

Revision and Memory Techniques

Or why revising for your GCSEs starts now!



Learning Objectives

To be able to use a range of revision strategies.

SO THAT...

To understand when and why I must revise.

I can revise effectively for my GCSEs.

To know different ways of revising.

Revision – how do you do it?



We may all have different methods of revising but essentially all of the different things we do can be categorised into three types:

- **Transformation** – turning the information/knowledge to be remembered into something else
- **Reduction** – reducing the information/knowledge to be remembered into smaller amounts or chunks over time
- **Retrieval practice** – giving our brains ways to practising retrieving (finding) the stored information effectively (quickly and correctly).

You need to remember this!

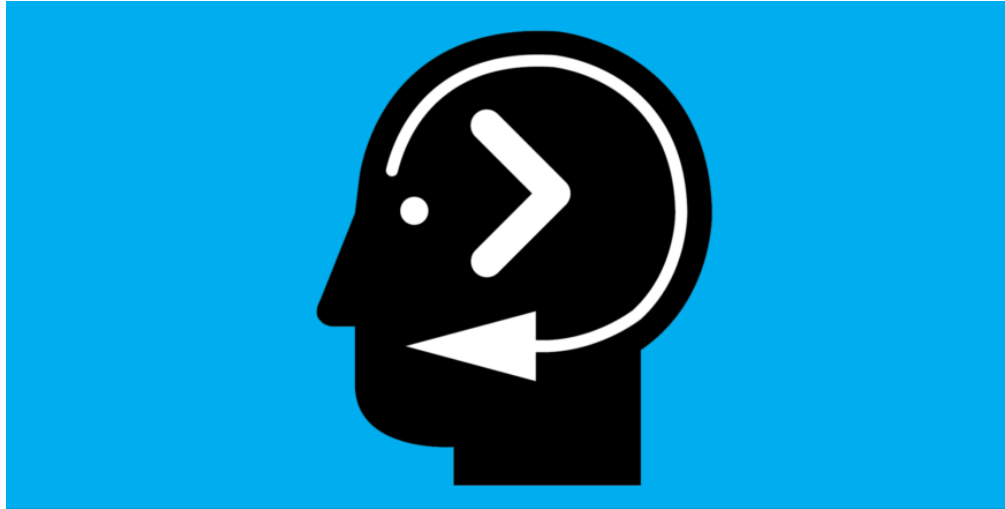


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What can you do to help you remember this information?

R
T
R

Check – what does RTR stand for?



Check:

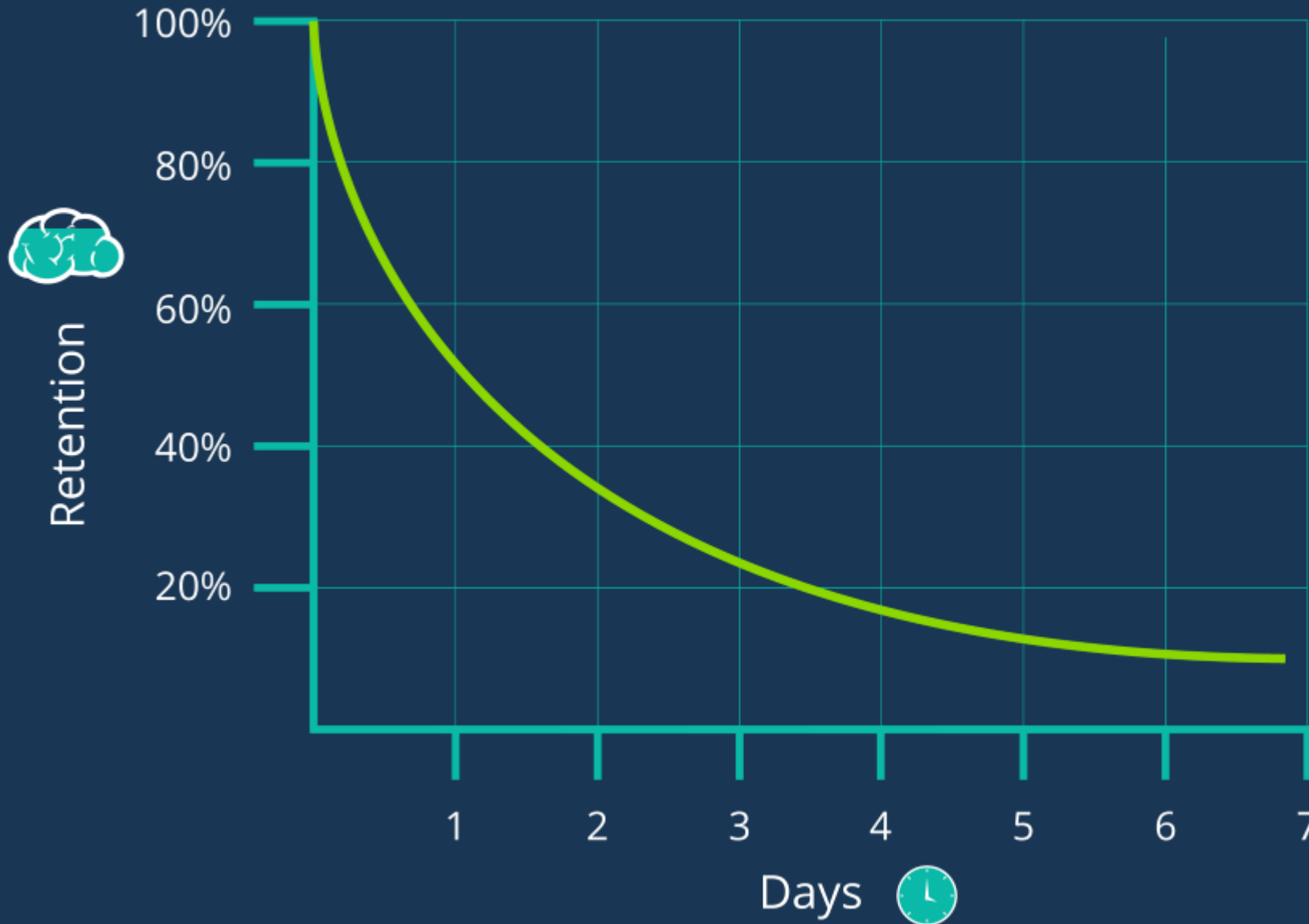
Name the three key revision methods.

Why do I
have to
revise?

I've got
ages...why do
I have to start
now?

