# HOW to revise

What your child needs to know to pass any exam

DEFRAGMENTED TEENAGE INFORMATION FLOW

8-page Weekend pullout

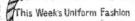


Double Science

Parent Vicinity Detection Device

English Language

ICT



Empty Hard Drive Space

Art

UNUSABLE SECTOR
Lady Gaga Memory

French

Teenage Crush (temp file)

History

Empty Hard Drive Space

Man United Stats 1981 - Current



Hamster Death Guilt

Empty Hard Drive Space

Food Technology Awaiting Input

Modern World History

Biology

Geography

Empty Hard Drive Space

Man United Stats 1900-1980

English Literature

History

Random Facts
/ Teacher Nicknames

Desire For World Domination

Mathematics

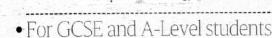
Empty Hard Drive Space

Wrist

Nagging Doubt

Bully Revenge





Prof Gunning's guide to fact retrieval

• The easy way to tackle exams, from the revision experts CGP

•Today: how to plan, understand, revise and simplify

• Don't miss part 2: next Saturday with The Times







#### Plan

Before you start revising for an exam, you need to find out what it'll cover. Here's how...

#### Find out what you're gonna be tested on

Below are the places to go to get a decent course outline for all your subjects.

Your <u>teacher</u> is your best resource. He or she should be able to give you course specifications, or a course outline they've worked out.

1) The clear and concise <u>CGP Revision</u> <u>guides</u> are a great starting place.

www.cgpbooks.co.uk

2) For <u>GCSEs</u> or <u>'A' levels</u> you need the course <u>specification</u> (syllabus). OCR: www.ocr.org.uk
AQA: www.aqa.org.uk
Edexcel: www.edexcel.com
Welsh: www.wjec.co.uk
Irish: www.ccea.org.uk
— select the qualification and the subject.



#### Turn each course outline into a simple plan

Split each subject into topics and sub-topics.

SUBJECT:	BIOLOGY					
Topic	Sub-topics	understand	simplify	reduce	explode	
Cell activity	plant and animal cells	1	/	1	1	1
	Transport across boundaries	1	1	not finished		
	Cell division	1	1	-	-	-
Humans as organisms	nutrition					r
	circulation		_	_	-	4
	breathing			-	1	1
	respiration				1	1

You can print a blank copy of this table from this book's home page on our website — www.cgpbooks.co.uk/examtips.

With CGP books it's simple: <u>Section</u> headings = <u>topics</u> <u>Page</u> headings = <u>sub-topics</u>

#### Make a revision time-table

Without a time-table you'll revise some stuff a lot, miss out other bits and have a mad rush at the end. Follow these rules and use the examples on this book's home page on our website.

- 1) Stick in all the non revision stuff first school, sleep, frisbee practice, exams.
- 2) Split up the remaining bits of each day or evening into 1 to 1½ hour <u>revision chunks</u>. Do a <u>different</u> subject per chunk. Aim for 2 chunks each evening.
- 3) Set yourself targets for each week and stick to them.

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It's mad trying to learn something before you understand it. First understand, then learn.

#### If you don't get it, learning it takes forever ...

1) This example will prove it to you. Read the words in the following box, cover the page and try to write them all down from memory.

my earache — my ears are bleeding because my mother keeps singing.

2) Now do the same thing with this one:

ym caheaer — are singing. bleeding my because ears my keeps mother

3) Unless you're a robot, you got more of the first one right — because it made sense to you, you understood it. It's possible to learn the second one, but it'd take ages.

#### ...and you'll still bodge the exams

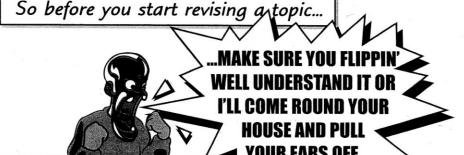
1) You can learn the sentence below word for word without understanding it.

Some bacteria are parasitic, some are saprophytic.

- 2) If you get this question in the exam you could probably answer it OK.
- 1. Name two types of bacteria. (2 marks)
- 3) But if you get asked this you won't have a clue and you'll lose 2 marks.

1. How do saprophytic bacteria help get rid of waste? (2 marks)

4) If you'd spent 2 minutes finding out what saprophytic means, you'd have 2 marks. Just use all that nose-picking time to understand stuff and you'll get a better grade.



Make sure you understand it Make sure you under Make sure you understand it Make sure you unders Make sure you understand it Make sure you understand it Make

sure you understand it Make sure you understand it it Make sure you understand it

#### Revise

Once you understand a topic you need to <u>remember it</u>. People get it into their heads that revision is just reading stuff over and over. BORING. Forget that. Do it this way.

Take one sub-topic at a time from your plan and follow this simple 4-step brain improvement plan for a fuller, more active exam life.



## 1 SIMPLIFY

Take your sub-topic, put it into fewer words and draw simplified diagrams. I've given you two examples of what I mean on the next four pages.

