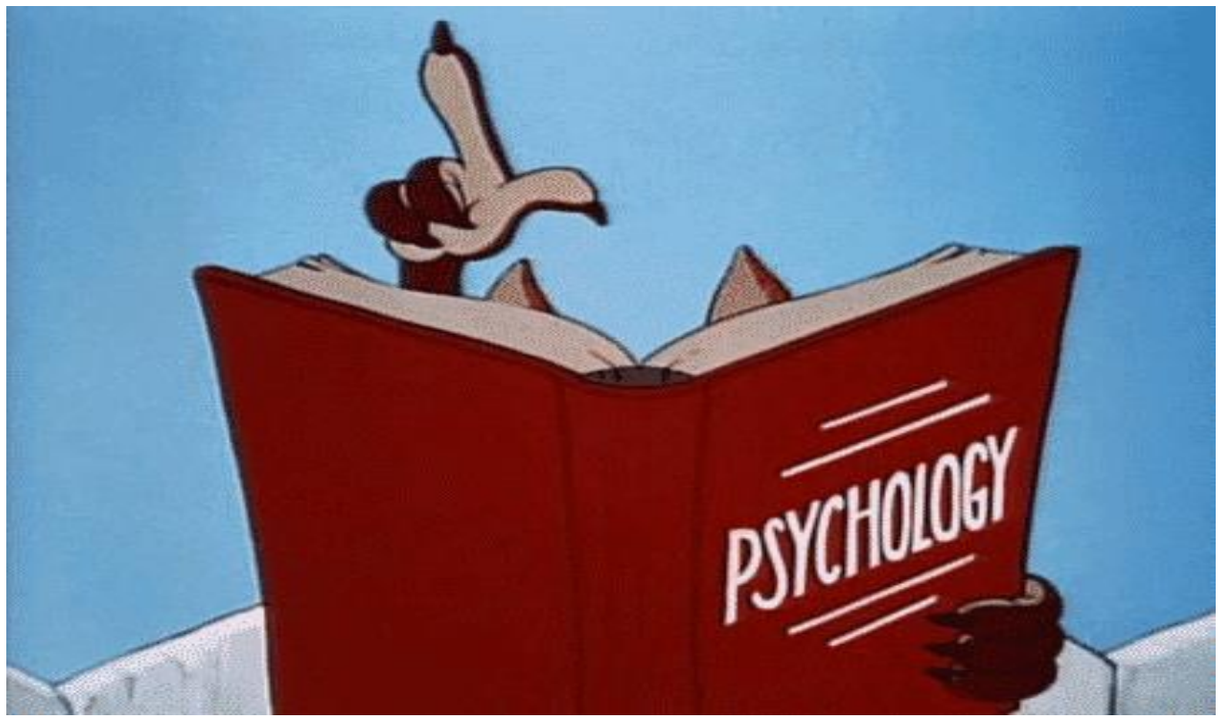
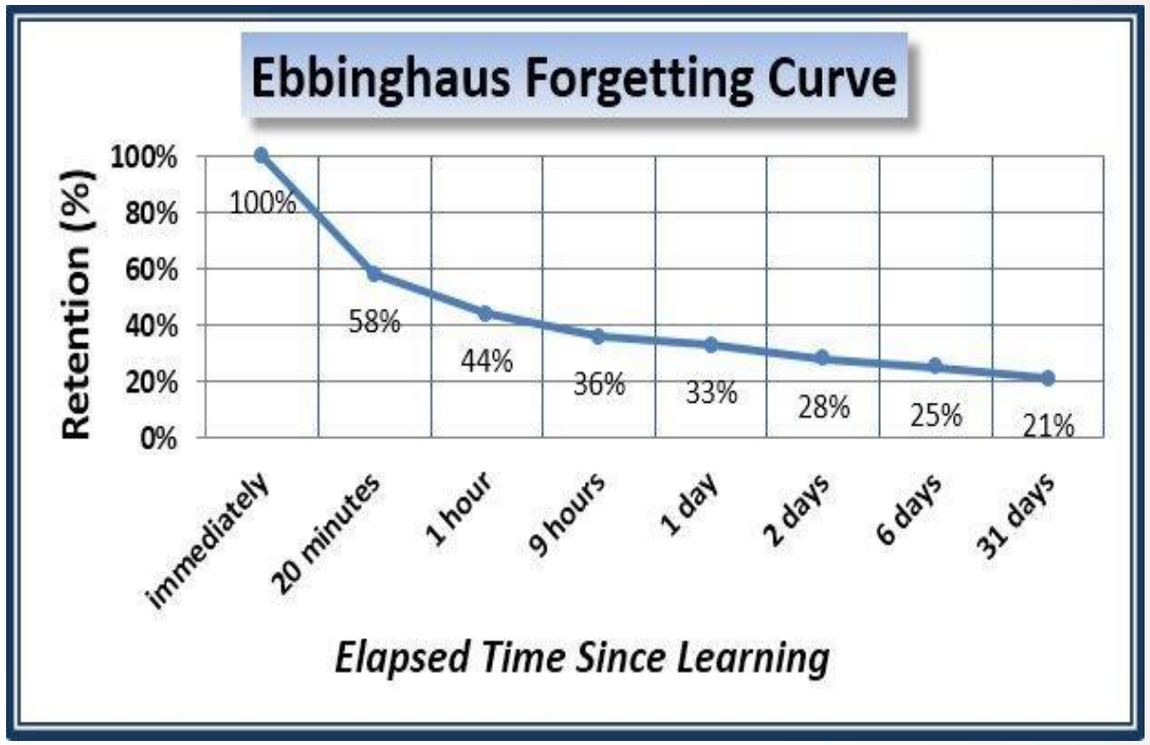
VCE PSYCHOLOGY 2018 TSFX FEBRUARY LECTURE



Ms Veronica Parsons

Why do you need to take notes & revise?

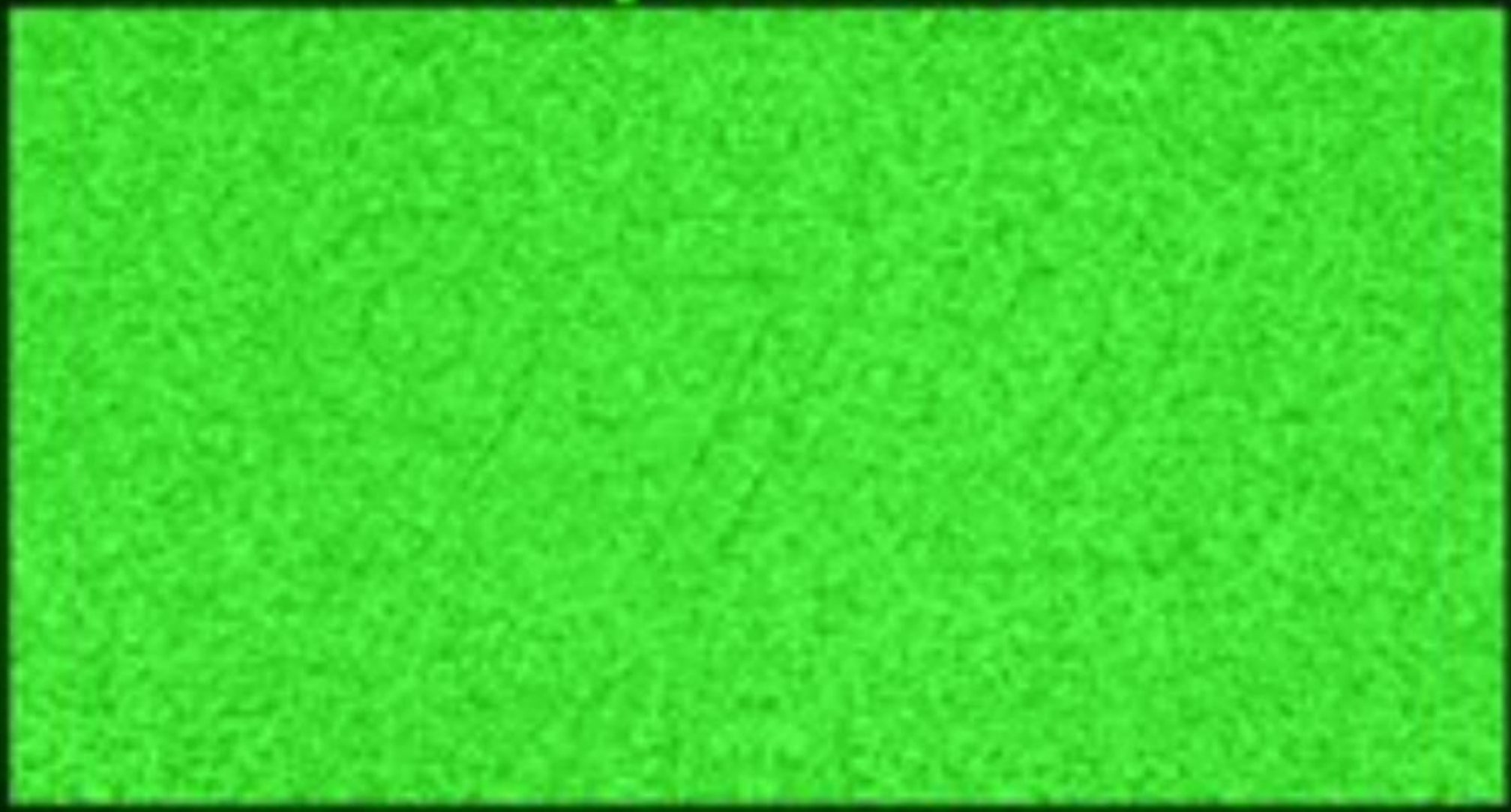


Not only do we forget…we don't take in everything we Read!

