

THE TIMES

How to revise

part two

What your child needs to know to pass any exam

8-page
Weekend
pullout

- Prof Gunning's guide to fact retrieval, from the revision experts CGP
- Today: the most effective ways to memorise facts and test yourself
 - For GCSE and A-Level students

Reduce

Actively thinking how to reduce a topic will strengthen your memory and you'll be left with a small prompt you can use to remember and test the whole sub-topic.

Reduce the sub-topic down to key words

- 1) Choose a key word for each point.
- 2) It should be a word that has something to do with the point being made — not words like "a, it, the, when".
- 3) For some points it may not be obvious. Choose a word that'll help you remember the rest of the information (eg for point 2 of the quarry bit I chose "rock"). For most of them I've picked the first word, but it can be other words if they stick out more.


The use and abuse of resources

Growing pop. + increased standard of living - greater demands on world's resources.

Quarrying (digging for land resources)

- 1) **Spoil** landscape sometimes for good.
- 2) **Rock**, sand, gravel - unusable material removed first
- 3) **Metal ore** - loads of waste rock, dumped
- 4) **Disused quarries** - geology education, important wildlife habitats


Conservation / recycling

- 1) **Reducing demand** - last longer, reduce harmful effects eg  less heating
- 2) **Conserving soil** - preventing erosion - future food
- 3) **Recycling** (metals, paper) - use less raw material - use less energy to reprocess

Managing Resources

- 1) **Resources** aren't always where they're needed eg water demand London but most water in north west of the UK.
- 2) **Not always enough to go round**. LEDCs produce most, MEDCs use most. LEDCs will need more as they develop.
- 3) **Multinationals** fear reduction in consumption will reduce profits. eg BP Oil in Falklands.
- 4) **Research** into **alternative materials** / energy resources - time consuming, expensive

Sustainable use of resources - good stewardship

- 1) **Resource Conservation** - careful use eg efficient cars, power stations
- 2) **Resource Substitution** - change to more sustainable resources eg 
- 3) **Pollution control** - limiting to reduce global warming, acid rain
- 4) **Recycling** - reduce waste and use less resource

sustainable = kept at a steady level without running out

Reduce each section to key words.


The use and abuse of resources

Growing + standard = demands


Quarrying

- 1) **Spoil**
- 2) **Rock**
- 3) **Metal**
- 4) **Disused**


Conservation / recycling

- 1) **Reducing** (demand) 
- 2) **Soil** (conservation)
- 3) **Recycling**

Managing Resources

- 1) **Resources** 
- 2) **Not** (enough)
- 3) **Multinationals**
- 4) **Research**

Sustainable use of resources - good stewardship

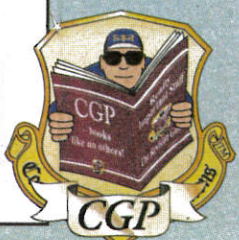
- 1) **Resource** (conservation) 
- 2) **Resource** (Substitution)
- 3) **Pollution**
- 4) **Recycling**

sustainable = ?

Make it even smaller

Once you've reduced the text to keywords there are three ways to make it even smaller:

- 1) Using numbers
- 2) Using first letters
- 3) Using spider diagrams

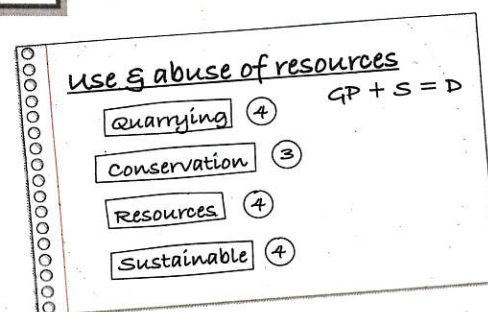
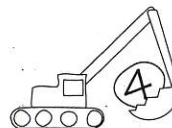


Reduce

Option 1: Reduce the key words to numbers

- 1) Reduce the sub-topic to just section headings with the number of points written after each one.
- 2) Or instead of section headings you can use pictures with the numbers included to show each section.

