



Archbishop Tenison's

CHURCH OF ENGLAND HIGH SCHOOL

Years 11
Revision Evening
Friday, 08 September 2023



Purpose and Plan

Purpose: To support year 11 pupils in maximizing their academic success.

10 Step Journey:

1. Why is focusing on how we learn important?
2. Why is learning over time important?
3. Habits for motivation and wellbeing
4. Organisation and the environment
5. Maximising every moment
6. Understanding the bigger picture
7. Strategies to retain information
8. Strategies for success
9. Next steps
10. Questions



Step 1: Why is focusing on how we learn important?

- Better grades
- Better foundations for the next step
- Reduced stress/anxiety



Outstanding achievement



STICKABILITY

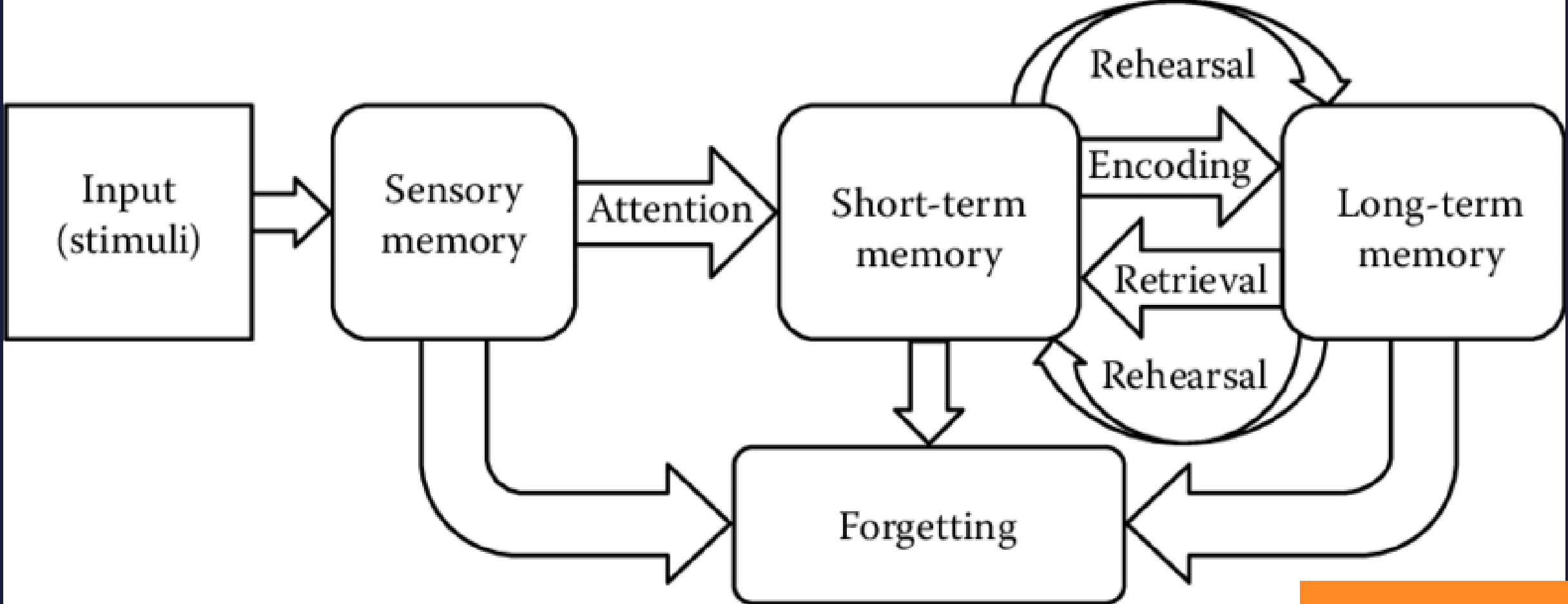


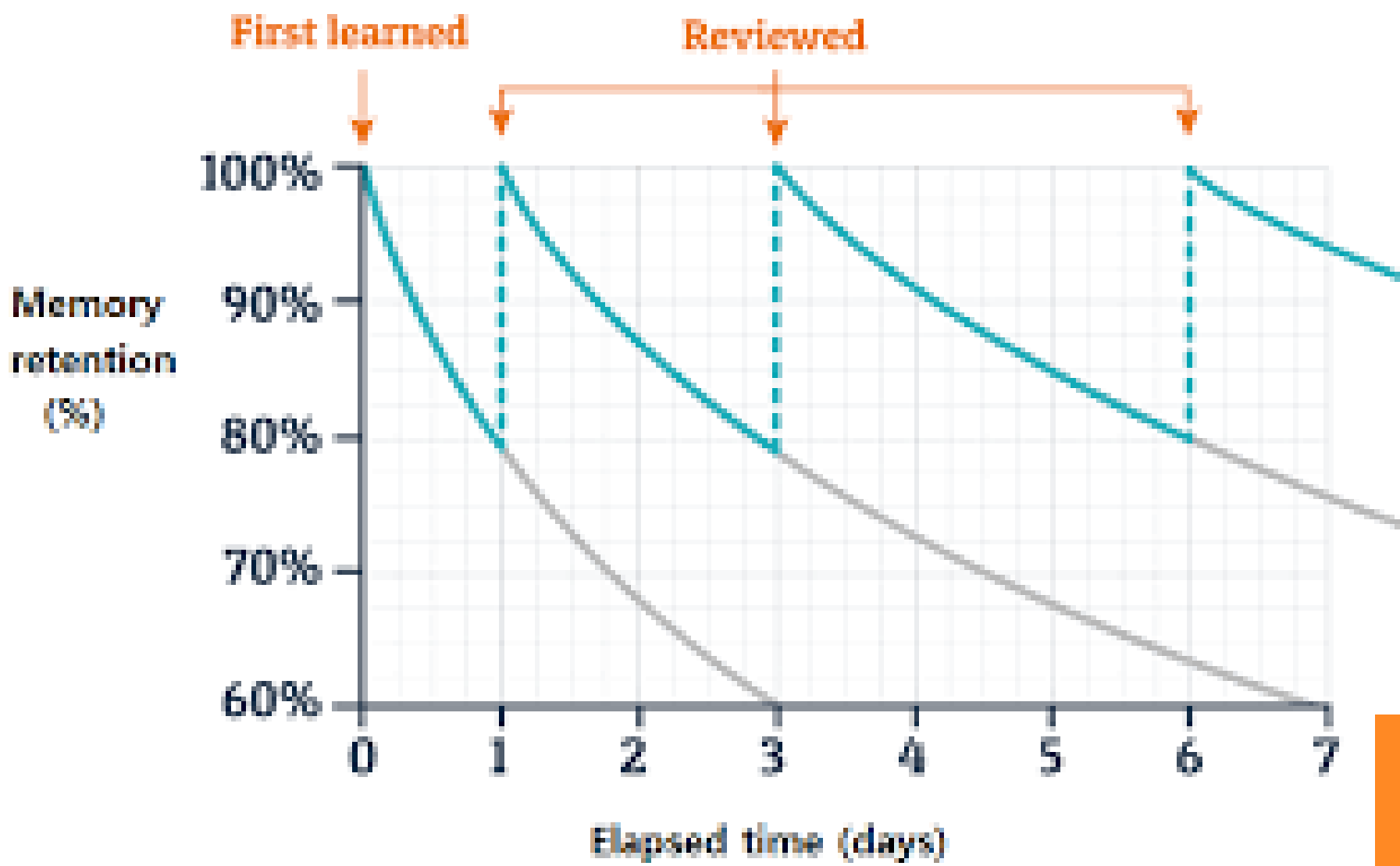
- + Deliberate practice
 - + Stickability & Self-control
 - + Growth Mindset
 - + Inspiration & Encouragement
- = Outstanding Achievement**