Count every " F " in the following text:

FINISHED FILES ARE THE RE
SULT OF YEARS OF SCIENTI
FIC STUDY COMBINED WITH
THE EXPERIENCE OF YEARS...

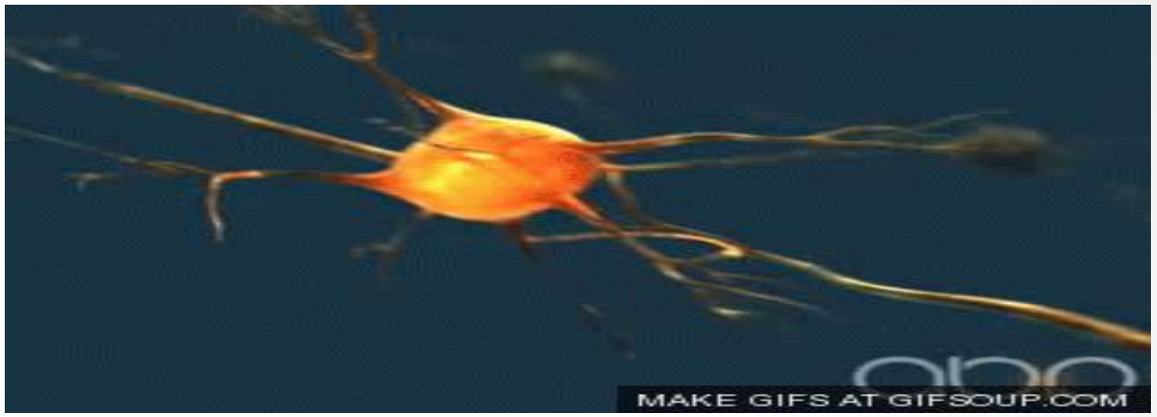
Eye Test

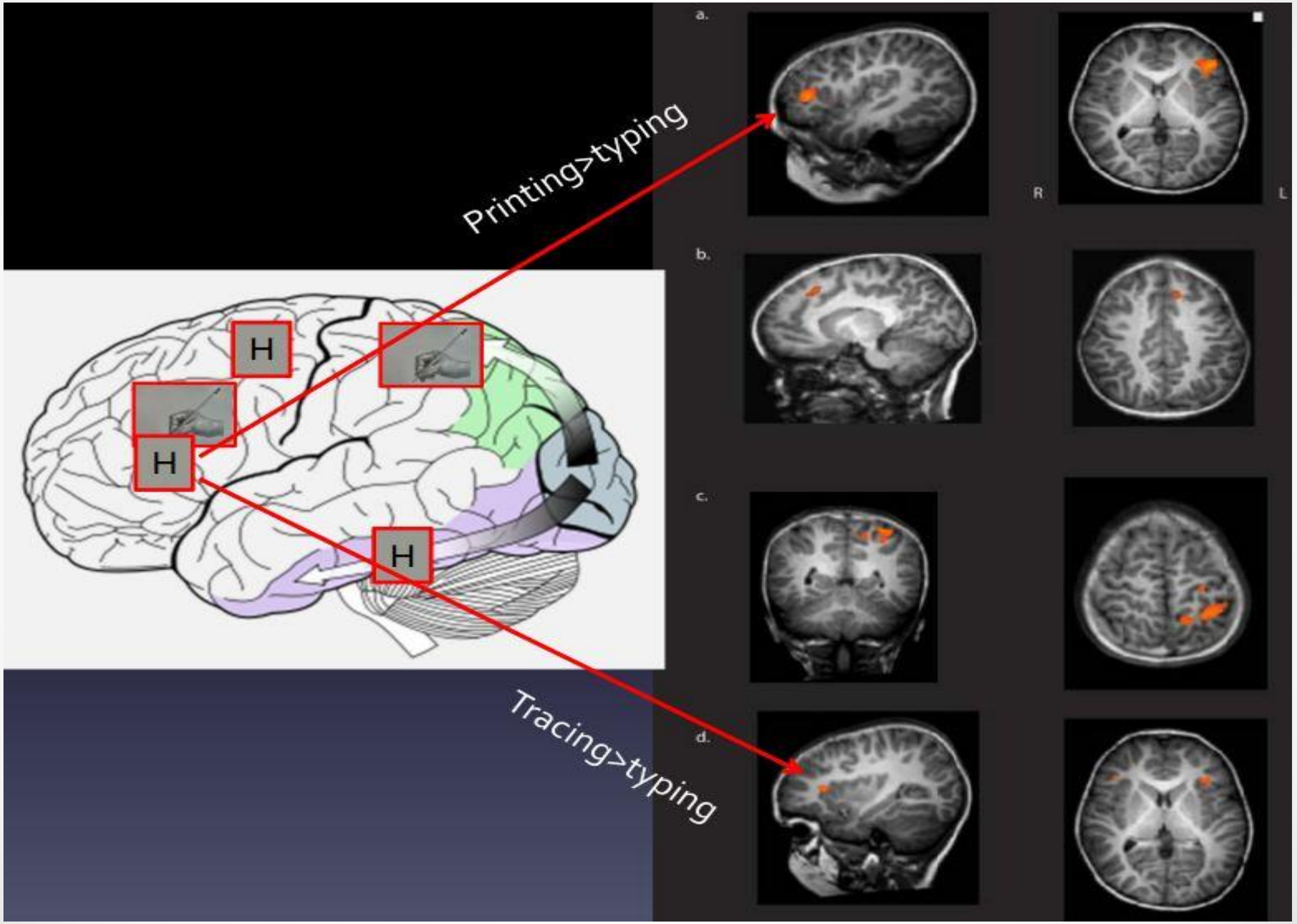


What Number Do You See??

Computer or Handwritten Notes?

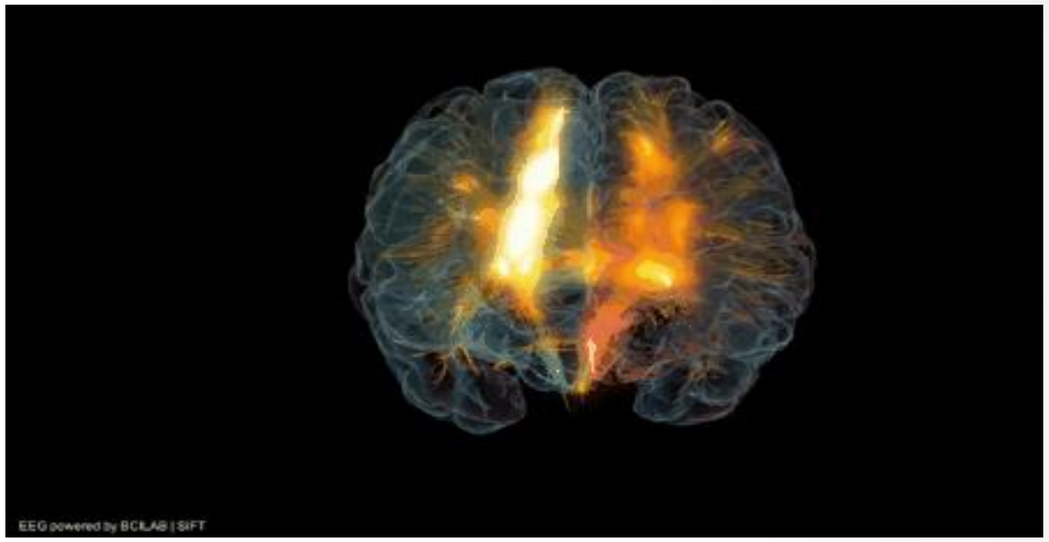
- Neuroscience supports cognitive value of **handwriting.**
- More of your brains thinking, language & working memory regions are activated with each handwriting stroke compared to typing.