Eg for quarrying, draw something like this:

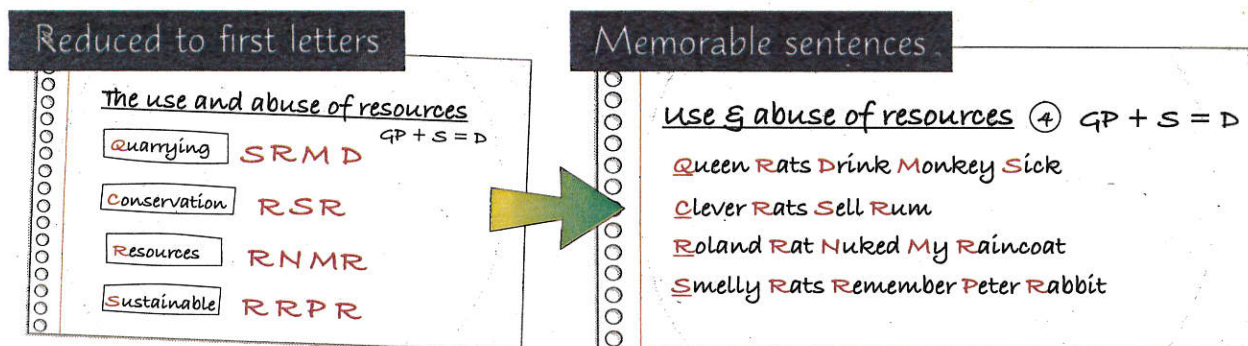


Option 2: Use the first letter strategy

The first letter strategy involves turning each section into a list of first letters and then combining them in an interesting sentence you'll remember easily.

- 1) Reduce the section heading and each key word to the first letter of each word.
- 2) Use the first letter strategy to remember it — use the letters to start each word of a memorable sentence (see the examples below). Funny or rude sentences work best.
- 3) It's even better if you can connect the sentences somehow like I've done with "rats".

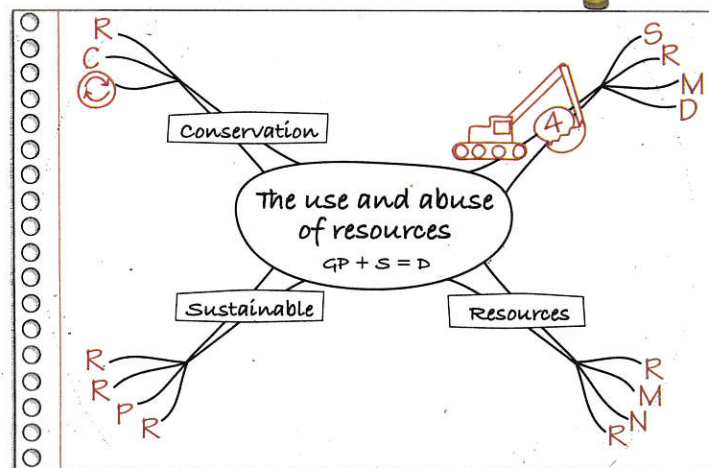
Tip: If the order of points isn't important you can rearrange the letters so it's easier to make a sentence, but always keep the topic name at the front - eg I've switched around the quarrying bit below.



Option 3: Draw it all in a spider diagram

- 1) Stick the name of the sub-topic in a blob in the middle of the page.
- 2) Draw each section as a branch off this blob.
- 3) Use the first letters of the keywords to show the details on smaller branches.
- 4) Use pictures if you prefer, but don't spend longer than a couple of minutes on each one.

Working out how to show something as a picture helps you learn it. Pictures also stick in some people's minds better than words, numbers or letters.