**Step 2:
How
learning
happens
in the
brain**

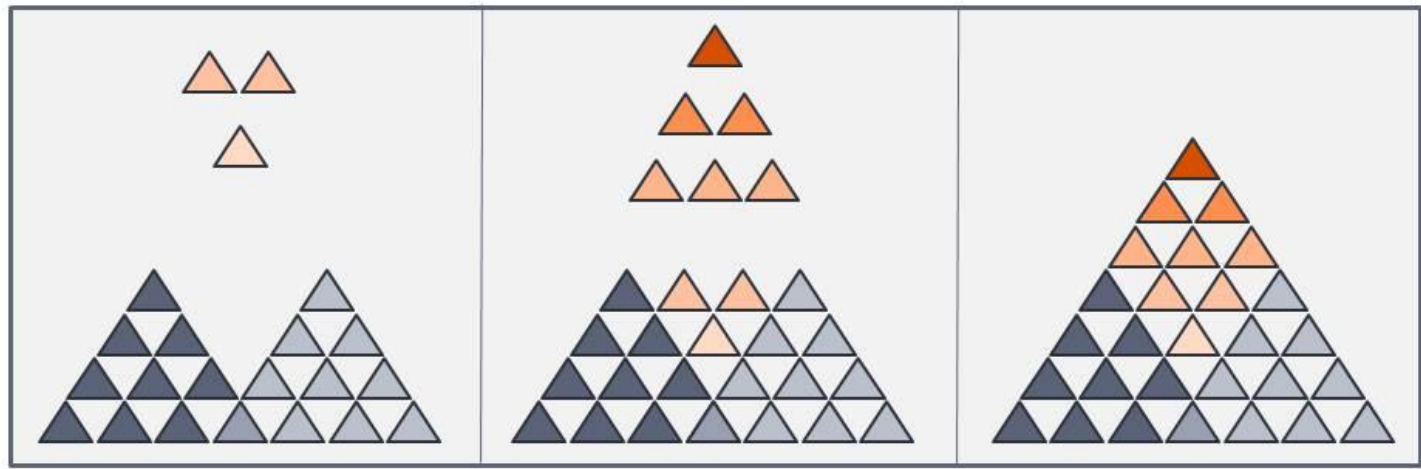
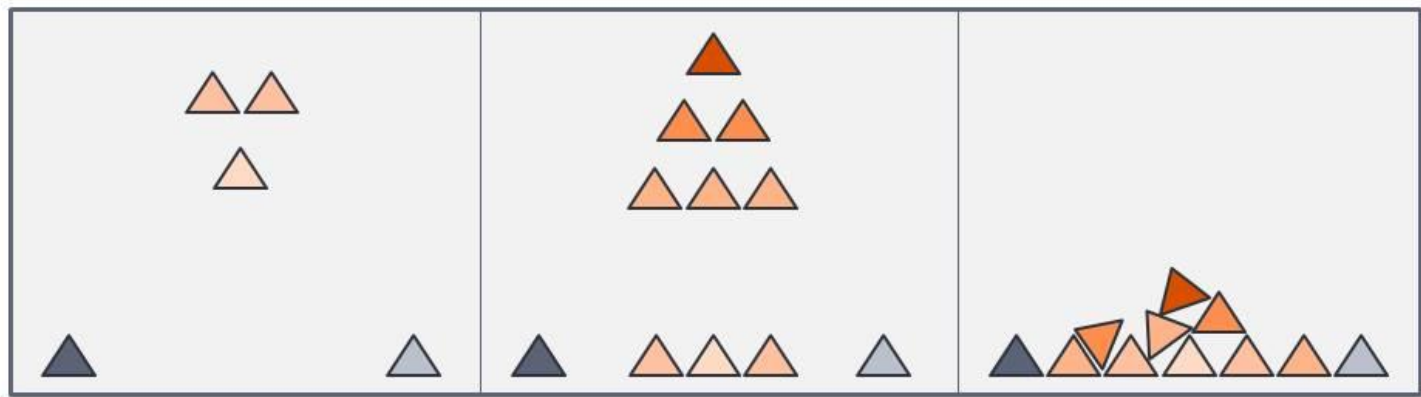
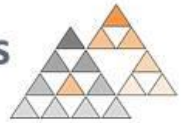






Building Pyramids

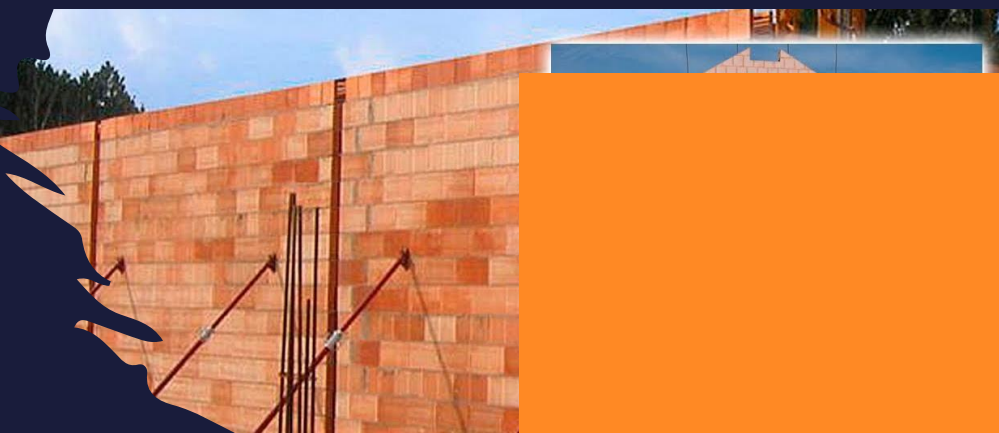
Higher-order thinking abilities are built on the basis of existing expertise



@EhrafFurst



Learning over time





Step 2: Why is learning over time important?