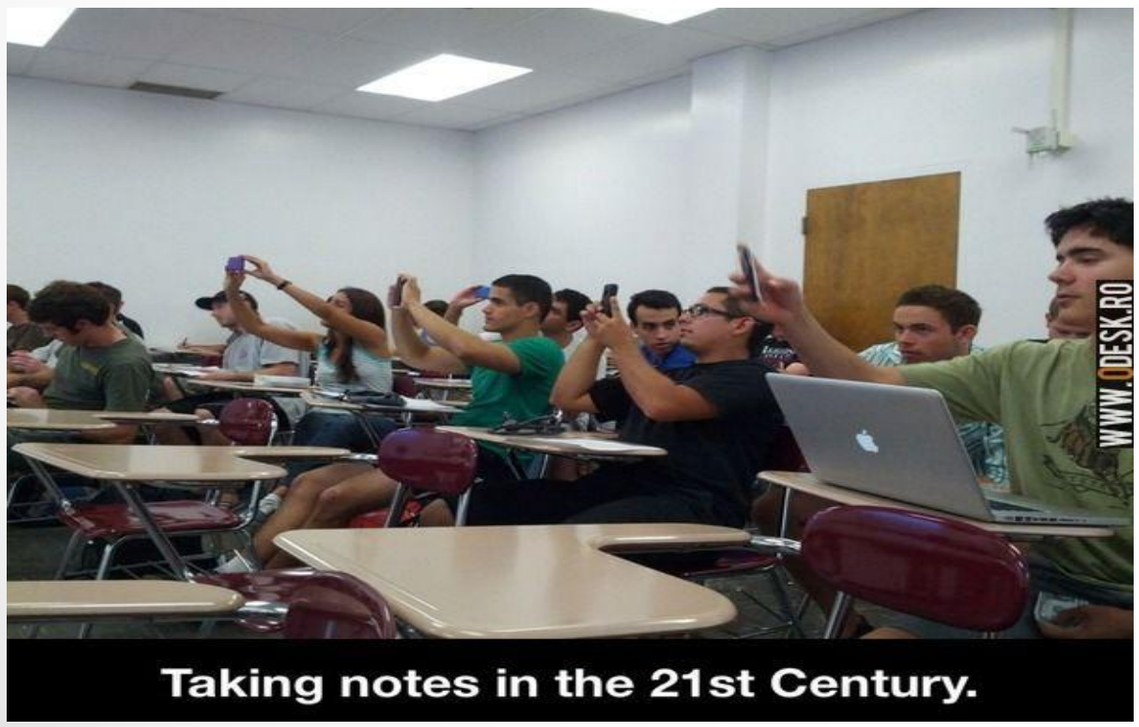



Printing>typing
H
H
H
Tracing>typing
a.
R
L
b.
c.
d.

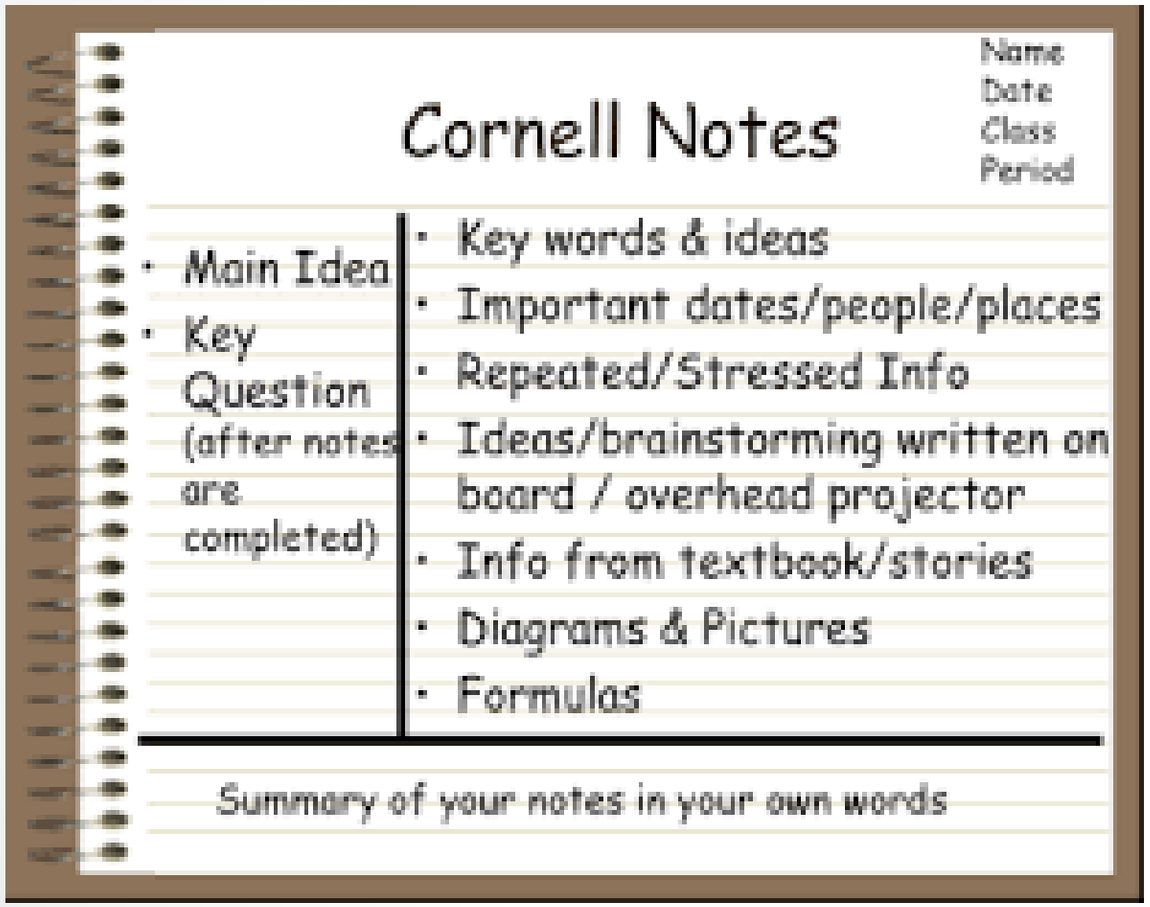
Taking Notes in Class

- Cornell System (3.38 minutes) https://www.youtube.com/watch?v=JylLC_4CXa4





Taking Notes in Class



Cornell Note Taking System

KEY THEMES AND CONCEPTS

- UNREQUITED FEELINGS
- FLIRTATION AND SEXUAL REPERCUSSIONS
- SATIRE
- PICARESQUE NOVEL
- EPONYMOUS HERO
- REALISM
- THE FALL
- REAGENCY ERA
- FAITHFULNESS AND DECEIT
- LUST
- RELIGION
- ROLE OF WOMEN IN 18th CENTURY

KEY TECHNIQUES

- MILITARY IMAGERY
- DETAILED SETTING/ SCENE DESCRIPTION
- CLEAR LINK BETWEEN CHARACTOR AND PLOT
- HEAVY DESCRIPTION OF FEATURES
- LONG SENTENCES

ENGLISH - EXTRACT A FROM TOM JONES BY HENRY FIELDING

25/03/15

PROSE

CONTEXTUAL INFORMATION:

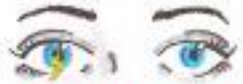
- Tom Jones published in 1749
- Fielding's approach is 'moral comedian'
- Book 2 of T.J's, Fielding described himself as the 'founder of a new province of writing' - saw himself as founder of novel
- uses 'classical model' of comic epic, but departs from model to introduce people of lower class
- novel follows {picaresque} (HUMOUROUS EPISODIC NOVEL) adventures of {eponymous} (BOOK NAMED AFTER MAIN CHARACTER) hero travelling to London, meets Mr. Wates at an inn, but is in love with Sophia
- 18th century 'novels' were called so because they were 'new'
- chief aim was to achieve realism - writing was characterised by detailed setting descriptions + clear link between character and plot.

HENRY FIELDING.

WIDER READING

- Great Expectations - Charles Dickens
- Moll Flanders - Daniel Defoe
- Paradise Lost - John Milton
- The Wife of Bath's Tale - Geoffry Chaucer
- The Taming of the Shrew - Shakespeare
- The Handmaid's Tale - Margaret Atwood

EXTRACT



"First, from two lovely blue eyes, who's bright orbs flashed lightening at their discharge" - women described seductively, precisely (realism), with military organisation, hero is a task to conquest.

A quote to summarise the extracts thoughts + feelings... "The fair one, enraged by her frequent disappointments, determined on a short cessation of arms. Which interval she employed in making ready every engine of amorous warfare for the renewing of the attack when dinner should be over." - gluttony, flirtation, sexual attraction + humourous metaphor, provocative, sexual (obviously), satirising flirtation, typical of form representation of women

MILITARY IMAGERY

"play this artillery" // "planted" // "staggered" // "artful fair"
"fair warrior" // "operations" // "draw" // "force" // "allegiance"
"weapons" // "defend" // "shot" // "discharged a volley" // "fruits of her victory"
"as love frequently preserves from the attacks of hunger" // "guard" // "parley" // "treacherously" (ADAM + EVE)

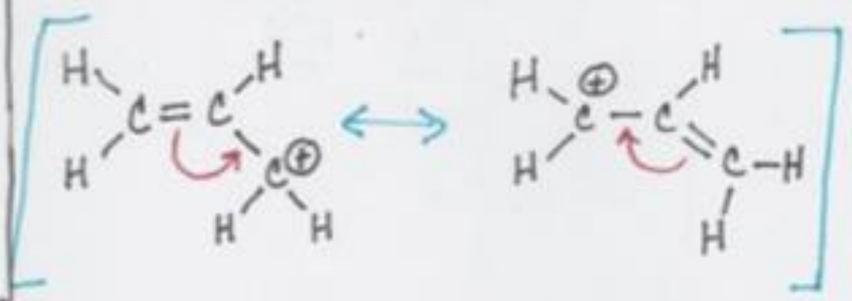
SUMMARY

Tom Jones is a pioneering 18th century novel following the picaresque adventures of the eponymous hero. It covers themes of unrequited feelings, flirtation and sexual desire. The heavy military imagery and comical situation give the novel a satirical feel, whilst making an interesting point about the role of women in lower classes of the [reagency] era/period. Themes of religion, faithfulness + lust also feature.