How

#### Why

It makes you read through the sub-topic in detail so you can decide how to simplify it. You get more of the subject into your head than if you just read it through.

#### 2 REDUCE



Reduce the simplified sub-topic into a smaller wad of info. When you've simplified and reduced all the sub-topics in a topic, go on to number 3.

**How** 

#### Why

Going over what you've done reinforces the memories in your head. By actively thinking about how to reduce it, you'll make strong memories quickly.

#### 3 EXPLODE THE TOPIC



How

Show all the small wads of info for one topic on one page. When you've done this for all the topics in a subject, go on to number 4.

#### Why

Drawing this out makes you go over every sub-topic again. It also gives you an overview of the whole topic to jog and test that bag of neurones in your skull.

#### 4 EXPLODE THE SUBJECT



How

Like the topic explosion, but this time showing the whole subject in a monster picture on one page.

#### Why

Gives you everything you need to cover one subject on one bit of paper. It won't seem as scary or stressful when you can see what you're dealing with.

READ THIS — THIS IS VERY IMPORTANT — READ THIS — THIS IS VERY IMPORTANT

AS SOON AS YOU START THIS YOU ARE REVISING. THIS IS NOT PREPARATION BEFORE REVISION, THIS IS REVISION, SO CONCENTRATE AND DON'T RUSH THROUGH IT WITHOUT THINKING. (I'll stop shouting now

#### Start with the right stuff

- A CGP revision guide gives you a fantastic <u>starting point</u>
   whole sub-topics like the one below are often on a single page.
- 2) If you need to, you can add in notes from your class book before simplifying it.
- 3) The page below is a sub-topic from a <u>Revision Guide</u>. On the next page I've shown you how it can be simplified.

#### The Use and Abuse of Resources

The growing population and increasing standard of living is putting greater demands on the world's resources. A <u>bigger global</u> population needs more resources — at the very least people need <u>food</u> and <u>water supplies</u>. Increasing <u>standards of living</u> uses more goods and services causing resources to be <u>used up faster</u>.

#### **Quarrying means Digging for Land Resources**



- 1) Quarries spoil the landscape, and the land can't always be reclaimed.
- Rock, sand and gravel are important resources, but to get at them a lot of unusable material has to be removed first.
- Metal ores make up only a <u>tiny fraction</u> of the rocks in which they are found — the rest is <u>waste</u>. Other waste is <u>dumped</u> in quarries.
- Some <u>disused quarries</u> have become very important habitats for <u>wildlife</u>
   — they are also useful places for learning about <u>geology</u>.

#### Conservation and Recycling Provide for the Future

- Reducing demand for fossil fuels means they'll <u>last longer</u>, and <u>reduce</u> the harmful <u>effects</u> of using them — eg. smaller cars with more efficient engines use less fuel; insulating the lofts of houses reduces the use of heating fuel.
- 2) Conserving the soil by preventing erosion will provide food for future generations.
- Recycling metals and paper means using less raw material and cuts energy use too eg. metals and glass can be reclaimed from scrap cars; papers can be re-processed into paper bags and toilet paper.



#### Managing Resources is a Balancing Act

- Some resources <u>aren't</u> always <u>available</u> where they're most wanted the fastest-growing demand for water in the UK is in the south-east, the highest rainfall is in the north and west.
- 2) There won't always be enough to go round although LEDCs produce much of the world's resources, most are used by MEDCs. LEDC development means they want more resources.
- most are used by MEDCs. LEDC development means they want more resources.

  3) Multinational companies fear that reduction in consumption will reduce profits eg. BP, which is involved in the search for new oil supplies off the Falkland Islands.
- 4) Research into alternative materials and energy resources is time-consuming and expensive.

#### Sustainable Use of Resources Relies on Good Stewardship

### Stewardship means using resources responsibly so some are left and so damage caused is minimal.

- Resource conservation Using resources carefully to <u>slow</u> our consumption of them, eg. making cars and power stations more <u>afficient</u> so you use less fuel.
- Resource substitution Changing resources for more <u>sustainable</u> ones, eg. using recyclable aluminium instead of steel for making cans, or using wind power instead of coal.
- 3) Pollution control Limiting pollution to reduce problems like global warming and acid rain.
- 4) Recucling Used to reduce the amount of waste produced and as part of resource conservation.

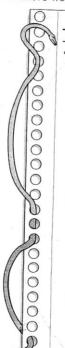
#### The resource problem is tiring — so conserve your energy...

The tricky thing about this page is making sure you can fit it all together. All you really need to know is what they are, how they're abused and the difficulties of managing them. Five mini-essays then, please.



## Get it all on to one page or less

<u>Sub-topics</u> from non-CGP books or from your class notes will be <u>more wordy</u> than this one. They'll need more work, but you should be able to get each one on a <u>single page</u>.