- Better depth of understanding
- Better retention of knowledge
- More Organised schema

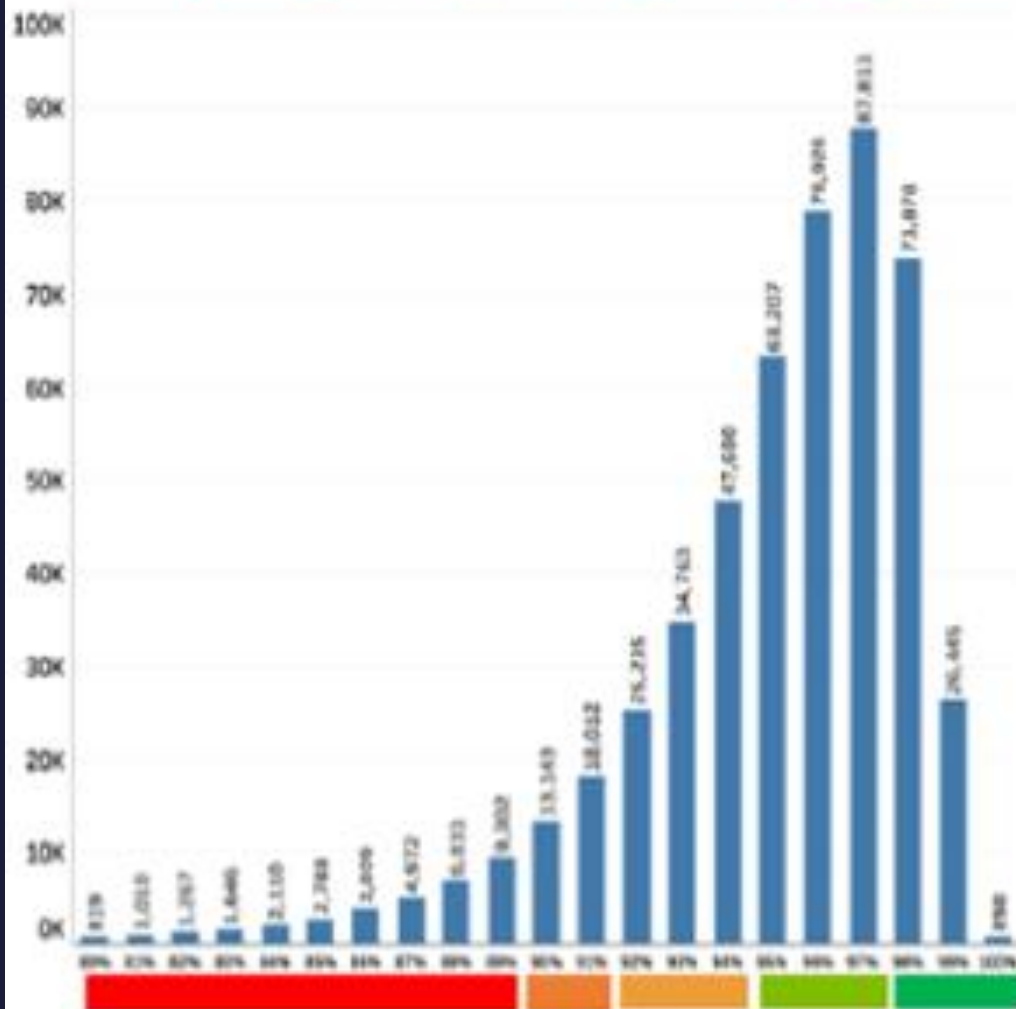
Step 3: Habits for motivation and wellbeing