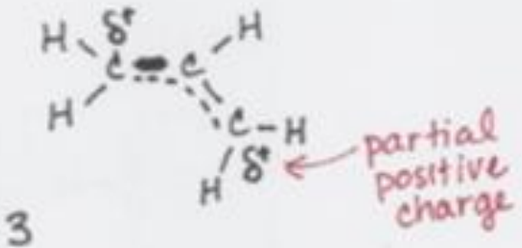
What is the difference between resonance structures & true structures?

Why does charge delocalization stabilize a molecule?

Resonance Hybrid: True structure of molecule represented by a set of resonance structures

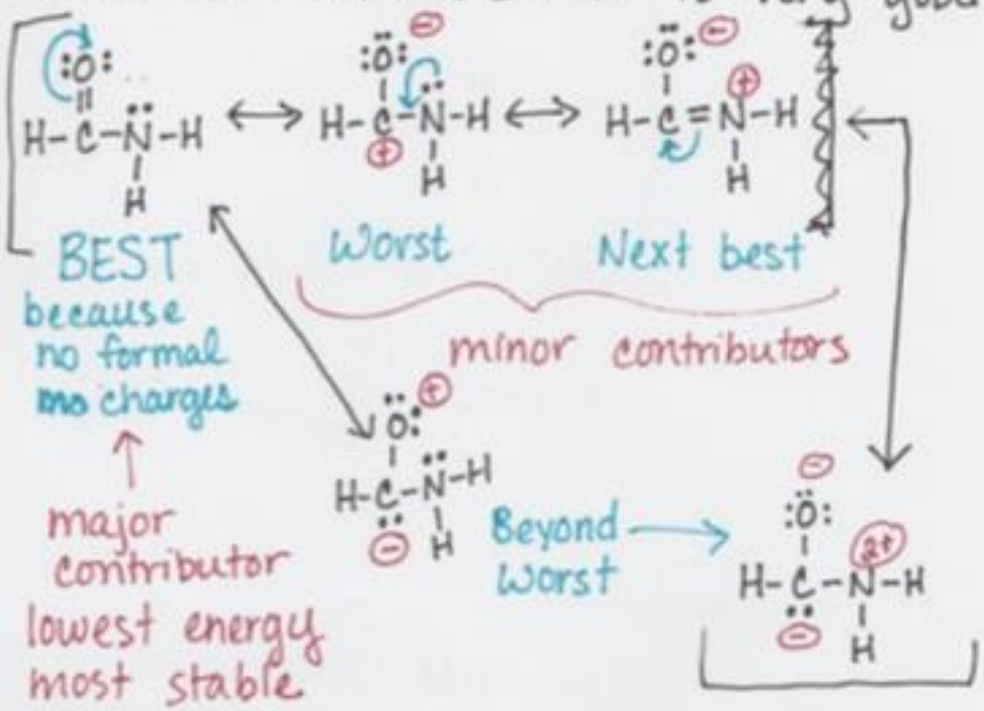


"True Structure"



Positive charge is delocalized over carbon 1 & 3

Some sets of resonance structures have one structure that is very good.



Resonance structures are used to represent true structure of molecule. The more resonance structures you can draw, the more stable the molecule due to delocalization of e^-.

Lecture: Neurons

4/3/14

Key Words from the Lecture

All Lecture Notes

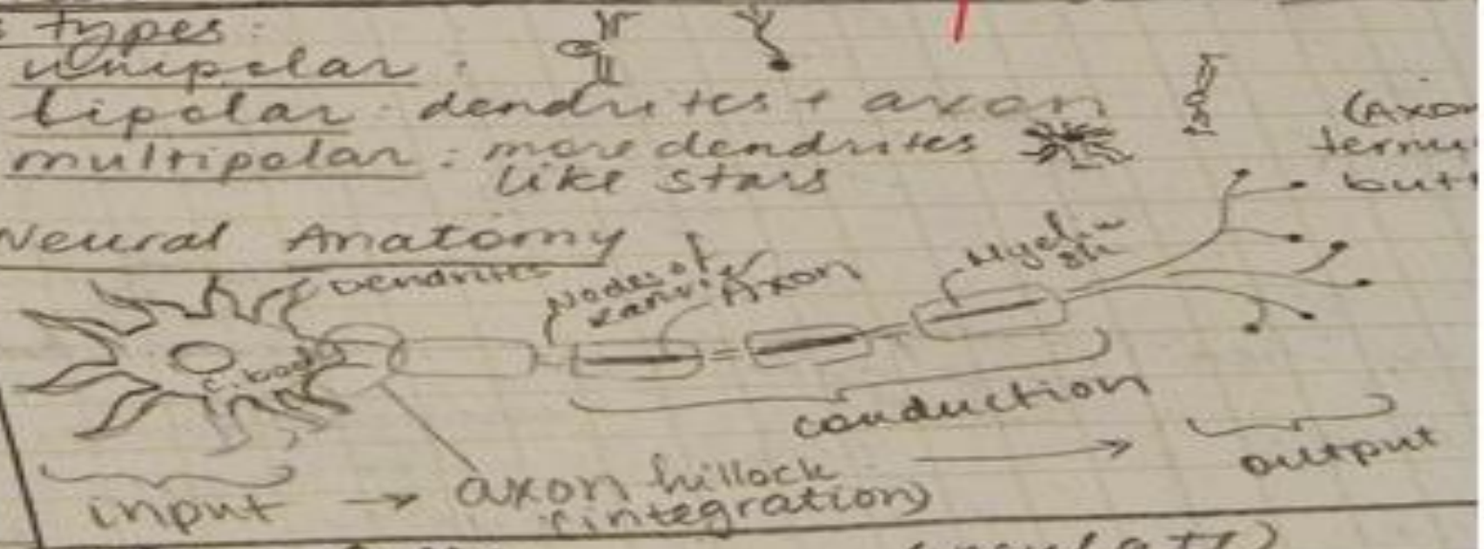
≈ 100 billion neurons in brain
→ don't know how many glial cells
* as many as neurons ≈ 100 billion - 4 trillion

Staining techniques
- tradit
- specific
- r. active
- connect.

Staining techniques:
(1) **Golgi** (for shapes) how they extend
2.1. of all neurons
2) **Nissl**: (good for counting) ; show cell bodi; show all neurons
↳ you can detect specific proteins, too
w/ antibodias for a protein
↳ can see recently active neurons
↳ can visualize connectivity

3 types:
- **unipolar**: in sensory systems
- **bipolar**: dendrites + axon
- **multipolar**: many dendrites like stars