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#### 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
- 2) Conserving soil preventing erosion future food
- 3) Recycling (metals, paper) use less raw material use less energy to reprocess

#### Managing Resources

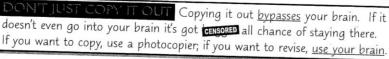
- Resources aren't always where they're needed eg water demand London but most water in north west of the UK.
- Not always enough to go round. LEDCs produce most, MEDCs use most.
   LEDCs will need more as they develop.
- 3) Multinationals fear reduction in consumption will reduce profits. eg BP Oil 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





- 1) Read through each section, pick out the important bits and reduce the number of words.
- Use <u>numbered points</u> they're great for <u>organising</u> info into chunks.
- 3) Have a go at using pictures to show bits of info. They don't have to be good, just as long as you know what they are. Coming up with them helps you remember stuff.
- 4) If you don't understand any words, look them up and write out what they mean in your own words, at the bottom of the page.

## When you've simplified a topic — test yourself

- 1) Cover everything up.
- 2) Get a blank sheet of paper and write out as much of the sub-topic as you can.
- 3) Use your simplified notes to add things you missed and correct things you got wrong.
- 4) You won't remember everything yet, probably just the headings and a few details.

The last example showed you how to simplify sub-topics that are <u>mostly words</u>. These two pages show you how to tackle sub-topics based on <u>diagrams</u>. The page below shows a skinless man showing off his <u>digestive system</u>.

#### The Digestive System

You'll definitely get a question on this in your Exam so take your time and learn this very important diagram in all its infinite glory. And that includes the words too:

#### Ten Bits of Your Grisly Digestive System to Learn:

#### ---

Tongue

#### Salivary Glands

Produce an <u>enzyme</u> called <u>amylase</u> to start the breakdown of starch.

#### <u>Oesophagus</u>

(Your gullet)

The food chute from the mouth to the stomach.

#### <u>Liver</u>

Where bile is produced.
Bile emulsifies fats and
neutralises stomach acid
(to make conditions right
for the enzymes in the
small intestine).

#### Gall bladder

Where <u>bile</u> is <u>stored</u>, before it's injected into the intestine.

#### Large intestine

Where excess water is absorbed from the food.

#### Anus

Where the <u>faeces</u> (made mostly of indigestible food) bid you a fond farewell.

#### Mouth

Chews food up into easy-to-swallow balls.

#### **Stomach**

- It <u>pummels the food</u> with its muscular walls.
- 2) It produces protease enzymes.
- 3) It produces <u>hydrochloric acid</u> for two reasons:
  - a) To kill bacteria
  - b) To give the <u>right pH</u> for the <u>protease</u> enzyme to work (pH2 - acidic).

#### **Pancreas**

Produces the lot: amylase, lipase and protease enzymes.

#### Small intestine

- Produces the <u>protease</u>, <u>amylase</u> and <u>lipase</u> enzymes.
- This is also where the "food" is absorbed into the blood.
- 3) It's long and folded to increase surface area. Tiny finger-like things called <u>villi</u> cover the inner surface to <u>increase</u> the <u>surface</u> <u>area</u> even more.

#### <u>Have you learned the Whole Diagram?</u>

The one thing they won't ask you to do in the Exam is draw the whole thing out yourself. BUT they will ask you about any part of it, e.g. "What is the position of the liver?", or "What does the pancreas produce?", or "What is the function of bile?" So in the end you have to learn the whole thing anyway. And that means being able to cover the page and draw it out, words and all. If you can't draw it all out from memory — then you haven't learnt it. Simple as that.



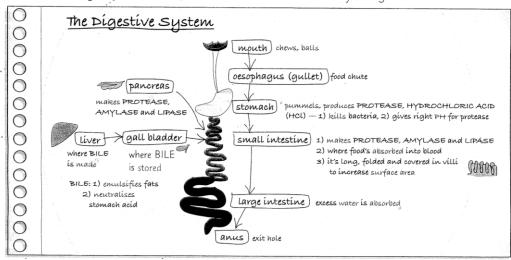
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If you see a whopping diagram like digestion, <u>don't panic</u>, it's actually easier to revise than a load of text. You can simplify the picture and <u>tag on</u> all the info you need.

#### Simplifying diagrams

Simplifying for revision is all about showing all the important bits of a topic in a simple way — it <u>DOES NOT</u> mean just missing out bits at random.

- Go over the diagram and decide which are the important bits.
   In this case: the name, function and order of digestive organs are the important bits.
- 2) Draw <u>simple</u> but recognisable pictures to show what's going on. In this case, I've shown the organs that food travels through in the correct order and then added on the organs that provide or store digestive juices. <u>Label</u> diagrams to show what the different bits do and how they fit together.



#### Simplifying the words

- 1) Decide on some <u>simple rules</u> and stick to them. I've stuck all the organs in boxes, capitalised all digestive juices and written important words in red. Keep your writing <u>concise</u>, but don't miss anything out.
- 2) Add pictures (like the villi). Revision's all about keeping your brain engaged and if you have to think about what to draw, your head machine will be working hard.

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