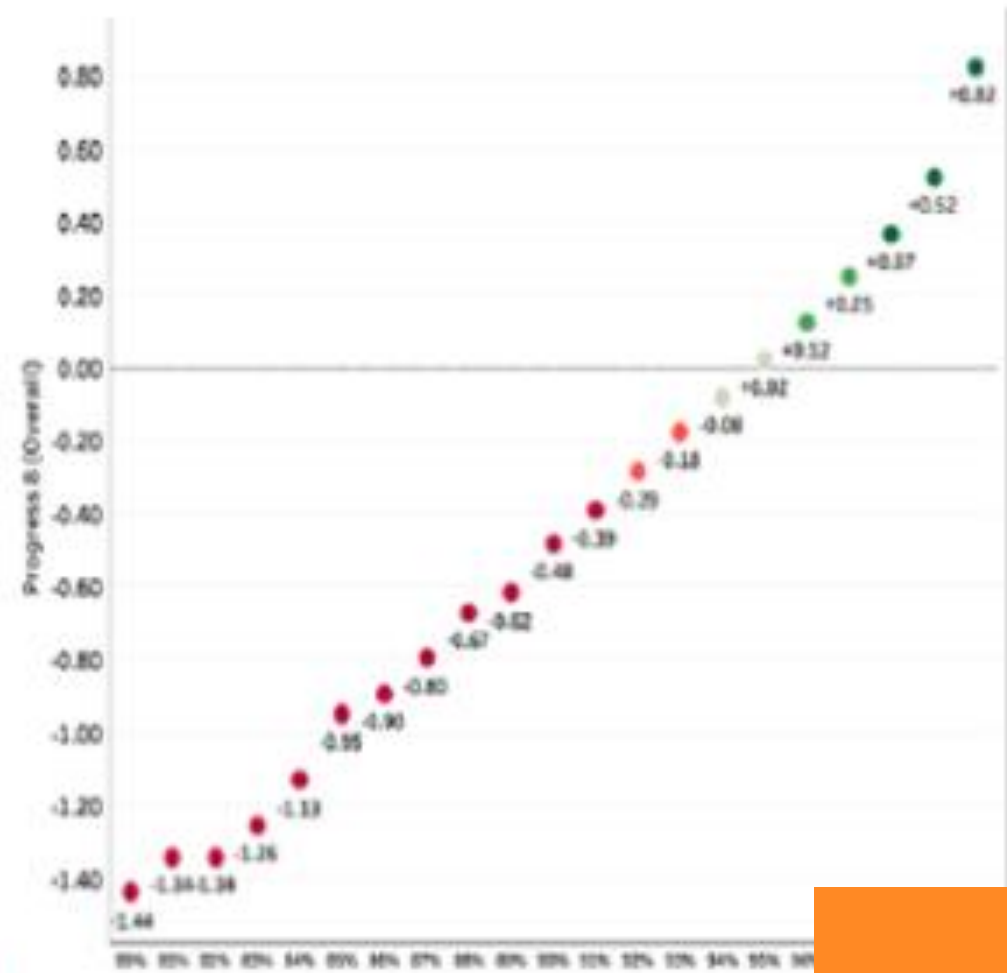
**YOU DON'T RISE
TO THE OCCASION,
YOU SINK TO THE
LEVEL OF YOUR TRAINING**

HAPPINESS *of* PURSUIT
with Amy Wig

Why is attendance so important?



Attendance profile: cohort of 500,000 students who finished Year 11 (KS4) in 2018



Average Progress 8 score and attend



Step 3: Building habits

Start building rituals now:

- Know your why
- Listen to advice and feedback
- Choose your support group wisely
- Form habits and stack them
- Organisation
- Ask for help





Step 4: A positive study environment

- No distractions
- Quiet/silent – Your exams will be
- Designated space
- Smells

- How long does it take to get refocused after a distraction?

13min 30sec to get refocused



Step 4: Organisation – Key factors when designing a study timetable

- Plan the rhythm of your week
- Spend 30min every Sunday adding specific detail to the week ahead
- Eat the frog – plan the least favourable/more strategic, but less pressing activities first
- Remember to plan in other activities
- If something goes wrong, don't try to add it to the next day, just carry on

THE POMODORO TECHNIQUE[®]

A SIMPLE METHOD TO BALANCE FOCUS WITH DELIBERATE BREAKS

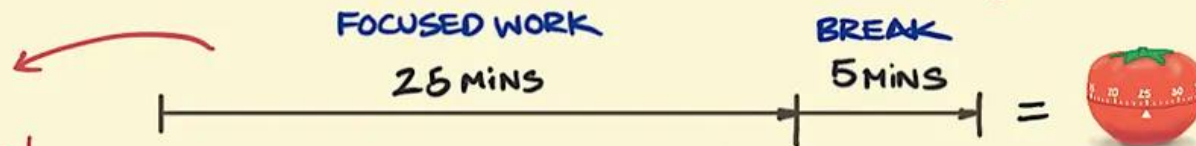


1 PLAN YOUR TASKS
How many pomodoros might you need?

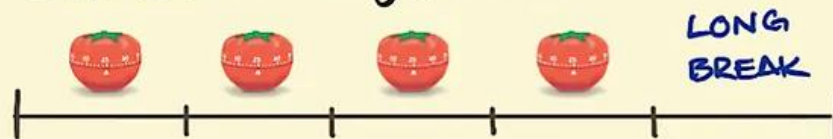
2 DO 1 POMODORO
Time for 25 mins then take a 5 min break

NO SNEAKY
WORKING!

PROTECT
YOUR POMODORO!



3 REPEAT x 4 POMODOROS
Then take a longer break



Study Timetable - Example

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8.30am	School	School	School	School	School	History – Surgery	RS – Religion and Prejudice key ideas
9.30am	↓	↓	↓	↓	↓	History - Medicine	CHURCH
Break						Revision Review	
11am							
1.00pm	↓	↓	↓	↓	↓	Shopping!	
2.00pm							
Break							
3.30pm							
5.00pm	Home Learning	Home Learning	Home Learning	Netball Match	Home Learning	Maths – Frequency & averages	Piano Practice
Dinner	Maths – algebra and quadratic equations	Music – Musical Terminology French – oral preparation	Piano lesson RS – War facts and Christian teaching	Geography – Map Skills	English Lit Rani and Sukh characters	French – Verbs & Vocabulary	Youth G
7.00pm							
8.00pm							TV



Step 4: Other wellbeing activities

- Prayer
- Turning your phone off at night
- Cold showers
- Exercise
- Eating healthily