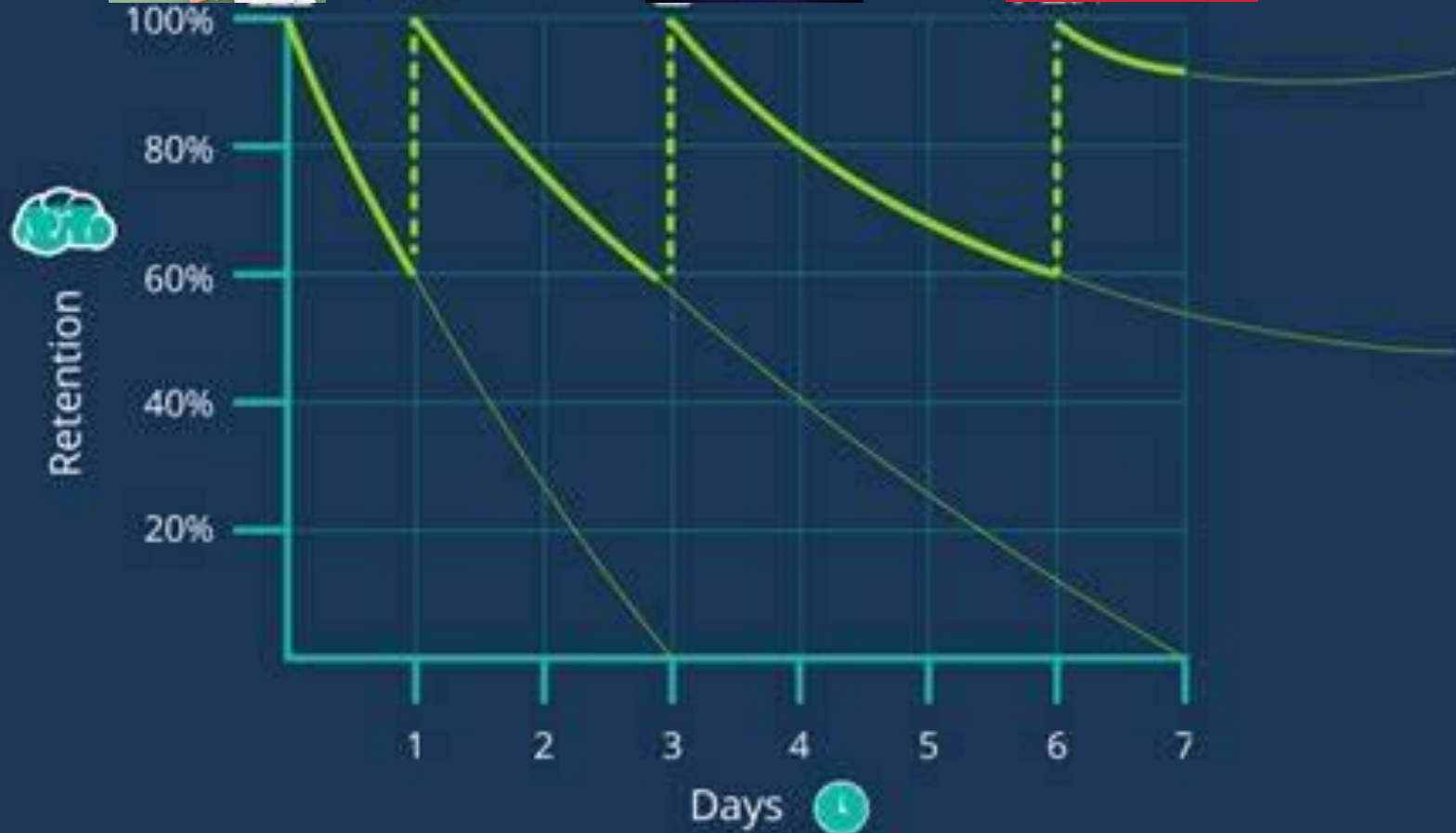


THE FORGETTING CURVE



Scientists have studied how we learn and have found that, no matter how clever we are, over time, everyone will start forget information they have learnt.

COMBATING THE FORGETTING CURVE



To prevent the forgetting curve we must return to the information by using reduction and transformation revision methods and then through retrieval practice.

Each time we revise, the information “sticks” better in our brain and moves from our working memory, to our long term memory. The more we revise, the more we remember.

The forgetting curve and how to revise

As a researcher, Hermann Ebbinghaus was interested in how people learnt and remembered information. He conducted a range of tests and in 1885 he produced his “forgetting curve”. The curve showed that people forgot information almost as soon as they read it; in fact people only remembered about 65% of what they read. Ebbinghaus’ Forgetting Curve shows that people needed to revise something straight away and then at least three more times if they stood any chance of remembering it.

In the 21st century, researchers proved that majority of people could only hold 3-7 piece of information in their short term memory and, just like Ebbinghaus had argued in 1885, people needed to revise something at least three more times in order to move the information into their long term memory. In 2013, John Dunlosky built on the information and found that in order to learn information, people had to use it; highlighting and reading wasn’t good enough. Dunlosky stated that the best forms of revision were quizzes, retuning to “chunks” of old topics to make notes and diagrams.



Check:

Name the three key revision methods.

The forgetting curve and how to revise



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Quiz

Answer the questions in full sentences

1. When did Ebbinghaus produce the forgetting curve?

A: Ebbinghaus produced the forgetting curve in...

2. What percentage of what we read do we remember?

A: We remember _____ % of what we read.

3. How many pieces of information can the majority of people hold in their long term memory?

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A: The three best forms of revision are...

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Ebbinghaus says the best revision techniques are:

- Quizzes
- Making notes
- Creating diagrams



See how this fits in with what we already know

- Quizzes – R _____

- Making notes – R _____

- Creating diagrams – T _____



See how this fits in with what we already know

- Quizzes – Retrieval Practice
- Making notes – Reduction
- Creating diagrams – Transformation



Learning specific revision techniques



Red Pen / Black Pen

- Depending on how you use this, this can be both a reduction or a transformation activity.
- Essentially it is copying the information, but the different colours helps your brain remember the information differently – it “transforms” the way you remember it.
- If you are using this with a text book, you might just note key words, hence you also “reduce” the information as you go, whereas if you are using a knowledge organiser, the information is already reduced.
- Because you are also testing yourself as you go, you’re doing the retrieval practice bit too!



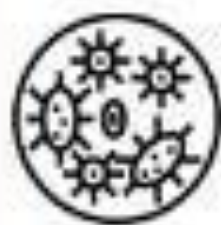
How to revise...using Red Pen / Black Pen

1. Study a section of your KO for 2 minutes.
2. Hide it.
3. In one colour write down everything you can remember.
4. Look at your KO again.
5. In a different colour, add in everything you forgot.
6. Now repeat the process but with your notes instead of your KO:
7. Study it for 2 minutes; focus on the bits you forgot last time.
8. Hide it.
9. In one colour write down everything you can remember.
10. Look at your notes again.
11. In a different colour, add in everything you forgot.
 - Hopefully this time you have remembered more!
 - Repeat until you can remember it all!!