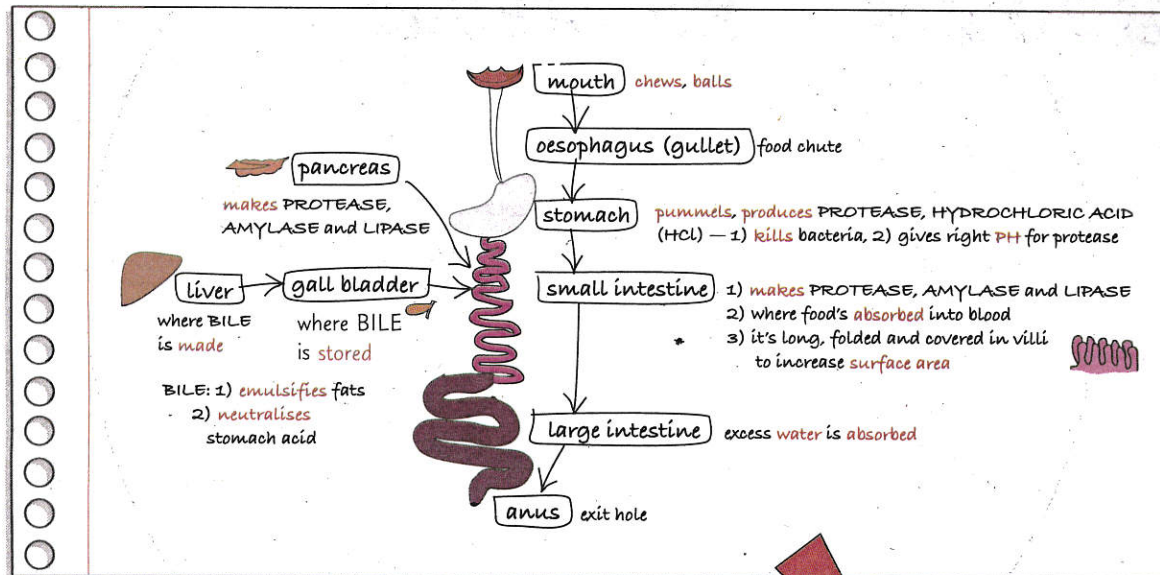


If you're short of time when you get to this stage, skip the explosion bits, test yourself loads with the prompts and do as much exam/workbook practice as you can.

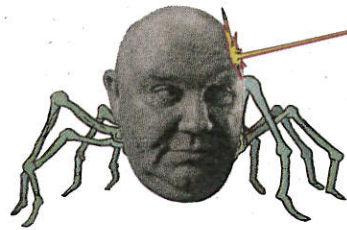
Reduce

Reduce your diagrams to quick line drawings with prompts for each label.

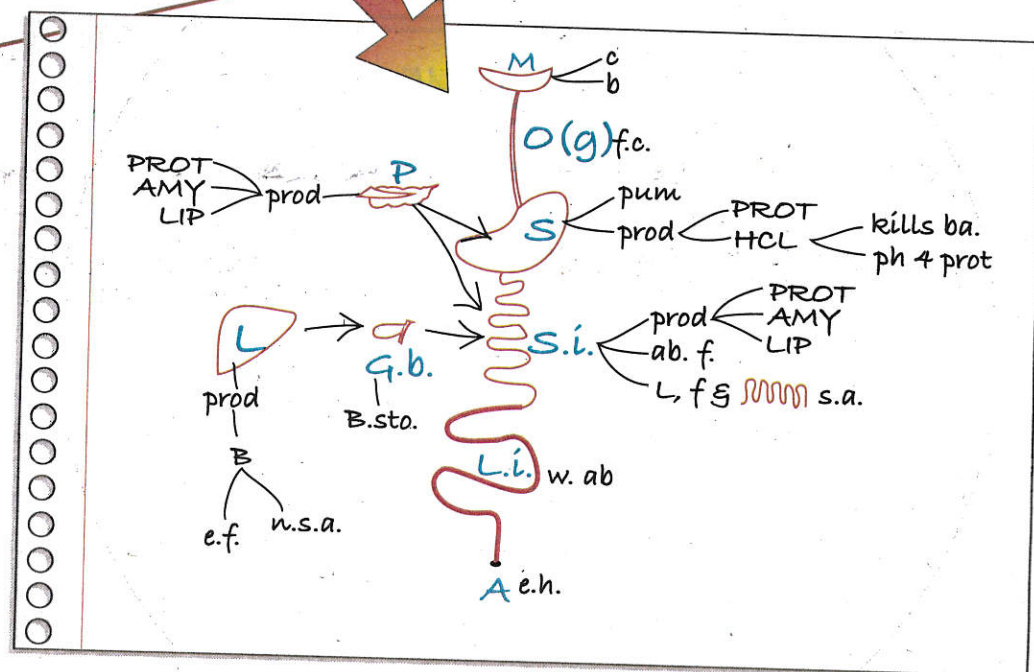
Reduce the diagram to simple lines and prompts