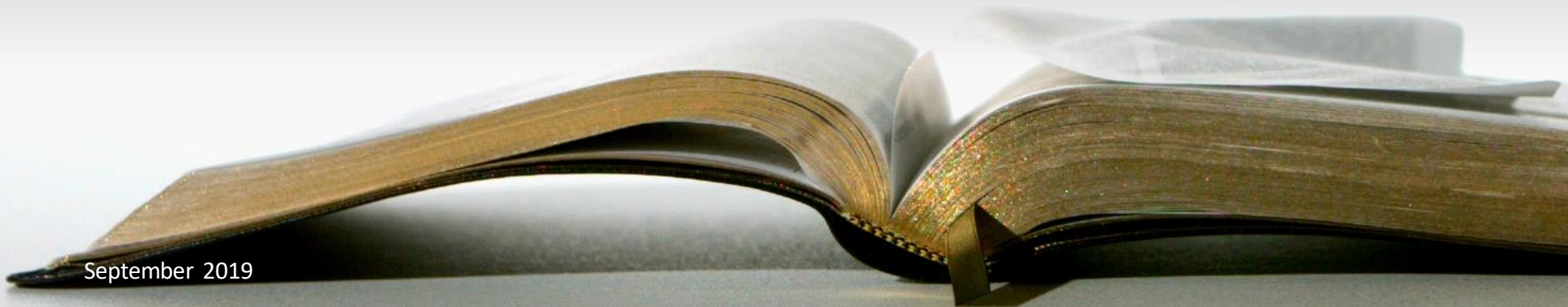
Step 5: Making every moment count

Every time you read or take notes you should be learning

2 key ideas:

- Dynamic reading
- Good note taking

Dynamic reading and note taking



September 2019



Dynamic reading



Read the title/sub
titles



Read the objectives
and questions



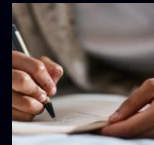
Look at the pictures
and diagrams



Look at the key words
and look them up to
check their meanings



Now read the actual
text



Write notes

Specification reference: 4.1.2

Learning outcomes

Demonstrate knowledge, understanding, and application of

- alkanes as saturated hydrocarbons
- bonding in alkanes
- shapes and bond angles of alkanes
- variations in the boiling points of alkanes.

▼ **Table 1** Common uses of the first twenty members of the alkane homologous series

gas, used in domestic fuel
CH₄, C₃H₈, C₄H₁₀

petrol, used in cars
C₅H₁₂–C₉H₂₀

kerosene, used in aircraft
C₁₀H₂₂–C₁₆H₃₄

diesel, used in cars and lorries
C₁₂H₂₆–C₂₀H₄₂

Synoptic link

You were introduced to the names and formula of the first 10 alkanes in Topic 11.2, Nomenclature of organic compounds. Make sure you learn these as alkanes form the basis for naming all organic compounds.

Synoptic link

Look back at Topic 6.1, Shapes of molecules and ions, to remind yourself how the shapes of molecules depends on electron pair repulsion and what a tetrahedral geometry looks like.

What are alkanes?

Alkanes are the main components of natural gas and crude oil. They are amongst the most stable organic compounds, and their lack of reactivity has allowed crude oil deposits to remain in the Earth for many millions of years.

Alkanes are mainly used as fuels, exploiting their reaction with oxygen to generate heat.

The alkanes in Table 1 show the general formula C_nH_{2n+2} – doubling the carbon and adding two gives the hydrogen number.

Table 1 lists some of the alkanes used in everyday life.

Properties of alkanes

The bonding in alkanes

Alkanes are saturated hydrocarbons, containing only carbon and hydrogen atoms joined together by single covalent bonds.

Each carbon atom in an alkane is joined to four other atoms by single covalent bonds. These are a type of covalent bond called a **sigma bond** (σ-bond).

A covalent bond is defined as a shared pair of electrons. A σ-bond is the result of the overlap of two orbitals, one from each bonding atom. Each overlapping orbital contains one electron, so the σ-bond has two electrons that are shared between the bonding atoms. A σ-bond is positioned on a line directly between bonding atoms.

Each carbon atom in an alkane has four sigma bonds, either C–C or C–H. Figure 1 shows the electron density of a σ-bond between two carbon atoms.

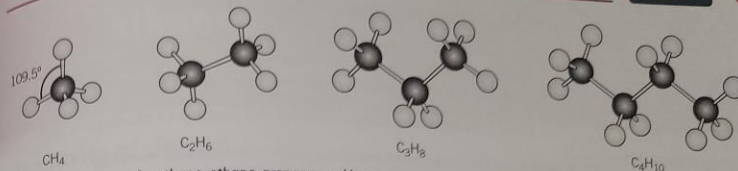


▲ **Figure 1** σ-bond between two carbon atoms.