GCSE History Knowledge Organiser: Growing understanding of the Causes of Disease in the 20th Century

Germ theory



1909

Paul Ehrlich and
Hata

Created first magic
bullet, Salvarsan
606



1928

Alexander
Fleming

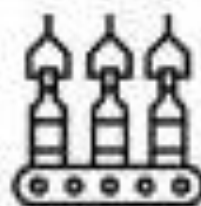
Fleming identifies
penicillin in his lab



1941

Florey and Chain

Penicillin is trialled on
a policeman, with
some success and then
mass-produced



¿En qué te gustaría trabajar? *What would you like to work as?*

Me gustaría

I would like

Me encantaría

I would love

Prefiero

I prefer

Sería guay

It'd be cool

Sería lo más

It'd be the best

trabajar de
to work as

abogado

lawyer

actor

actor

albañil

builder

azafato

air hostess

bailarín

dancer

bombero

fireman

camarero

waiter

cantante

signer

científico

scientist

cocinero

cook

dentista

dentist



Check:

Name the three key revision methods.

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Learning specific revision techniques

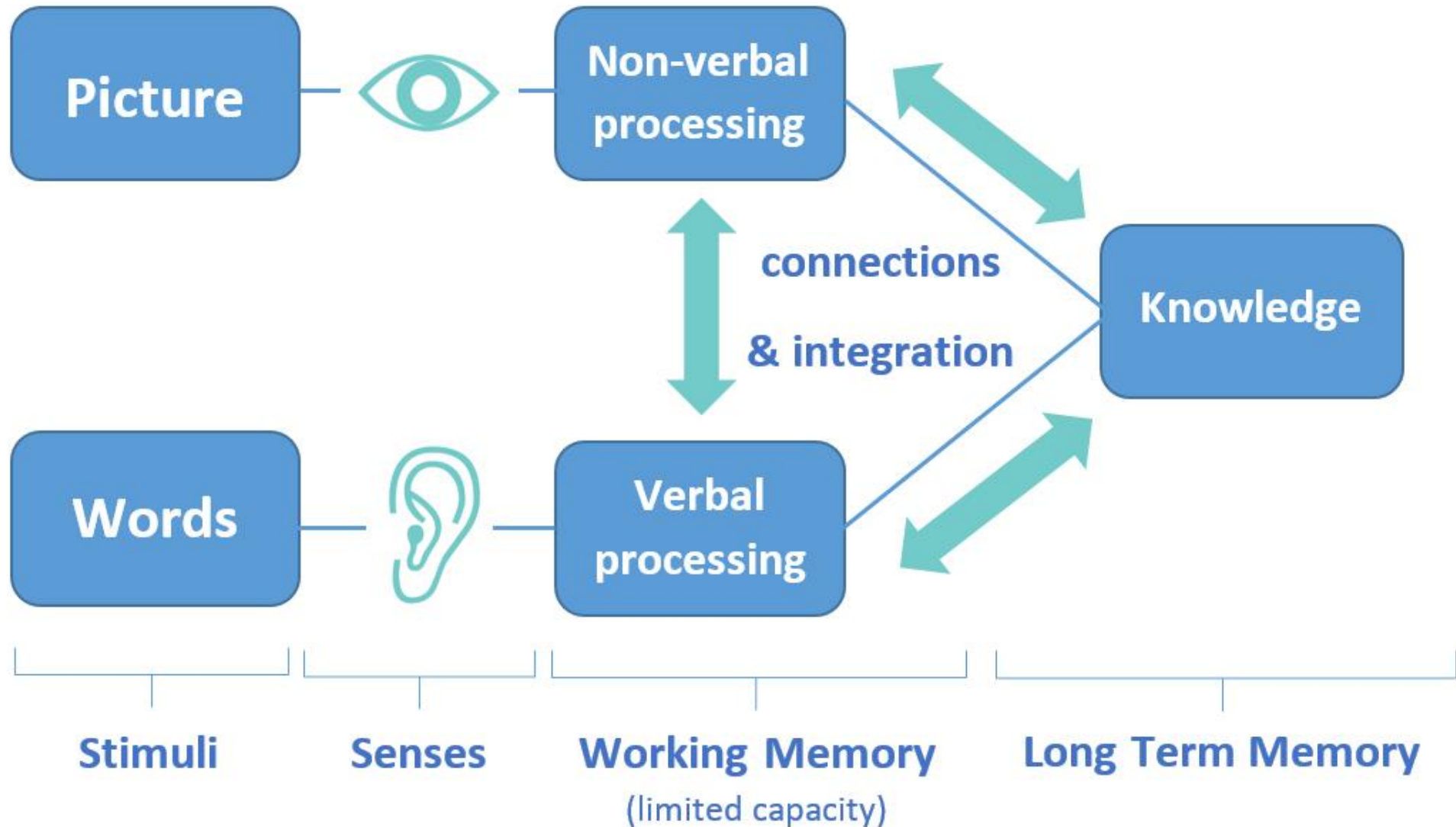
#2



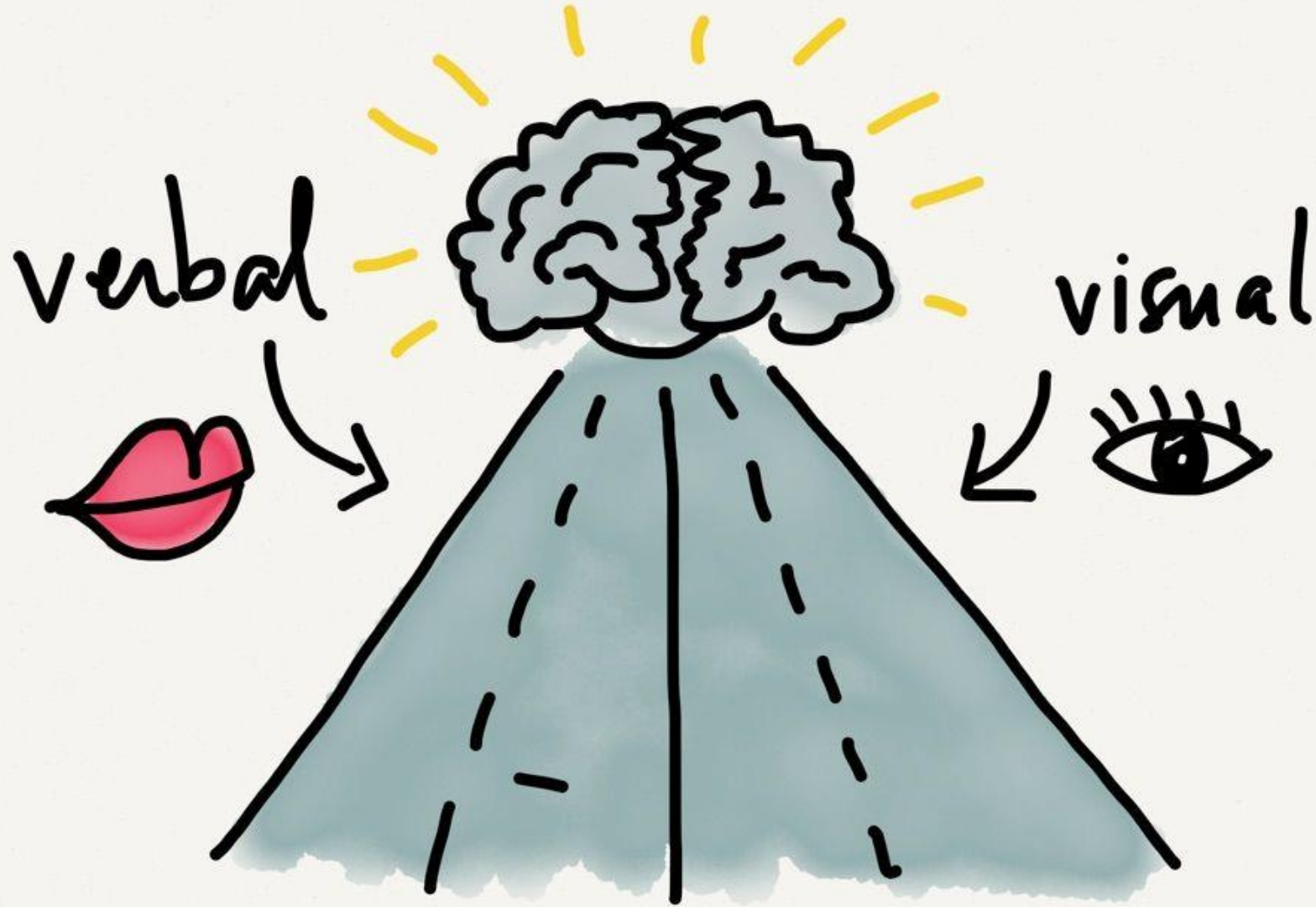
Dual Coding

Using Pictures and words to help you remember

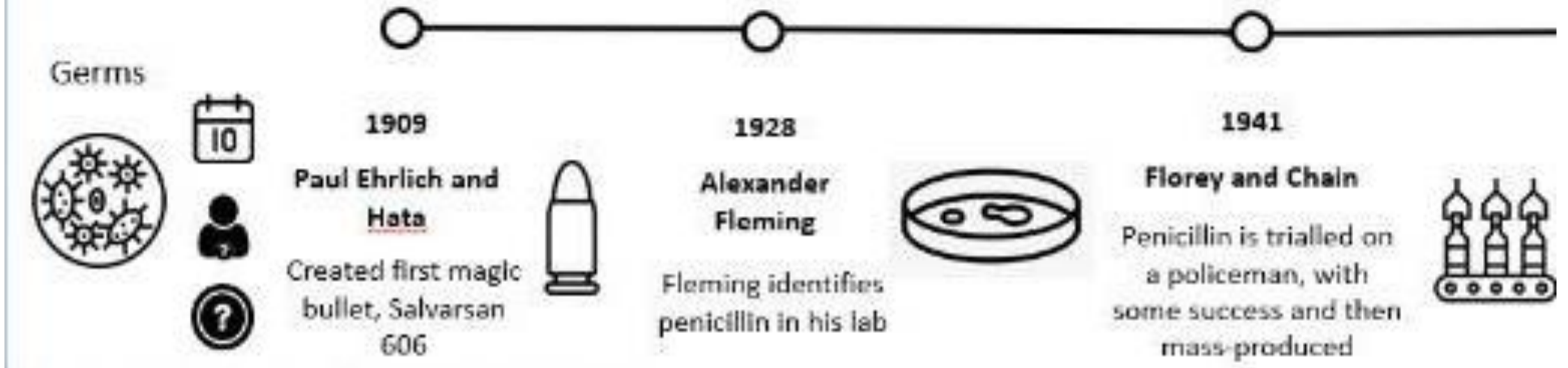
Allan Paivio's Dual-Coding Theory



THE DUAL CODING THEORY



GCSE History Knowledge Organiser: Growing understanding of the Causes of Disease in the 20th Century

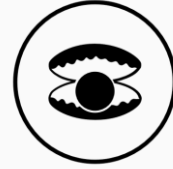


