won’t be so relevant.

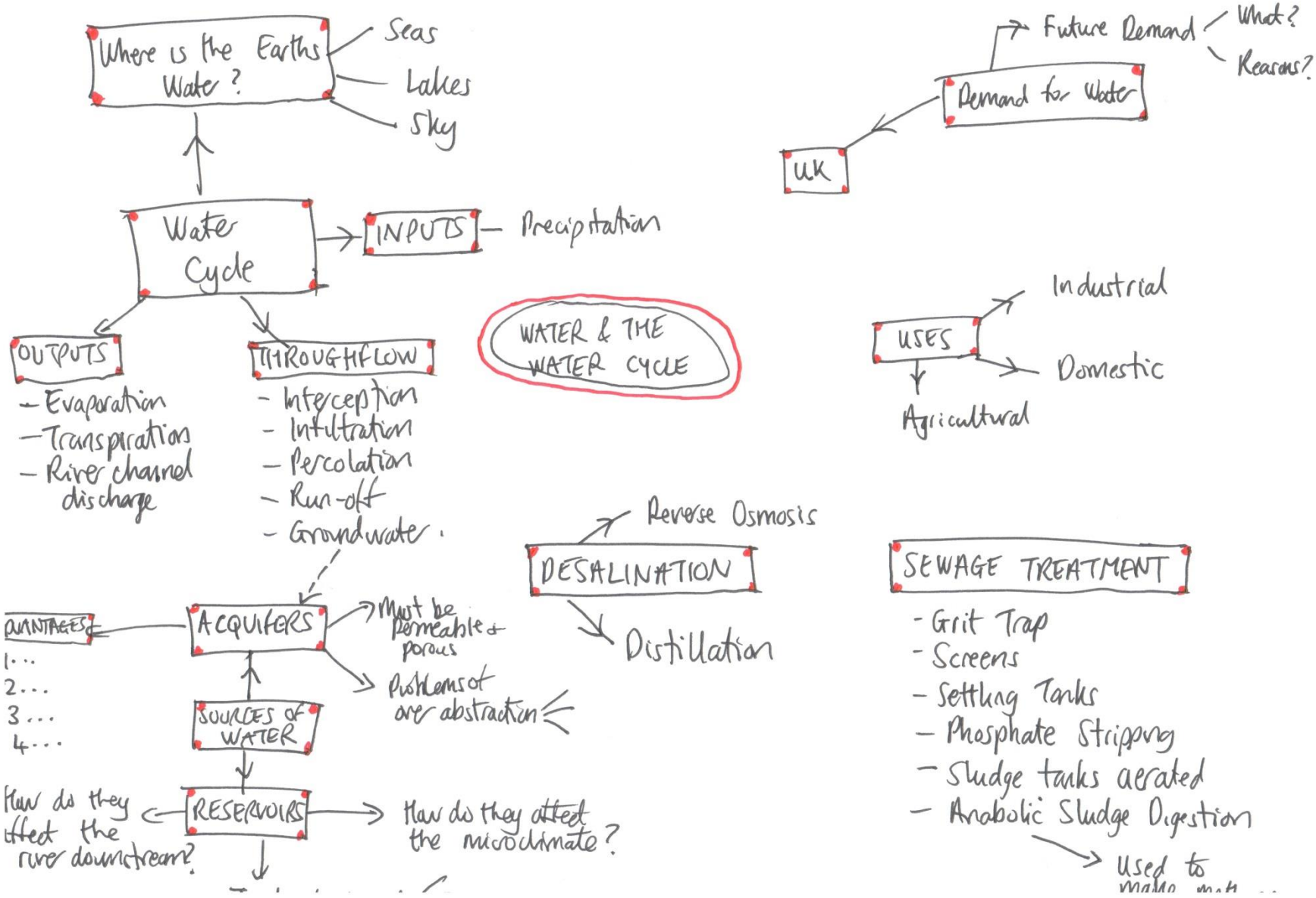
The bottom line is not everything needs to be mind mapped. As you read your book and mind map the infomation, ask yourself:

“Do I really need to know this?”

If the answer is no, then don’t bother mind mapping it.