Neural Anatomy



multipolar
= most common neurons

Glial Cells types

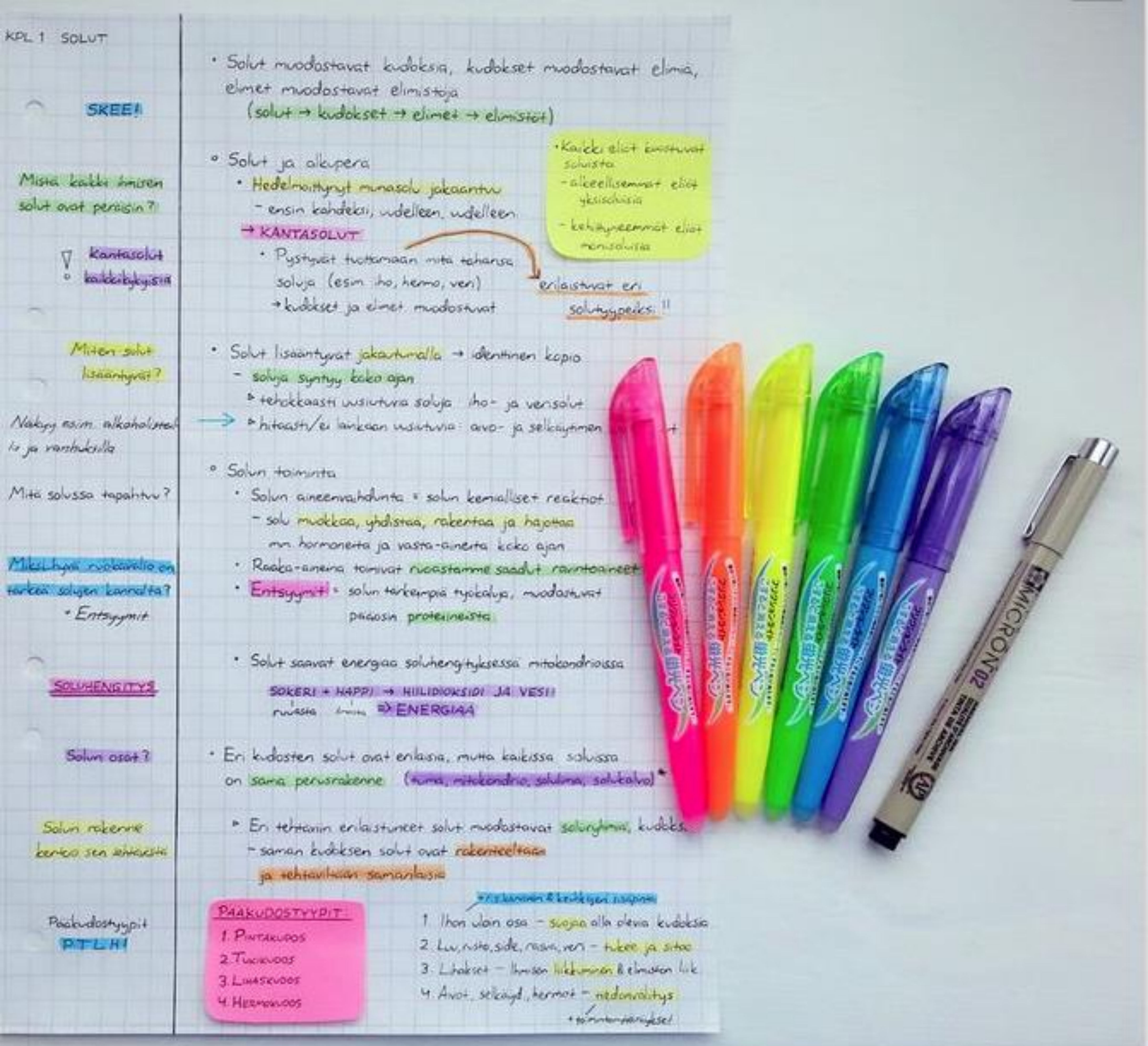
Glial Cells
- **Oligodendrocytes**: (insulate) myelinate axon
- **Schwann cells** (PNS) also
- **Myelin**: fatty subst. on axons
t. signals reach neurons
- many myelin. cells = white mat