- Look at this History knowledge organiser.
- See how it combined very simple pictures with the text.
- What is the connection between the words and the images?
- See how the images provide a clue or a hook to help you remember what you need to know?

A Christmas Carol: Scrooge – Stave One



‘Tight fisted hand at the grindstone’ p2



‘Solitary as an oyster’ p2

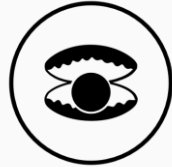


‘Are there no prisons?’ p5



***‘Decrease the surplus population’
p5***

Scrooge – Stave One



Can you
remember the
quotes?

A Christmas Carol: Scrooge – Stave One



Can you
remember
the images?

***‘Tight fisted hand at the
grindstone’ p2***

‘Solitary as an oyster’ p2

‘Are there no prisons?’ p5

***‘Decrease the surplus population’
p5***

Scrooge – Stave One



Can you remember them both?

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What have you learnt about revision?

1. What are the three key revision methods?
2. A. What is dual coding?
B. What type of revision method is it?
3. A. What is red/black pen?
B. What type of revision method is it?
4. Why did I keep testing you on the revision methods and/or Ebbinghaus' forgetting curve through out the lesson?
5. Why am I quizzing you again now?!



Additional Resources

Read.

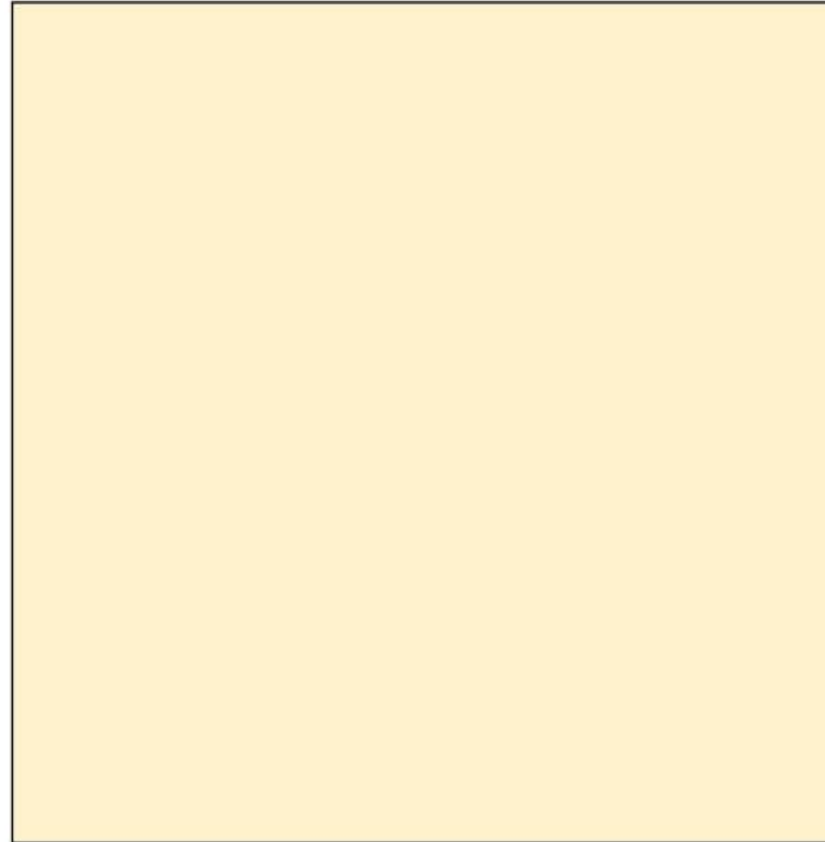
Then
reduce
and
transform
to bullet
points