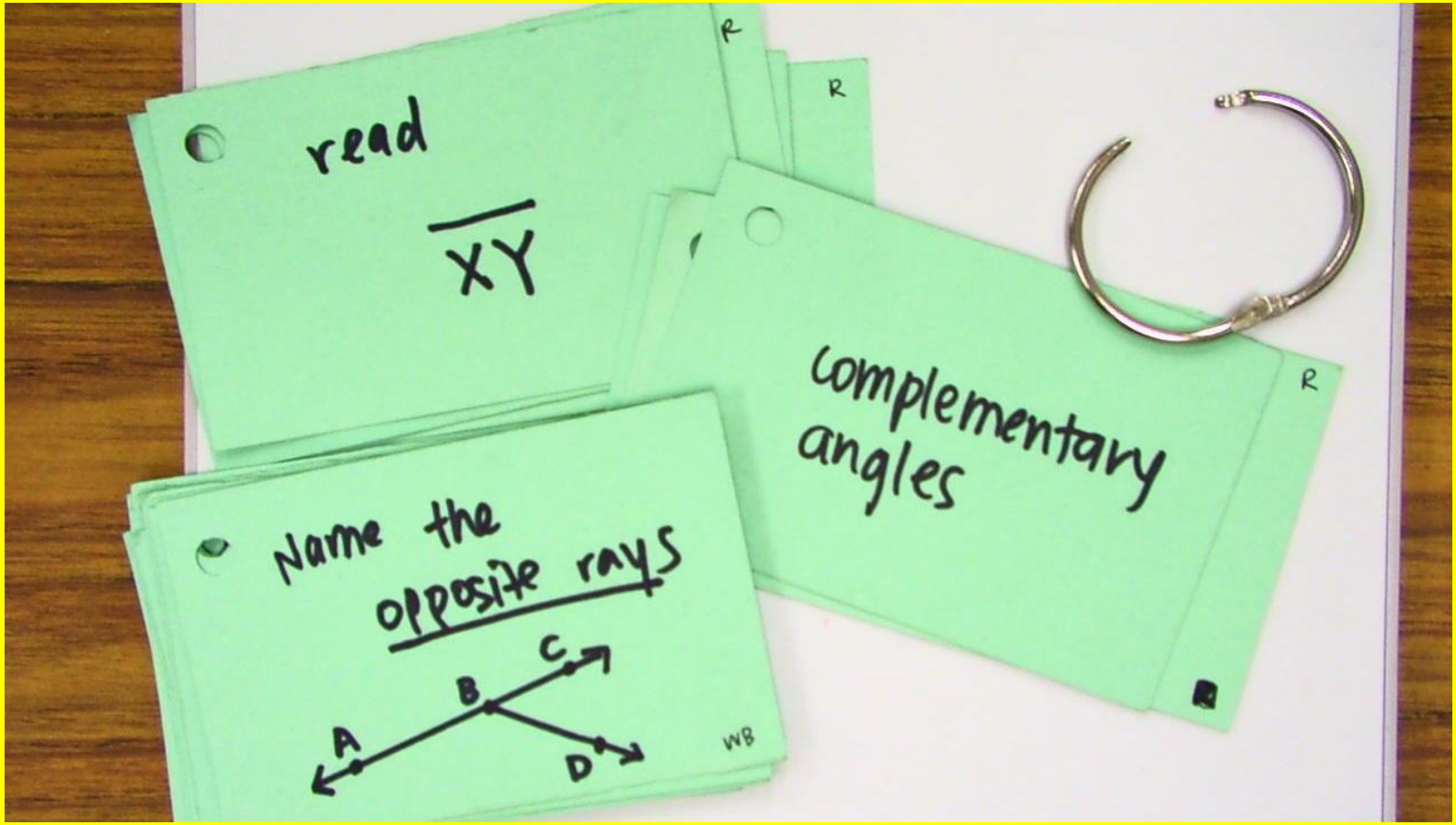

HOW TO MIND MAP
CENTRAL IMAGE
SIMPLE
COLOURFUL
FIRST IMAGE THAT JUMPS TO MIND
FUN
USE COLOUR
EQUIPMENT
PENCILS
HIGHLIGHTERS
FINE-TIP TEXTAS
THICK TIPS
WHY?
SEPARATES OUT THE IDEAS
HIGHLIGHT SIMILAR IDEAS
FUN
MORE INTERESTING
COMPUTER VERSUS HAND DRAWN
COMPUTER DOWNSIDES
SLOWS DOWN THE CREATIVE PROCESS
MAY RESTRICT YOU
Why can't I add a branch?
PAPER BENEFITS
EASIER TO FOLLOW AND ALLOWS MORE FREEDOM
PAPER
USE
A4 OR A3
TURN THE SHEET LANDSCAPE ORIENTATION
AVOID
LINED PAPER
SMALL SHEETS
A5
DRAW PICTURES
EXAGGERATED CRAZY IMAGES WORK BEST
= 1000 WORDS
DOESN'T NEED TO BE A WORK OF ART
Don't think of a monkey
WE THINK IN PICTURES (NOT WORDS)
CURVE YOUR BRANCHES
WHY?
STRAIGHT LINES ARE BORING
MORE INTERESTING FOR YOUR BRAIN
THICK LINES TO THIN LINES


NERVOUS SYSTEM
SYSTEMS
BRAINS SOFT TISSUE
SPINAL CHORD
SKULL BONES
JOB
MENINGES
DURA HARDMATTER
ARACHNOID
PIA MATTER
CONNECTIVE TISSUE
BRAIN
SPINAL CORD
CEREBROSPINAL FLUID
FLUID
LIKE
CUSHIONS
SUPPLIES
NUTRIENTS
REMOVES WASTES
GARBAGE CEREBRO
JOB
DETECTS CHANGES
HANG ON
EXTERNAL ENVIRONMENT
INTERNAL ENVIRONMENT
UGH! I DON'T FEEL WELL
MAINTAINS HOMOSTASIS
PROVIDES
MEMORY
RATIONAL THOUGHT
RESPONDS APPROPRIATELY TO CHANGE
SAVE THE TREES
PROTECTION
SKULL
FLUID
REFRESHING
CONNECTIVE TISSUE
SPINAL CANAL


Where is the Earths Water?
Seas
Lakes
Sky
Water Cycle
INPUTS
Precipitation
OUTPUTS
- Evaporation
- Transpiration
- River channel discharge
THROUGHFLOW
- Interception
- Infiltration
- Percolation
- Run-off
- Groundwater.
WATER & THE WATER CYCLE
Future Demand
What?
Reasons?
Demand for Water
UK
USES
Industrial
Domestic
Agricultural
DESALINATION
Reverse Osmosis
Distillation
SEWAGE TREATMENT
- Grit Trap
- Screens
- Settling Tanks
- Phosphate Stripping