Outta my book, baldy.

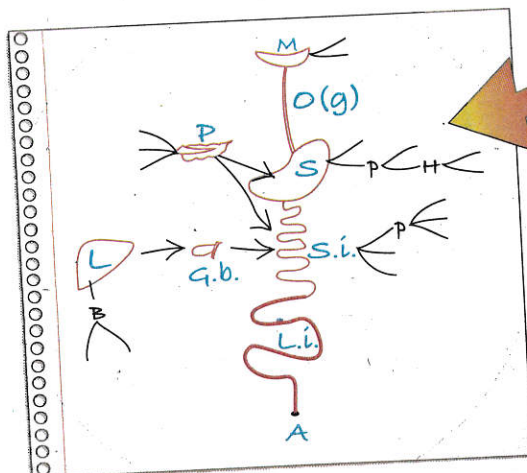


Use the first letter or a shortened version for each label.

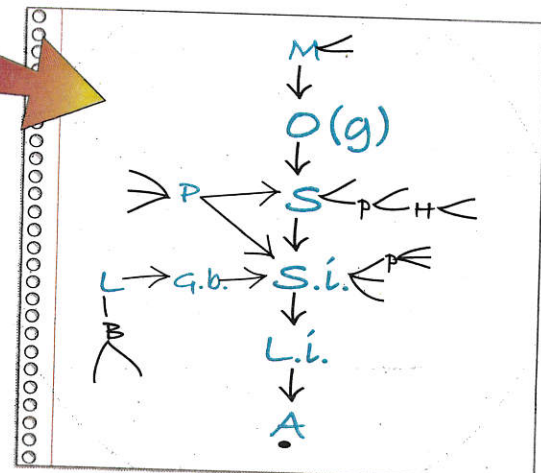


Make it even smaller

You need to be able to sketch it out really quickly so if it's a complicated diagram like this one, reduce it even further like the examples below.



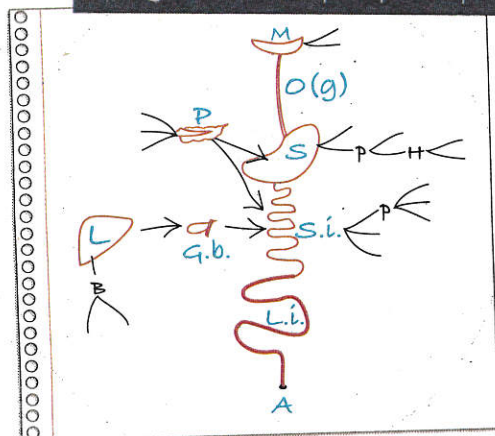
I prefer the one with simple drawings, but it's up to you.



Reduce

By reducing down your notes you've done two things: 1) Thinking about how to reduce things has stuck them more firmly in your memory; 2) The simple sketches or notes will act as memory prompts for testing and quickly reproducing in exams.

Diagram example prompt



Text example prompt

use & abuse of resources ④ $GP + S = D$

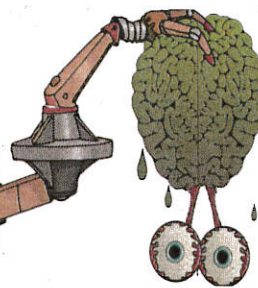
Queen Rats Drink Monkey Sick

Clever Rats Sell Rum

Roland Rat Nuked My Raincoat

Smelly Rats Remember Peter Rabbit

Test yourself using your prompts



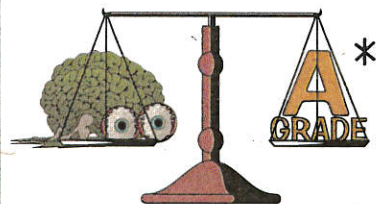
Follow these 5 points and you'll be able to remember an entire sub-topic from one small prompt. That's one tiny step from bringing it all back in an exam.