Reduce and Transform

PiXL Revisit: Transform

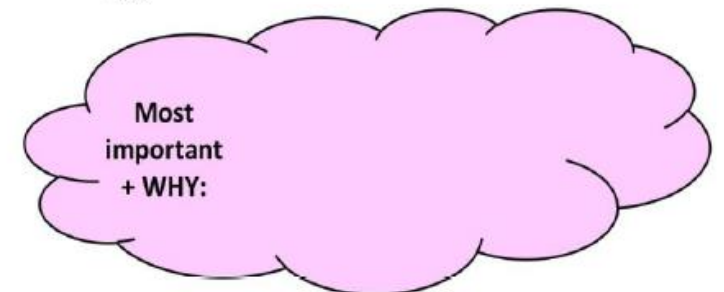
Unit / Topic:

PICTURE / SOURCE / INFO / RESOURCE



Key Points

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.



Reduce and Transform

PiXL Revisit: Reduce to 6 points

Unit / Topic:

R
E
D
U
C
E

Information



Reduce to 6 points

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.



Reduce to 3 key points

- A.
- B.
- C.

P
R
I
O
R
I
T
I
S
E

Information



Prioritise (most important)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.



WHY?

Reduce in stages:

Make notes,

Reduce to 6 points

Reduce to 3 points

Read (text
book / class
book etc.)

Make notes

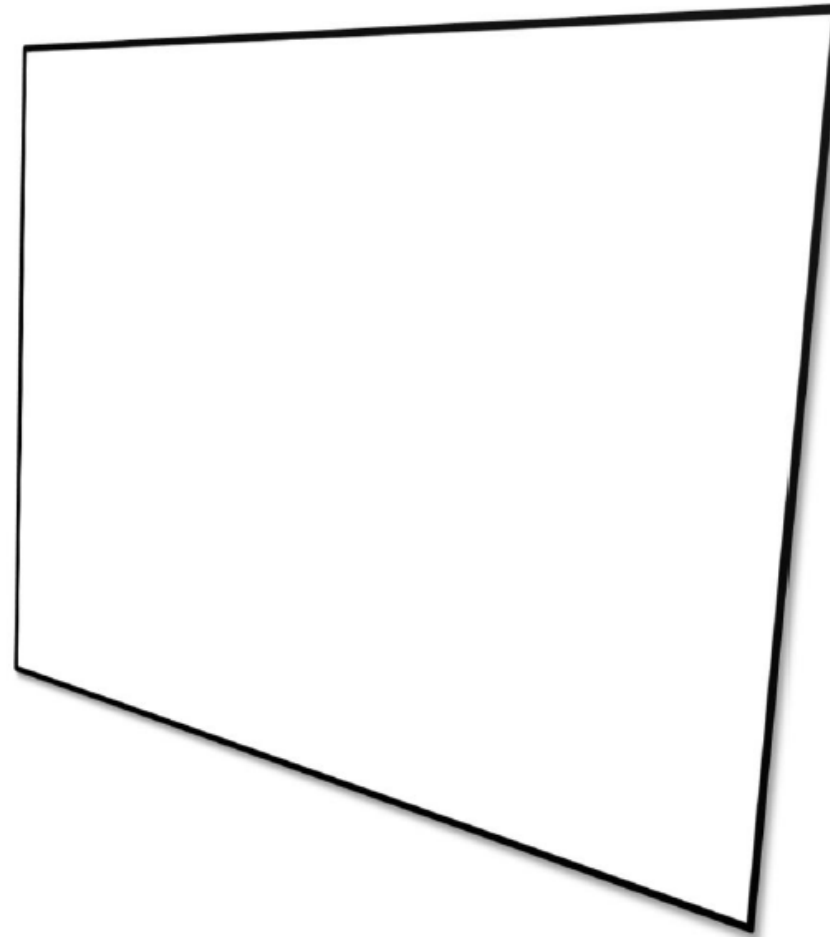
Reduce and
transform to
pictures.

Reduce and Transform

PiXL Revisit: Transform

Unit / Topic:

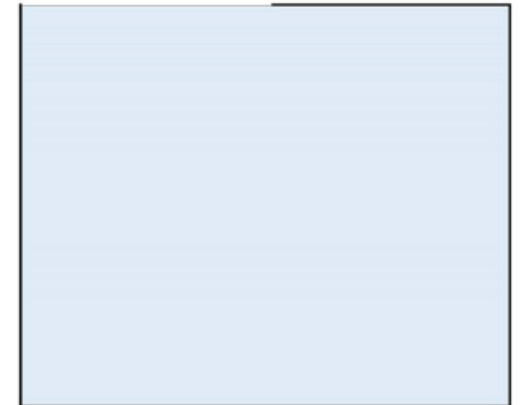
NOTES:



Picture



Picture



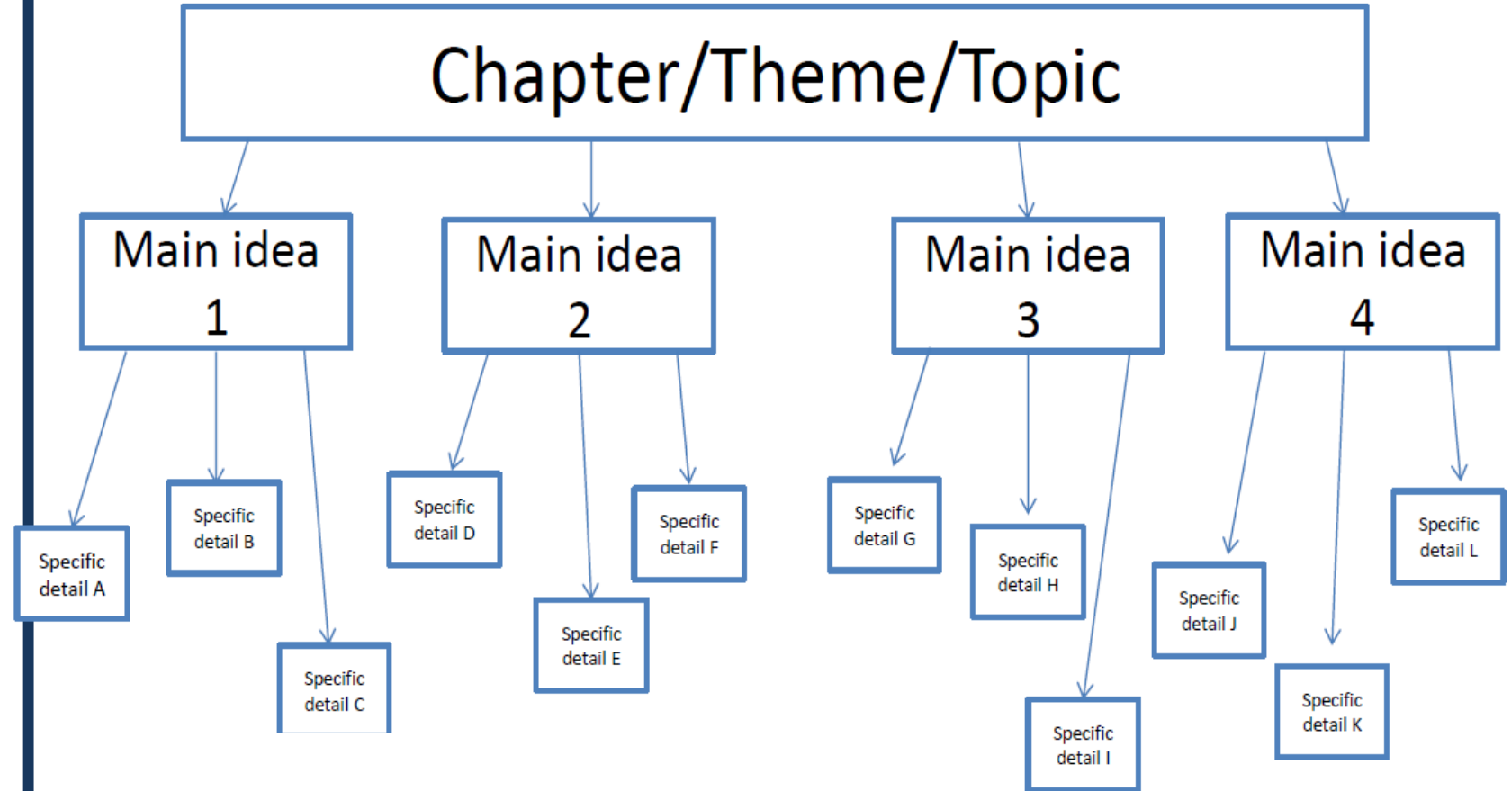
Mind map
structure:

Reduce to
main ideas

Add in
specific
details

Reduce and Transform

Make a large amount of learning manageable.

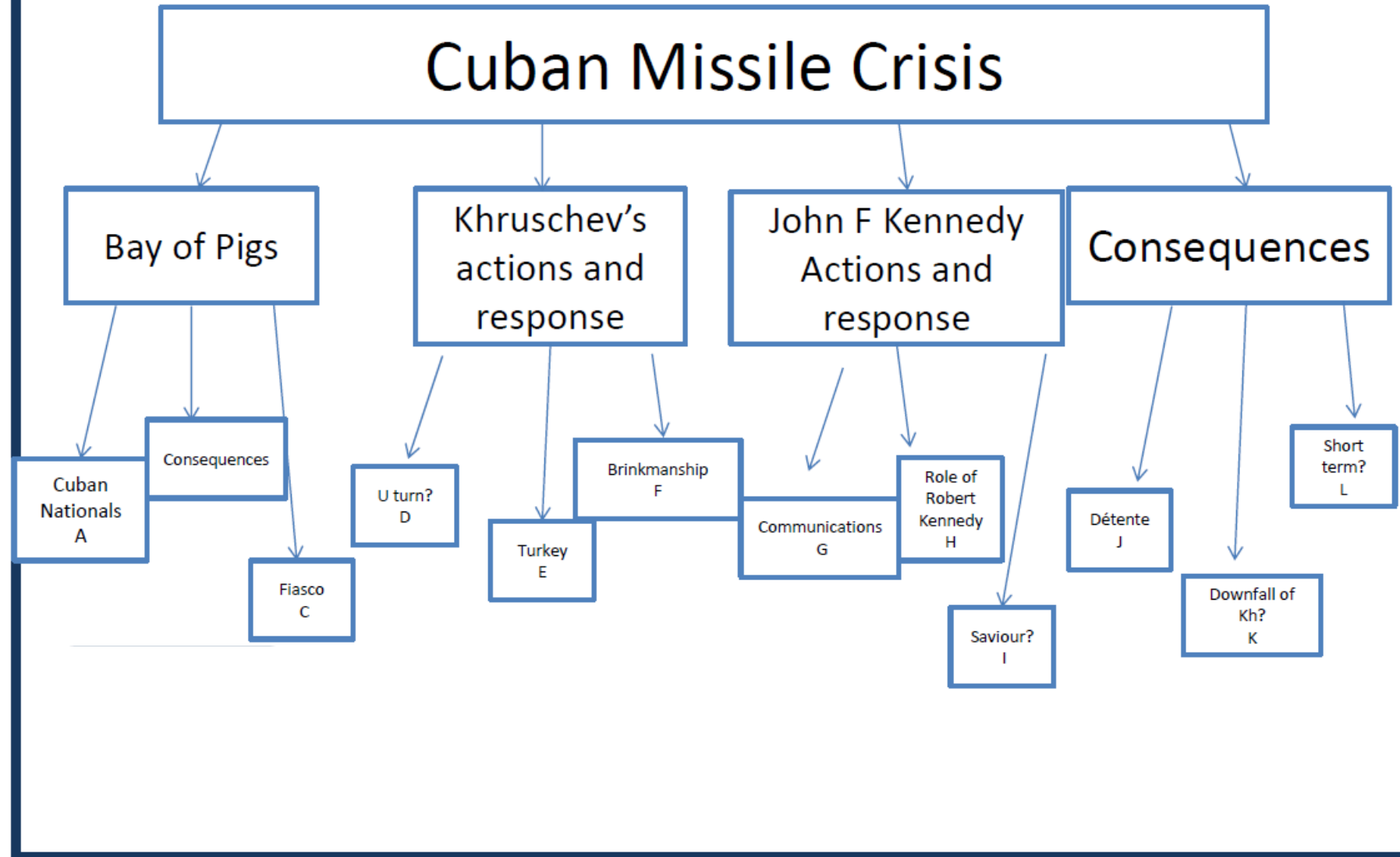


History

Example:

Reduce and Transform

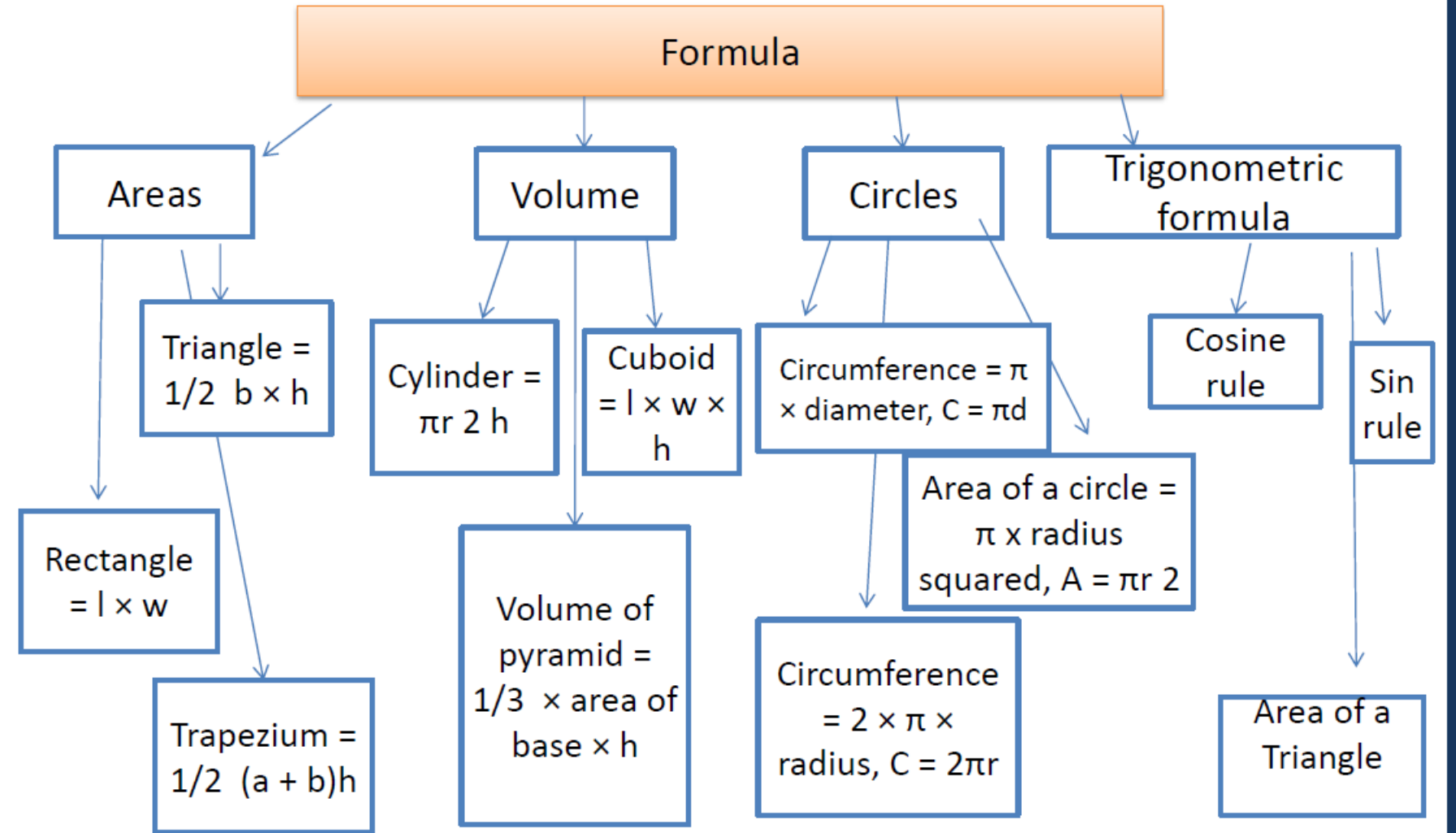
Make a large amount of learning manageable.



Maths

Example:

Reduce and Transform



Taken from the article: 'What Will Improve a Student's Memory?' By Daniel T Willingham

Over to you...



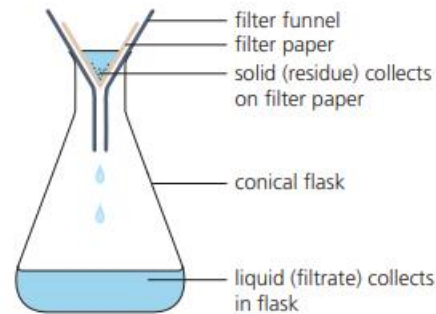
Using something you have learned this week (from your exercise book) or the example given, reduce it using one of the formats we have just looked at:

- Bullet points (10 points then most important and why)
- Mind Map (topic, main ideas, specific details)
- Make notes (then reduce to 6 key points then 3 key points)
- Turn it into pictures

○ Separating mixtures

The substances in a mixture are quite easy to separate because the substances are not chemically joined to each other. Different methods are used depending on what type of mixture there is.

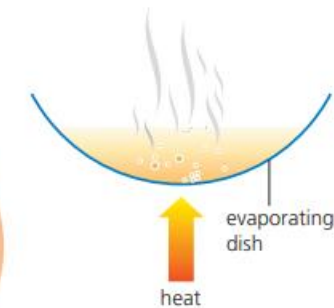
1 Atomic structure and the periodic table



Filtration

This method is used to separate an insoluble solid from a liquid. For example, it could be used to separate sand from water.

The mixture is poured through a funnel containing a piece of filter paper. The liquid (called the **filtrate**) passes through the paper and the solid (called the **residue**) remains on the filter paper.



Evaporation

This method is used to separate a dissolved solid from the solvent it is dissolved in. For example, it could be used to separate salt from water.

The mixture is placed in an evaporating dish and heated until all the solvent has all evaporated or boiled, leaving the solid in the evaporating basin.