- Sludge tanks aerated
- Anabolic Sludge Digestion
Used to
ADVANTAGES
1...
2...
3...
4...
ACQUIFERS
Must be permeable & porous
Problems of over abstraction
SOURCES OF WATER
How do they effect the river downstream?
RESERVOIRS
How do they effect the microclimate?

Flash cards

- Make them and then test yourself



Mnemonics

Do the Geographers know what this stands for?

- C
- C
- A
- S
- H

Can be a helpful way to memorise facts. The first letter is used to create a phrase or word that you can more easily remember.

For example, Richard Of York Gave Battle In Vain (colours of the rainbow in order: Red, Orange, Yellow, Green, Blue, Indigo, Violet).

Association

Some students find it helpful to associate sounds or images with the information they are learning or to use notes / mind maps as a visual memory trigger.

Record Information …

…. That you need to remember and then you can play it back to yourself

A3 sheet

Separation Techniques Revision - Activate

Explain in detail the differences between mixtures and compounds. – p72

What is a saturated solution? – p76

With the aid of a diagram, show how a substance dissolves into a liquid – p74

What does solubility mean? – p76

What things can affect solubility? –p77

Explain the process and the result of a chromatography test on a felt tip pen. – p82

Define these words:

Solvent:

Solute:

Dissolve:

Soluble:

Filtrate:

Residue:

Using a diagram, show how filtration works. – p78

Describe what distillation is and how it works. – p81

Explain how people get salt from salt water. - p80

Year 10 C1 – Chemistry and our Earth

Topic 4

Ores are naturally occurring rocks that contain metal or metal compounds in sufficient amounts to make it worthwhile (economically) extracting them.