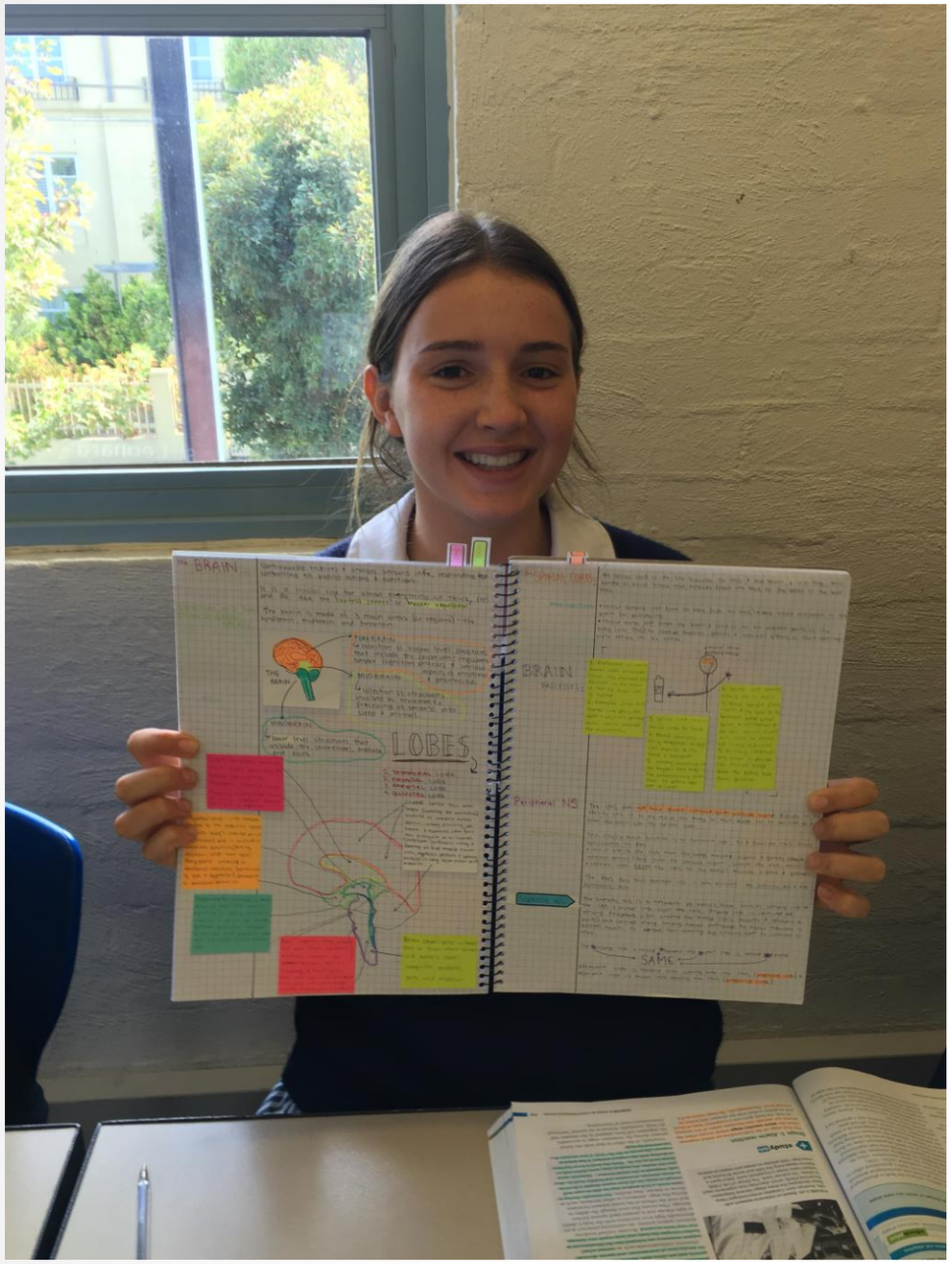
myelin

More Lecture Notes

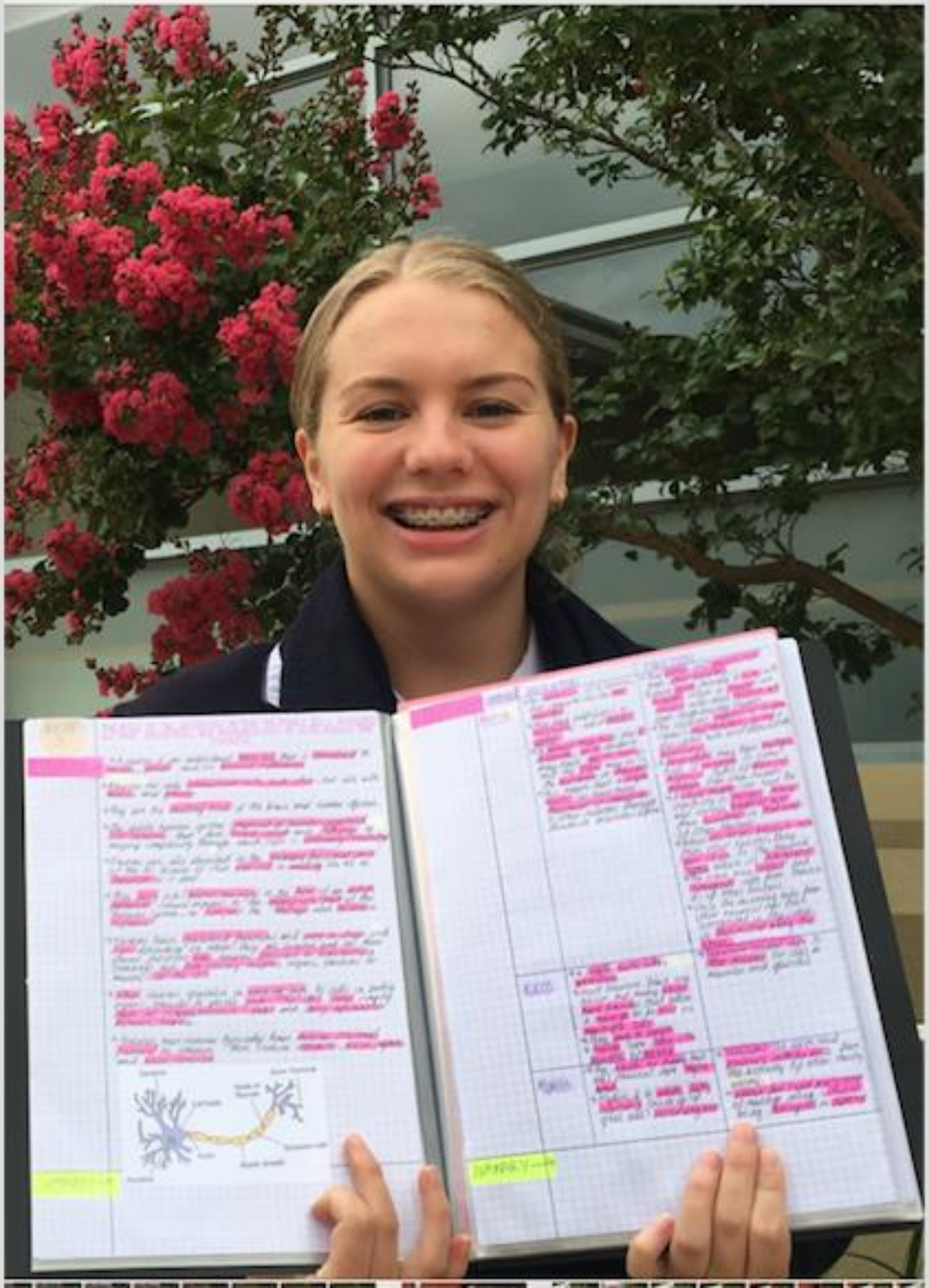
Summary of Lecture

- Staining techniques (2) to ID neurons
- physical appearance of neurons (3)
- anatomy of a neuron - dendr., cell body
- types of Glial cells (4) cent. or ne


KPL 1 SOLUT
SKEE!
Mista kaikki ihmisen solut ovat peräisin?
Kantasolut kaikkikykyisiä
Miten solut lisääntyvät?
Mitä solussa tapahtuu?
Entsyymit
SOLUHENGITYS
Solun osat?
Solun rakenne kertoo sen tehtävästä
Pääkudostyypit
P T L H !
• Solut muodostavat kudoksia, kudokset muodostavat elimiä, elimet muodostavat elimistöjä
(solut → kudokset → elimet → elimistöt)
• Solut ja alkuperä
• Hedelmöittynyt munasolu jakaantuu
– ensin kahdeksi, uudelleen, uudelleen
→ KANTASOLUT
• Pystyvät tuottamaan mitä tahansa soluja (esim iho, hermo, veri)
→ kudokset ja elimet muodostuvat
erilaistuvat eri solutyypeiksi !!
• Kaikki eliöt koostuvat soluista
– alkeellisemmat eliöt yksisoluisia
– kehittyneemmät eliöt monisoluisia
• Solut lisääntyvät jakautumalla → identtinen kopio
– soluja syntyy koko ajan
▸ tehokkaasti uusiutuvia soluja: iho- ja verisolut
▸ hitaasti/ei lainkaan uusiutuvia: aivo- ja selkäytimen
• Solun toiminta
• Solun aineenvaihdunta = solun kemialliset reaktiot
– solu muokkaa, yhdistää, rakentaa ja hajottaa
mm. hormoneita ja vasta-aineita koko ajan
• Raaka-aineina toimivat ruoastamme saadut ravintoaineet
• Entsyymit = solun tärkeimpiä työkaluja, muodostuvat pääosin proteiineista
• Solut saavat energiaa soluhengityksessä mitokondrioissa
SOKERI + HAPPI → HIILIDIOKSIDI JA VESI
⇒ ENERGIAA
• Eri kudosten solut ovat erilaisia, mutta kaikissa soluissa on sama perusrakenne
▸ Eri tehtäviin erilaistuneet solut muodostavat soluryhmiä, kudoksia
– saman kudoksen solut ovat rakenteeltaan ja tehtäviltään samanlaisia
PÄÄKUDOSTYYPIT
1. PINTAKUDOS
2. TUKIKUDOS
3. LIHASKUDOS
4. HERMOKUDOS
1. Ihon uloin osa – suojaa alla olevia kudoksia
2. Luu, rusto, side, rasva, veri – tukee ja sitoo
3. Lihakset – ihmisen liikkuminen & elimistön liik
4. Aivot, selkäyd., hermot – tiedonvälitys
MICRON 02



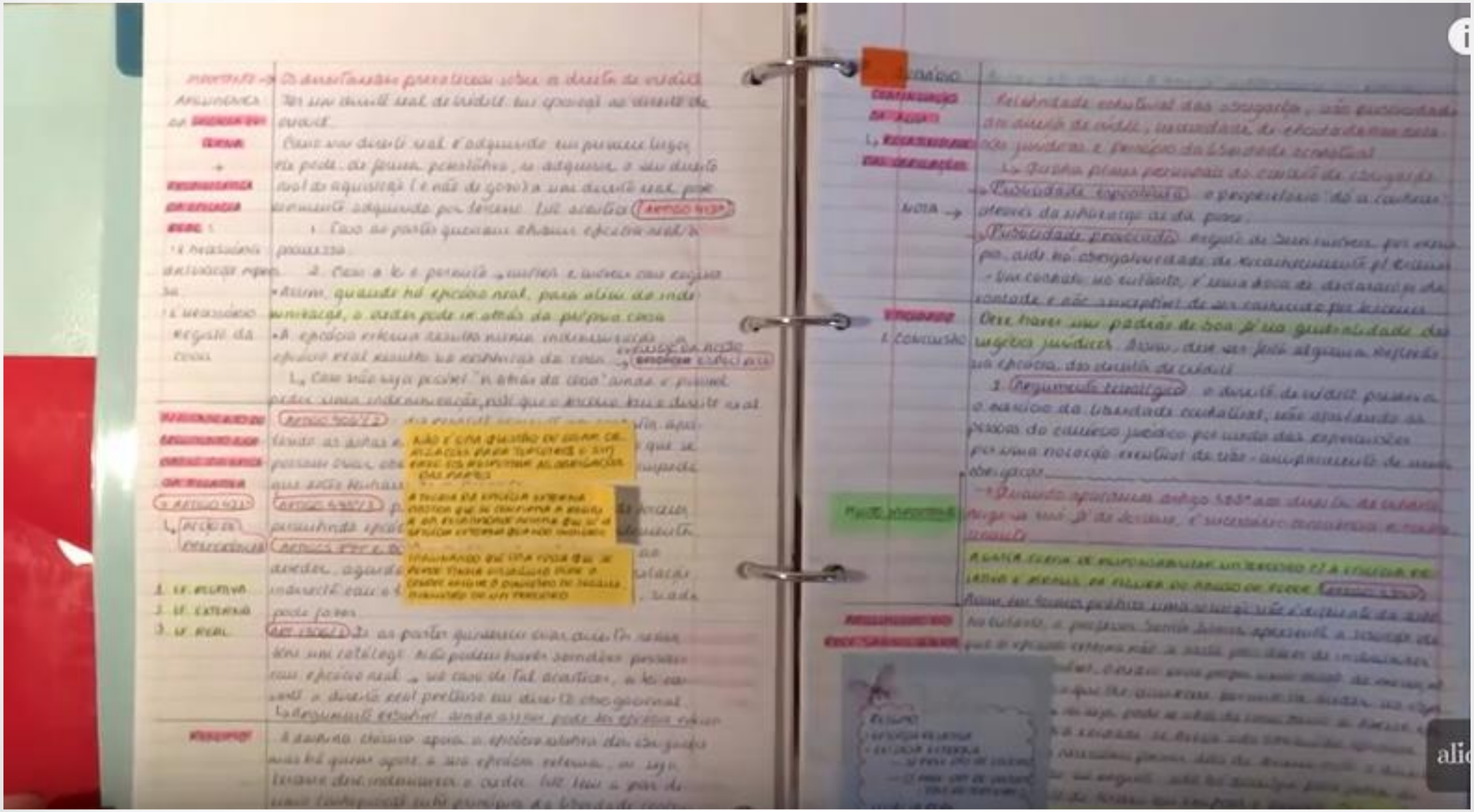
Sophie Bakker Year 12 “My Cornell summaries motivate me to study as they are so colourful. I am proud of them and my memory has definitely improved. I wish we were taught about these in year 8 &9”



- **Shani Mitchell Year 11**
  “ Learning HOW to do summaries literally changed my life. I do it for all my subjects, it is actually enjoyable and my grades have gone from a C average in year 10 to A-A+ in year 11”

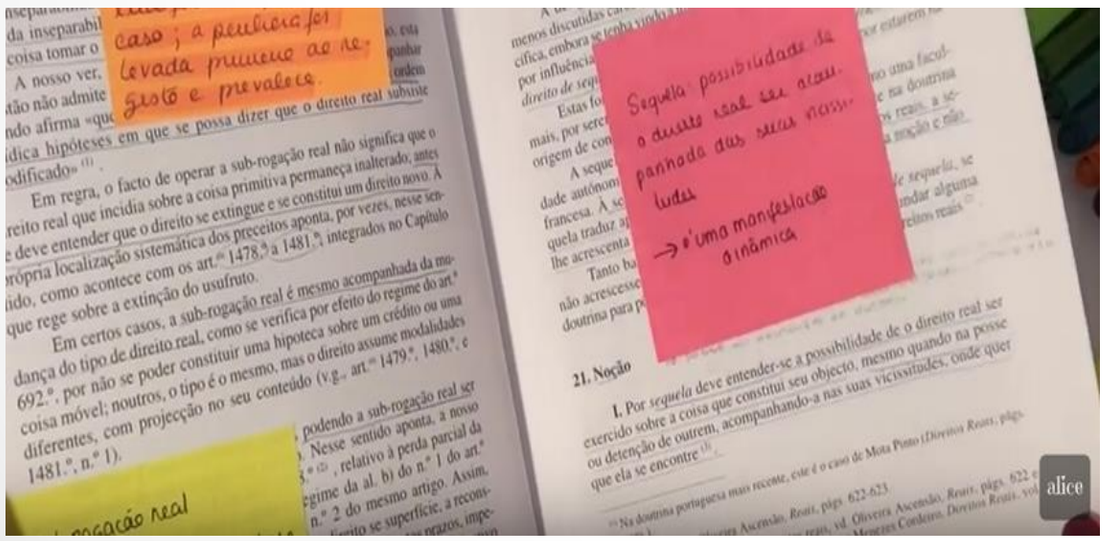

Labtalk
Brain
Matters

Binder Book or Folder?