- 1) Use your prompt to recall (out loud) as much detail as you can about the sub-topic. If you can't remember bits, just move on and recall everything you can.
- 2) Turn back to your notes and read out anything you missed out or got wrong.
- 3) Cover up your full notes again and use your prompt to write out all the information.
- 4) Check against your full notes and make any corrections.
- 5) Keep doing 3) and 4) until you don't get anything wrong or miss anything out.



Turn a blank page into full notes

It's time to remove the prompts and start with nothing — just like in the exam.



- 1) Take a long hard look at your prompt and then cover it up.
- 2) Take a blank piece of paper and try to sketch out your prompt.
- 3) Check it against your real prompt and make any corrections.
- 4) Use this prompt to write out all the detail.
- 5) Do it again. Start with a blank piece of paper, sketch out the prompt and then write out all the detail. Keep doing it until you can do it quickly without mistakes.

Explode the Topic

When you've done all the prompts for a topic draw a giant spider diagram to show them all.
(P.S. I used the word "explode" because I've just seen Die Hard on the telly.)

Draw a topic explosion

Work in pencil first so you can make changes if you need to.

- 1) Write the topic name in a blob in the middle of the page.
- 2) Draw one branch away from the blob for each sub-topic.
- 3) Without using your notes, draw out the different sub-topic prompts at the end of each branch. When they're all done, check them and make any corrections.
- 4) Use pictures — funny or rude ones will help you remember. E.g. The little aeroplane I've drawn on the "o" (out) branch for lungs and breathing, to me means Air Force — which helps me remember "air forced out".
- 5) Go over it with pen and explain all the details of each sub-topic out loud.