The shape of alkanes

Each carbon atom is surrounded by four electron pairs in four σ-bonds. Repulsion between these electron pairs results in a 3D tetrahedral arrangement around each carbon atom. Each bond angle is approximately 109.5°.

Figure 2 shows the 3D shapes of the first four alkanes. Each formula matches the general formula of C_nH_{2n+2}. The σ-bonds act as axes around which the atoms can rotate freely, so these shapes are not rigid, for example, butane is shown in a zigzag in Figure 2, but it can also rotate into a U shape.



▲ **Figure 2** Shapes of methane, ethane, propane, and butane

Variations in the boiling points of alkanes

Crude oil contains hundreds of different alkanes. Oil refineries separate the crude oil into fractions by **fractional distillation** in a distillation tower (Figure 3). Each fraction contains a range of alkanes. Separation like this is possible because the boiling points of the alkanes are different, increasing as their chain length increases. Table 2 shows the boiling points of the first ten alkanes.

▼ **Table 2** The boiling points of the first ten members of the alkane homologous series

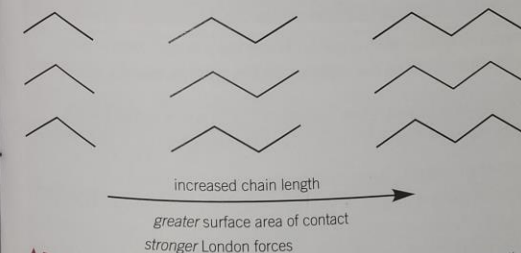
Alkane	CH ₄	C ₂ H ₆	C ₃ H ₈	C ₄ H ₁₀	C ₅ H ₁₂	C ₆ H ₁₄	C ₇ H ₁₆	C ₈ H ₁₈	C ₉ H ₂₀	C ₁₀ H ₂₂
Boiling point / °C	-164	-89	-42	-1	36	69	98	126	151	174

Why does the boiling point increase? The answer lies with the weak intermolecular forces called London forces. These forces hold molecules together in solids and liquids but, once broken, the molecules move apart from each other and the alkane becomes a gas. The greater the intermolecular forces, the higher the boiling point.

Effect of chain length on boiling point

London forces act between molecules that are in close surface contact. As the chain length increases, the molecules have a larger surface area, so more surface contact is possible between molecules. The London forces between the molecules will be greater and so more energy is required to overcome the forces.

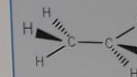
Figure 4 shows how the surface contact increases with increasing chain length, illustrated with skeletal formulae.



▲ **Figure 4** The effect of increasing chain length on the boiling points of alkanes

Study tip

When drawing 3D shapes, you will need to use solid wedges and dashed wedges. This is how ethane is drawn using wedges.



Synoptic link

You learned about London forces and the factors affecting their size in Topic 6.3, Intermolecular forces.



▲ **Figure 3** A distillation tower crude oil is separated into fractions. The oil is heated to about 400 °C. Hydrocarbon gases rise up the tower and condense at different levels on their boiling points.



Taking notes

- Don't copy
- Trigger words
- Use diagrams and shorthand (they're your notes)
- Use colour (systemise if you can, but don't obsess)
- There is no award for presentation or neatness
- Write down questions as you go

Trigger wordsNotes**Simba**

Why is Simba able to befriend Timon and Pumba even though they are of different species?

Scar

Scar betrays Mufasa to access his power and authority - key themes in the animal kingdom, especially within lion prides.

Mufasa

Scar is malicious and evil, Mufasa is noble and kind - this creates a contrast in their characters and creates tension.

Betrayal**Revenge**Summary

Scar and Mufasa are have contrasting characters which builds tension in the story. Other relationships are explored with Timon and Pumba.