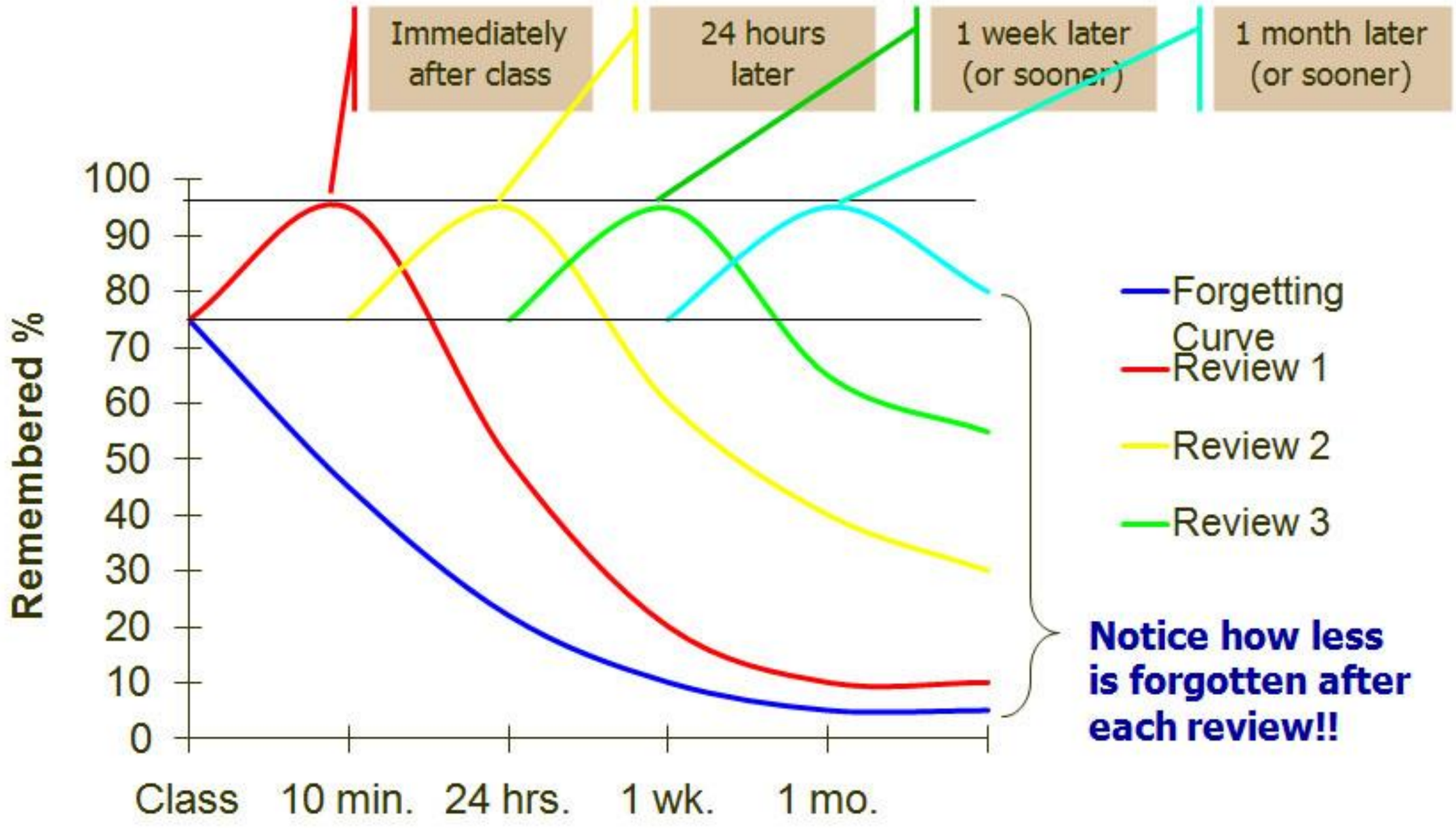


This is What your Text Book Should Look Like

- Great you tube <4 minutes. *12 Tips for Taking Notes from Text*
- https://www.youtube.com/watch?v=V_a8NNiAOKg



Overcoming the Curve



Abbreviations & Short Hand

- *SumRY Lk U TXT*
- Each line should be no more than 5 -6 words.
- Drop internal vowels
- Eg Large ➔lge
- Use symbols & abbreviations.

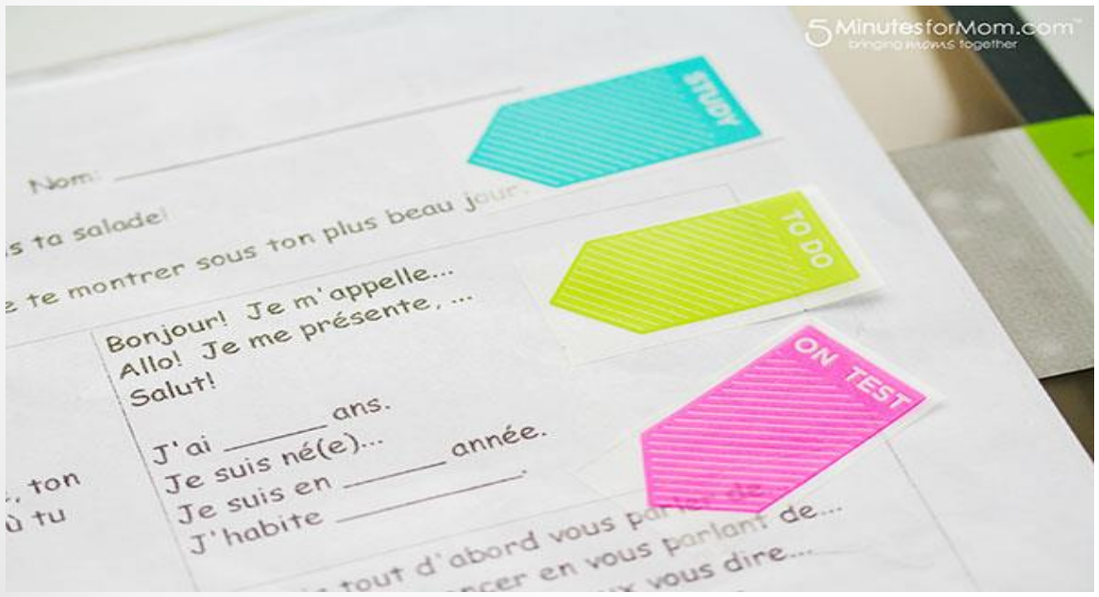
  Eg. Δ🡅🡇▫
- Drop last several letters of a word.
- Eg. Government➔ gov
-