Reactivity of metals

This is the process of getting a metal from a compound in a rock by a chemical reaction. The way in which a metal is extracted depends upon its reactivity.

most reactive (hard to extract)

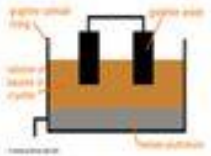
least reactive (easy to extract)

potassium	electrolysis of a molten compound
sodium	
calcium	
magnesium	
aluminium	
zinc	heat an ore with carbon
iron	
tin	
lead	
copper	
silver	found as the uncombined element
gold	
platinum	

Extracting more reactive metals (electrolysis)

- Electrolysis involves passing an electric current through a metal compound
- This breaks it down into metal and non metal elements.
- Aluminium is extracted in this way. WHY?

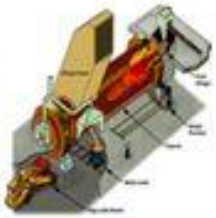
This uses large amounts of energy, making these metals expensive



Molten Aluminium oxide —Electricity→ molten aluminium + oxygen gas

How extraction works

1. The ore is crushed to remove rock with little metal
2. The metal oxide has the oxygen removed
3. This is called a reduction reaction
4. Reduction is achieved by heating the metal oxide with carbon



Iron oxide + Carbon → Iron + carbon dioxide

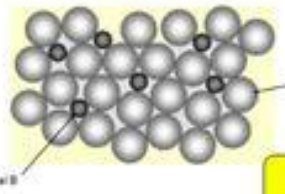
Gold!

Jewellery made from pure gold is very soft. Gold jewellery is usually made from alloys, in which gold is mixed with other metals

Percentage gold	Percentage other metals	Carats	Fineness parts per thousand
100%	0%	24	1000
91.7%	8.3%	22	917
75%	25%	18	750
50%	50%	12	500
37.5%	62.5%	9	375

By mixing two or more metals together the regular arrangement of the atoms is disrupted.

This prevents the atoms forming layers and makes it harder for the atoms to slide over each other. The alloy is stronger than the pure metals.



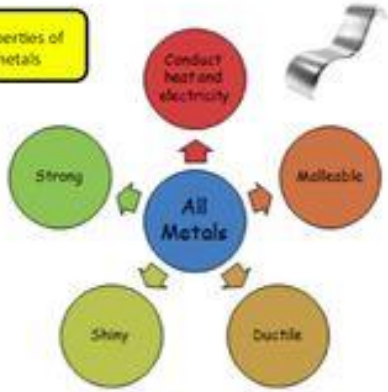
Alloy

Stainless steel is an alloy that contains other metals such as Nickel and Chromium.

Stainless steel has the strength of steel combined with the corrosion resistance of nickel and the shininess of chromium

Shape memory alloys (e.g. Stent to keep a blocked blood vessel open)

Properties of metals



Extraction of copper from copper oxide by reduction

The copper oxide is *REDUCED*, which means it *LOSES oxygen.*

Copper oxide + carbon dioxide → Copper + carbon

$2CuO_{(s)} + C_{(s)} \rightarrow 2Cu_{(s)} + CO_{2(g)}$

An Oxidation Reaction

When iron corrodes (rusts) we say an oxidation reaction is happening

Oxidation is the addition of oxygen to something

Reducation and Oxidation

Some examples of reduction:

Aluminium + iron oxide —heat→ aluminium oxide + iron

$2Al_{(s)} + Fe_2O_{3(s)} \xrightarrow{heat} Al_2O_{3(s)} + 2Fe_{(s)}$

Lead oxide + carbon —heat→ lead + carbon dioxide

$2PbO_{(s)} + C_{(s)} \xrightarrow{heat} 2Pb_{(s)} + CO_{2(g)}$

An example of oxidation:

Magnesium + oxygen —heat→ magnesium oxide

$Mg_{(s)} + O_{2(g)} \xrightarrow{heat} 2MgO_{(s)}$

RAG rating

Note-taking planner **Computer Science**

	Excellent understanding		Fair understanding		More revision needed

Computer systems	the purpose of the CPU	Von Neumann architecture and its registers	common CPU components and their function	the function of the CPU as fetch and execute instructions stored in	how common characteristics of CPUs affect their performance	embedded systems: purpose and examples of embedded systems												
Memory	describe the difference between RAM and ROM	explain the need for ROM in a computer system	describe the purpose of RAM in a computer system	explain the need for virtual memory	describe flash memory													
Storage	the need for secondary storage	data capacity and calculation of data capacity requirements	Describe optical, magnetic and solid state storage	suitable storage devices and storage media for a given application	advantages and disadvantages of devices- capacity,speed,portability,durability,reliability, cost													