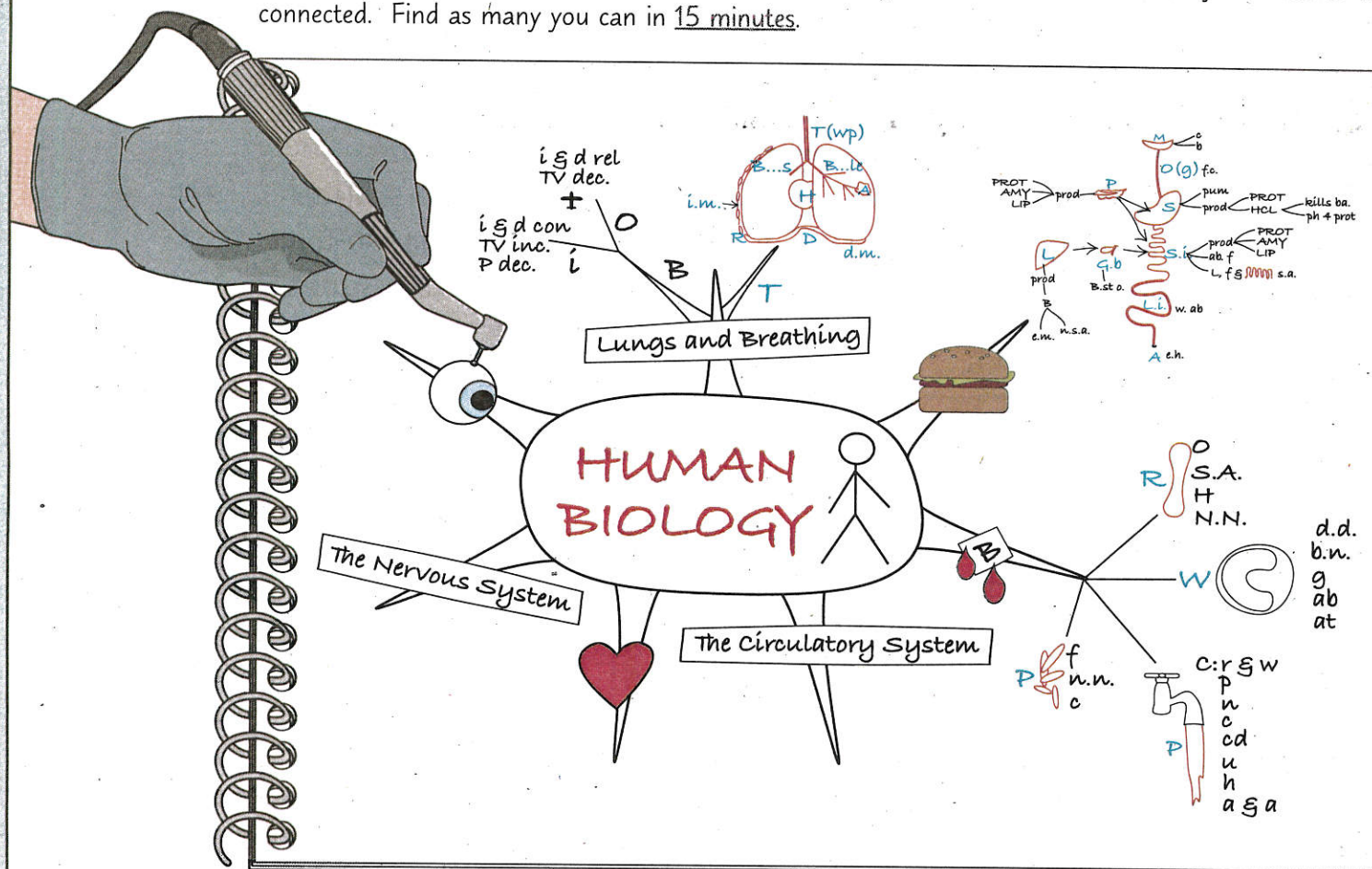
Make connections to blow the dust off your brain

HOW?

Draw arrows in pencil to connect bits that go together from different prompts. Eg oxygen diffuses into the red blood cells in alveoli in the lungs, so alveoli and red blood cells can be connected. Find as many you can in 15 minutes.

WHY?

It gets your brain working, thinking about the whole topic instead of each sub-topic separately. It looks messy but it'll get that sack of fat in your head to wake up a bit.



Use the explosion to test yourself

- 1) Look at each sub-topic in any order and use the prompts to write out all the detail.
- 2) When you've done them all, check them, correct them and add any missing bits.
- 3) Give yourself a score out of five for each sub-topic... and be harsh.

0

= you didn't remember anything except maybe your own name.

5

= you didn't need to make any corrections or add anything.

- 4) Your scores will tell you which bits you're hot on, and which bits need work.
You really know a topic when you get 5's for all the sub-topics.



Explode the Subject

This is the same as exploding the topic, but it covers the whole subject — if you're doing 9 GCSEs, you'll end up with 9 of these. Just 9 bits of paper, COVERING THE WHOLE LOT.

Draw a subject explosion

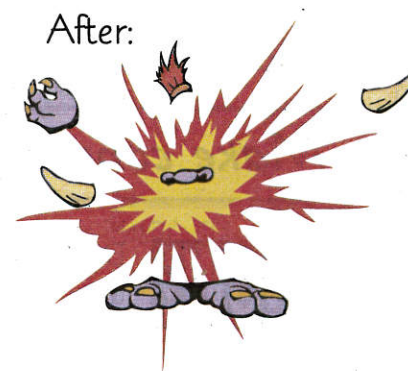
Work in pencil to start with.

- 1) Stick the name of the subject inside a blob in the middle of the page.
- 2) Draw one big branch for each topic.
- 3) Put on all the sub-topic branches. Don't draw on the prompts.
- 4) Use pictures.
- 5) Go over it with pen. As you do so, say all the details for each sub-topic out loud. Picture the prompt in your head to help you.
- 6) Don't spend time making this look pretty.
Give yourself 30 minutes to do the whole diagram.