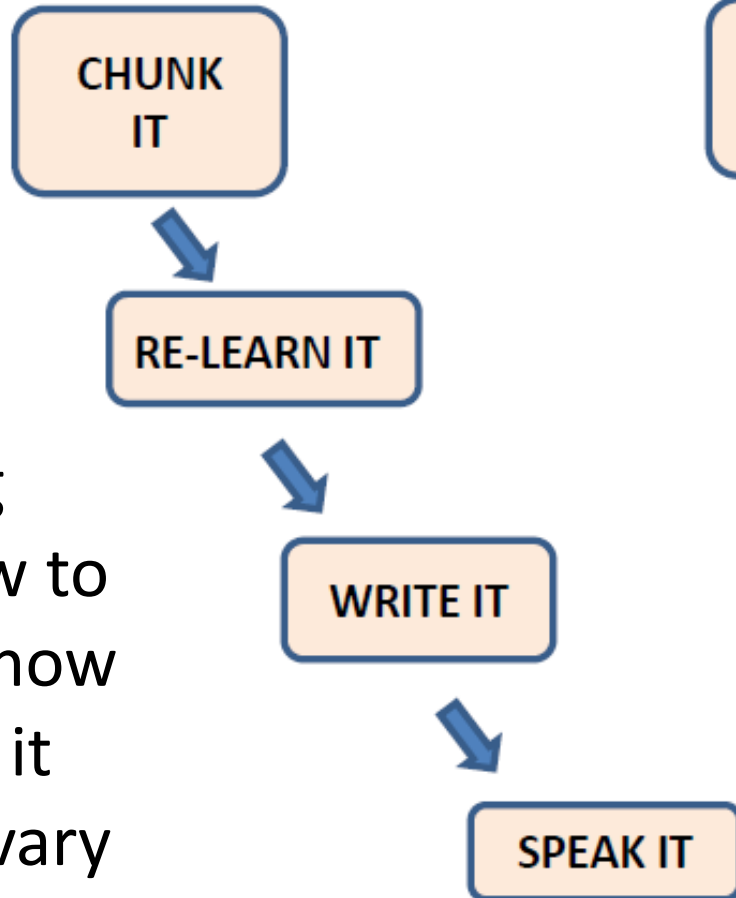
Crystallisation

This method is also used to separate a dissolved solid from the solvent it is dissolved in. For example, it could be used to separate copper sulfate crystals from a solution of copper sulfate.

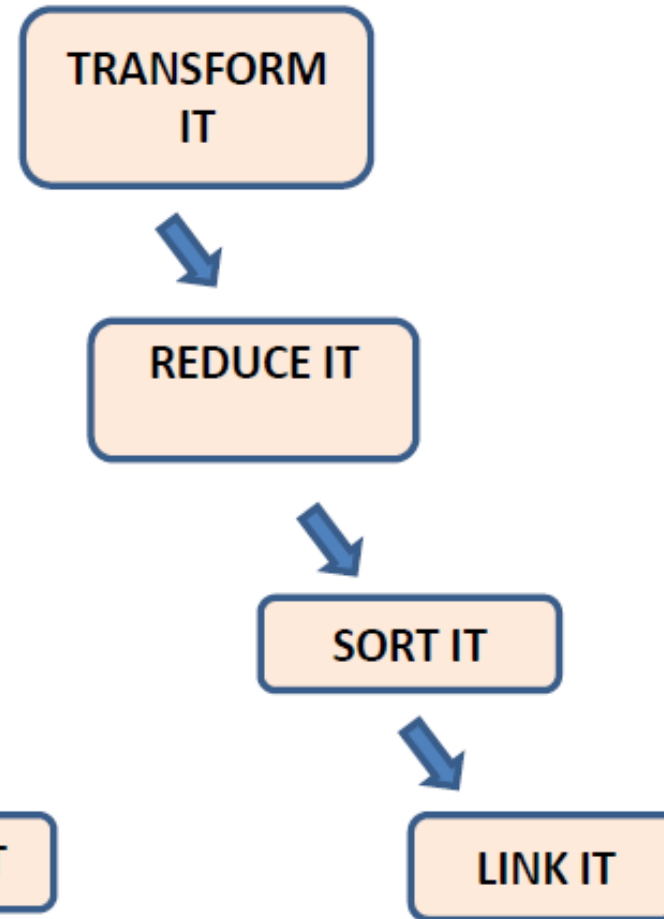
The mixture is heated to boil off some of the solvent to create a hot, saturated solution. A **saturated** solution is one in which no more solute can dissolve at that temperature. As it cools down, the solute becomes less soluble and so cannot remain dissolved, so some of the solute crystallises out of the solution as crystals. The crystals can then be separated from the rest of the solution.



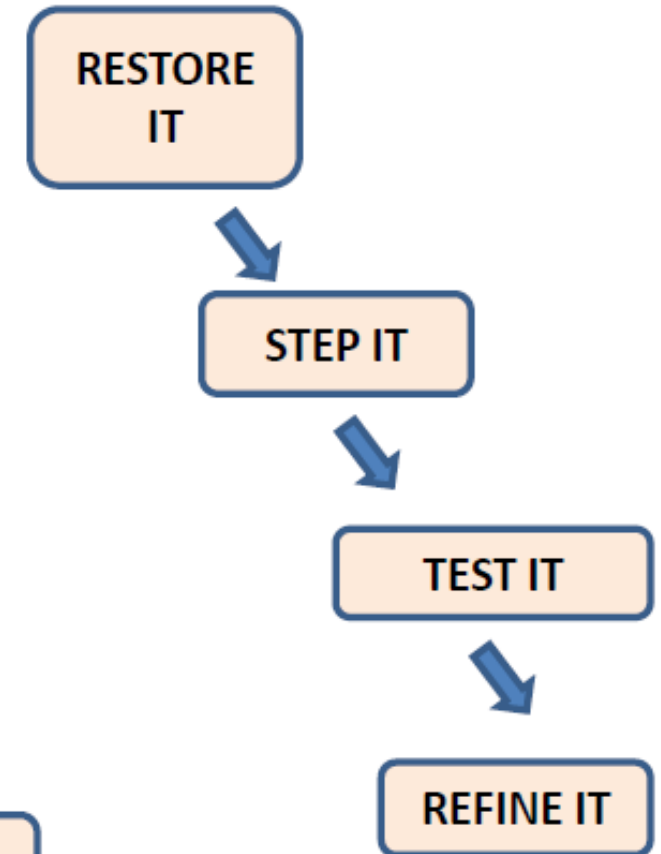
Upload



Process



Download



Approaching revision: how to get started, how to sequence it and how to vary it.

Suggestions of revision activities you can do at home:



Upload

**CHUNK
IT**



**RE-LEARN
IT**



**WRITE
IT**



**SPEAK
IT**

Make it manageable.

Choose a chunk at a time to memorise.

Start with the most important or the most difficult.

Re-read your notes on the chosen topic.

Use the internet:
YouTube, PiXL apps, specific websites.

Flashcards

Cornell Note making

Reduce to 6

Transform

Deconstruct

Make connections

Give a verbal explanation about this topic as if you were teaching it.

Repeat facts you need to remember 20 times.

Record key facts about this topic onto your phone.

Say what you've learnt from memory, using images to prompt you.

Suggestions of
revision
activities you
can do at
home:



Process

**Transform
IT**

Transform key facts
into a series of
images.

Transform what you
have learnt into a
diagram.

Transform your
learning into a poem
or a story.

**REDUCE
IT**

Reduce what you
have learnt about
this topic into 6
bullet points or
prompts.

Reduce the 3
most important
facts in this topic
into 9 words.

**SORT
IT**

Rank order key
facts, quotes,
characters,
formulae.

What is the most
difficult point to
remember? Why?

Categorise into
groups.

**LINK
IT**

Find 3 links
between this
topic and other
topics.

Link the points
together.

Link the ideas.
Find some
random links.

Connections.

Suggestions of
revision
activities you
can do at
home:



Download