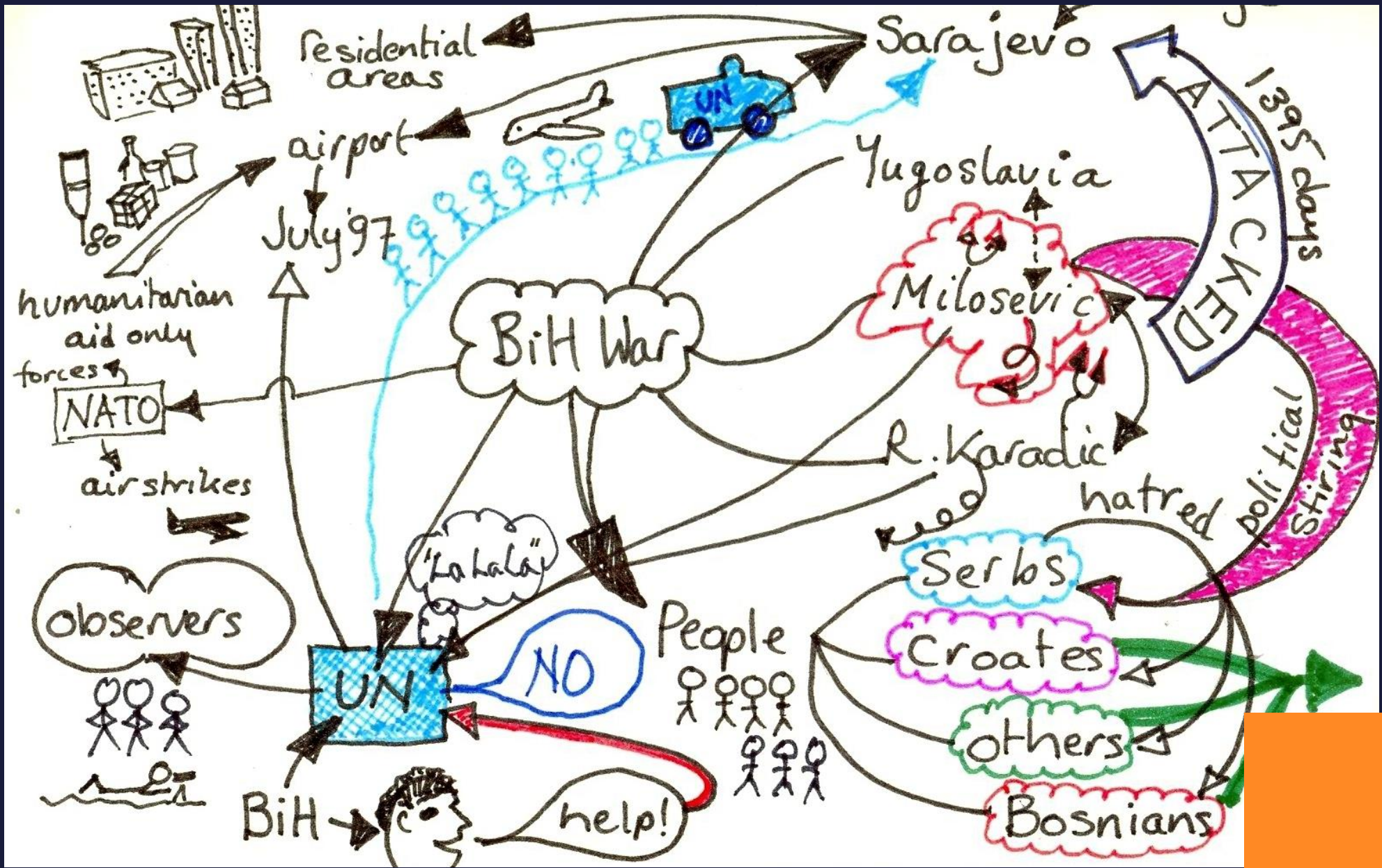
Who knows
what this is
an image
of?

Step 6: Understanding the bigger



Mind maps and brain dumps







Mind maps and brain dumps

Mind maps

Centre circle = Title or topic heading

First branches = Sub titles for topic sections

Second branches = key knowledge

Brain dumps (the best way to do mind maps)

Writing down everything you know on a topic and then seeing how you can link them

Step 7: Memorizing information



Fundamental principal behind all good revision



Correctly answered cards



Incorrectly answered cards

A photograph of three glass chess pieces on a reflective surface. The pieces are a king, a queen, and a pawn, arranged from left to right. The king is the tallest, followed by the queen, and the pawn is the shortest. The pieces are made of clear glass and are highly reflective. The background is a soft, out-of-focus light blue and white gradient. The text "Step 8: Strategies for success" is overlaid in the center of the image in a white, sans-serif font.

Step 8: Strategies for success



What does my child need?

- A space to focus
- Access to resources
- Support with minimising distractions
- Accountability
- Basic school equipment



Parent Support Webinars 2022-23



Autumn Term

20th September
How to Get (& Keep!) Your Child
Motivated!

11th October
How to Help Your Child Manage Their
Time

8th November
Helping Your Child With Their Mock Exams

29th November
Help Your Child Become More
Resilient

Spring Term

17th January
How to Help Your Child Take Better Notes

7th February
How to Help Your Child Write Better
Essays

28th February
Helping Your Child Prepare for Exams

21st March
Exam Room Skills - Minimising Stress and
Maximising Marks

Summer Term

25th April
How to Help Improve Your Child's Memory

16th May
Helping Your Child with Their Stress and
Wellbeing

13th June
Getting Ready for Next Year!

get.elevateeducation/uk/schoolwebinar

All webinars are 60-minutes
long and begin at 6pm.



Every journey begins
with a single step.

Maya Angelou

quote fancy



Questions?