Before:



After:



Use the subject explosion to test every topic

You now have one big diagram you can use to test yourself on the whole subject. You can use it to do a full test or a quick test. When you test a topic or sub-topic, put a tick next to it on your subject explosion to make sure you don't leave stuff out.

Full test

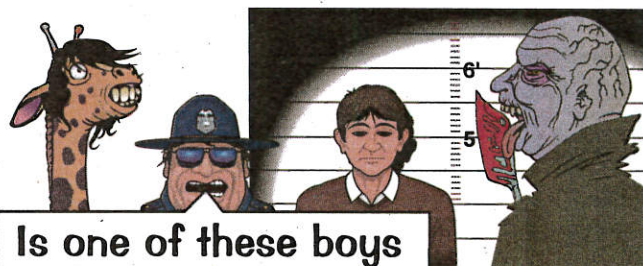
- 1) Pick one sub-topic from a topic branch. Draw the prompt for it on a separate bit of paper and then write out all the details underneath. Check and make any corrections.
- 2) Pick a sub-topic from a different topic branch and repeat what you did in part 1). Put a pencil tick next to each sub-topic when you've done it.
- 3) Keep repeating part 2) until you've done all the sub-topics for the whole subject.

Quick test

When you know a topic well, doing a quick test every 2 days will stop it leaking out of your brain. It's simple, just three steps:

- 1) Look at a sub-topic.
- 2) Picture the prompt in your head.
- 3) Talk through all the detail out loud.

If you've got a willing accomplice (or a pet) explain the topic to them. If you give them your full notes they can shout if you miss something (this last bit's trickier with a pet).



Is one of these boys the giraffe chopper?

Absolutely
jam-packed page
— but full of
good stuff

Test

You've probably noticed that you've been testing yourself throughout the revision bit — sneaky, eh! This is different though, this is full-on brain pummelling.

Let it all hang out — test the whole subject at once

This way of testing will reinforce your memory for all the topics by getting you to think about the whole subject at once. It's good stuff so stay awake and don't quit.

- 1) Pick any sub-topic from your subject explosion and start writing out all the details.
- 2) Each time you write something down, think how it could be connected to any other part of the subject. Look at the subject explosion to help you.
- 3) When you spot a connection, write it down and then start writing out the details of this new sub-topic until you spot another connection.
- 4) Keep going as long as you can, as quickly as you can, joining as many sub-topics as you can. This has the added bonus of being speed-writing practice for the exams.
- 5) Start a new line for each sub-topic and make a note of where it's from in the margin.

<u>digestion</u>	The large intestine is where excess water is absorbed from the blood. As well as water the blood also contains white blood cells.
<u>blood</u>	Platelets are small fragments of cells with no nucleus. They help the blood to clot at wounds, stopping you bleeding to death and micro-organisms getting in.
<u>disease</u>	There are three types of micro-organisms: bacteria, fungi and viruses. Bacteria are one hundredth the size of body cells.
<u>genes</u>	Body cells have 46 chromosomes so they are diploid.

Test yourself with workbooks and exam papers

Use workbooks (and the revision summaries in revision guides) to test each topic in detail. Use exam papers to practise answering exam-style questions.

- 1) CGP have got a whopping range of workbooks and practice papers designed for this sort of testing. Another advert, I know, but they really are the dog's bollards.
- 2) You can get old exam papers (past papers) from school or direct from the exam boards.
- 3) Take care if you use old exam papers — they may have questions covering stuff that's no longer in the exam. Don't let it freak you out. Use your course outline to check.
- 4) Don't go easy on yourself when you're marking your answers — the examiners won't.
- 5) Keep testing yourself to find out which areas you're weakest on. Go over those notes again and re-test yourself until you get it all right.

Tackling exams and demon fighting...

Go to our website to get advice on both of these hazardous sports.

Go to www.cgpbooks.co.uk/examtips, then find this book's home page - it's all there.