Page 1 &2&4

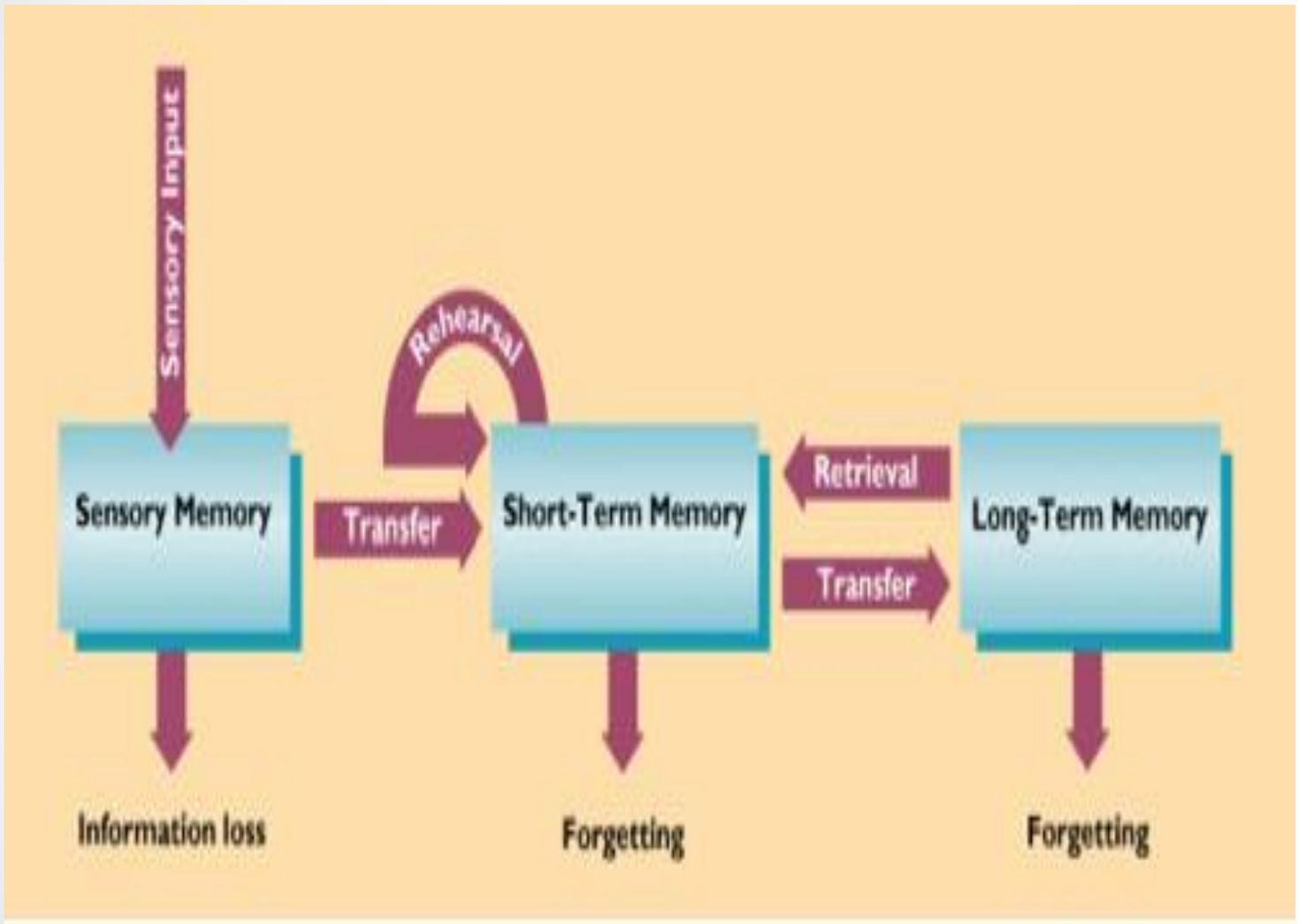
‘Traffic Light’ before SAC

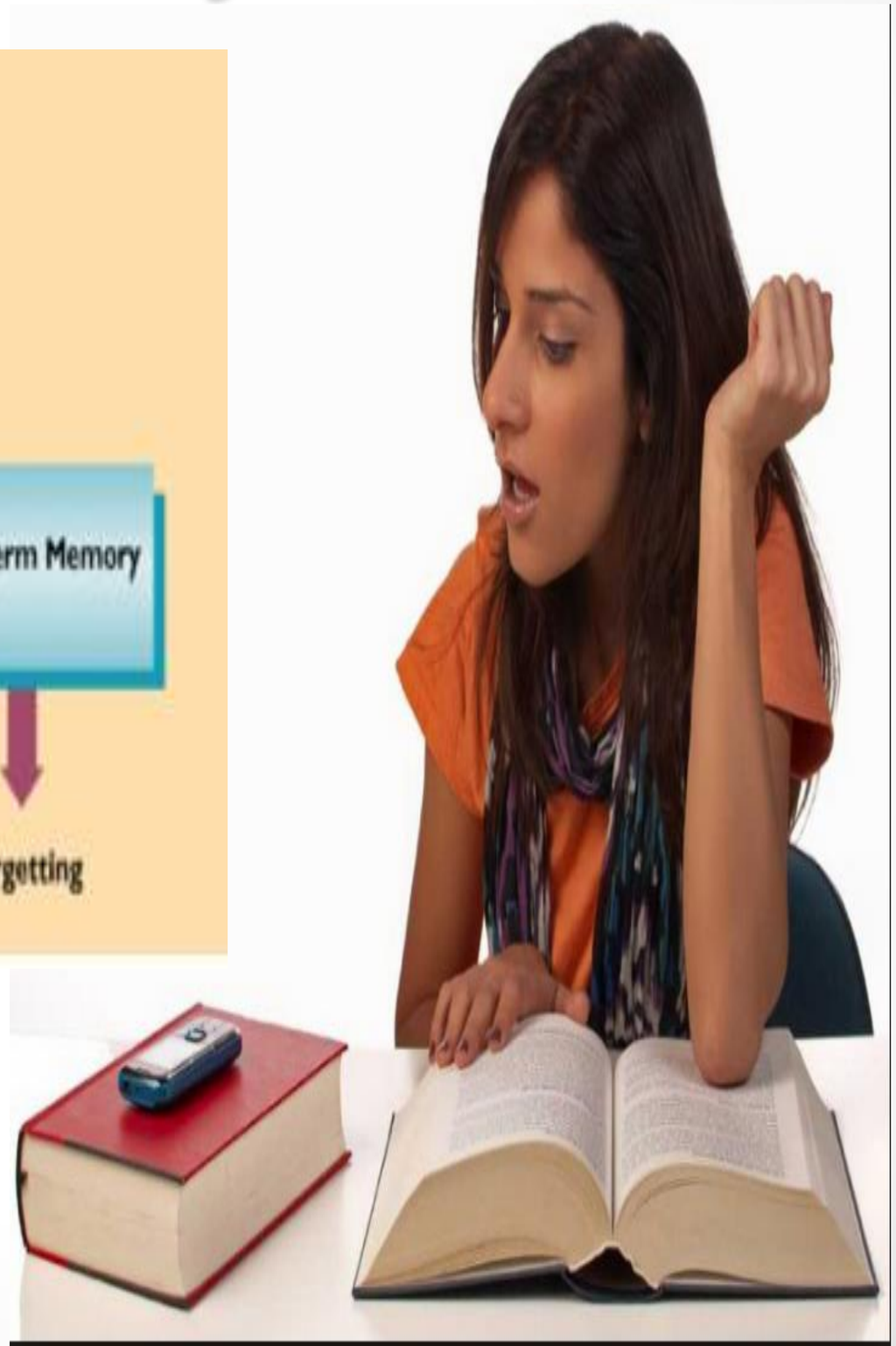
Traffic Light Highlight

- RED- Don’t Understand
- ORANGE- Bit Unsure
- GREEN- Understand



Distractions interfere with Memory

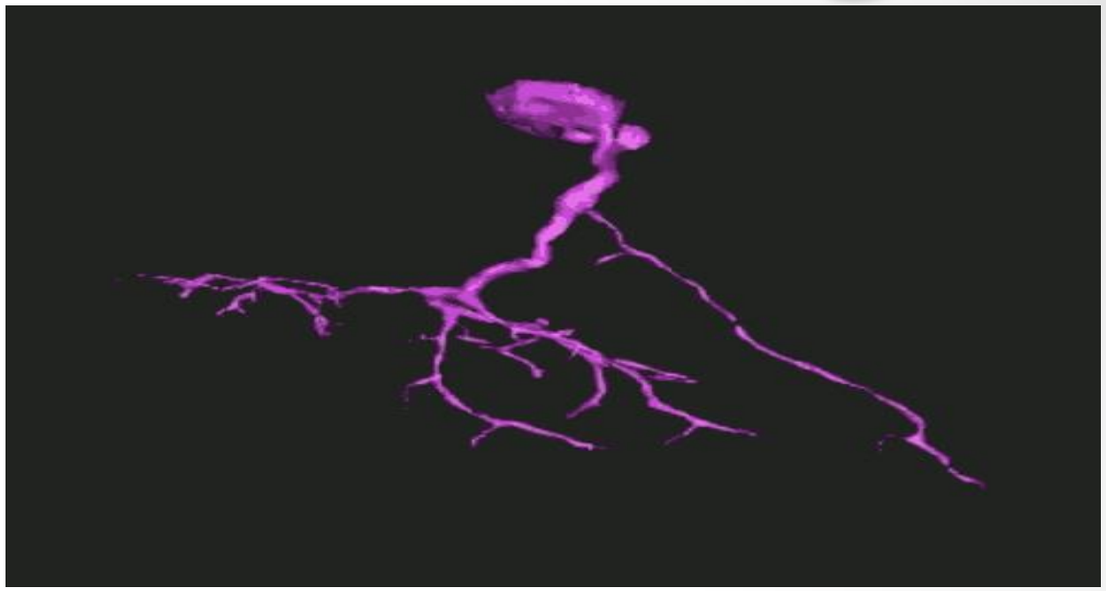


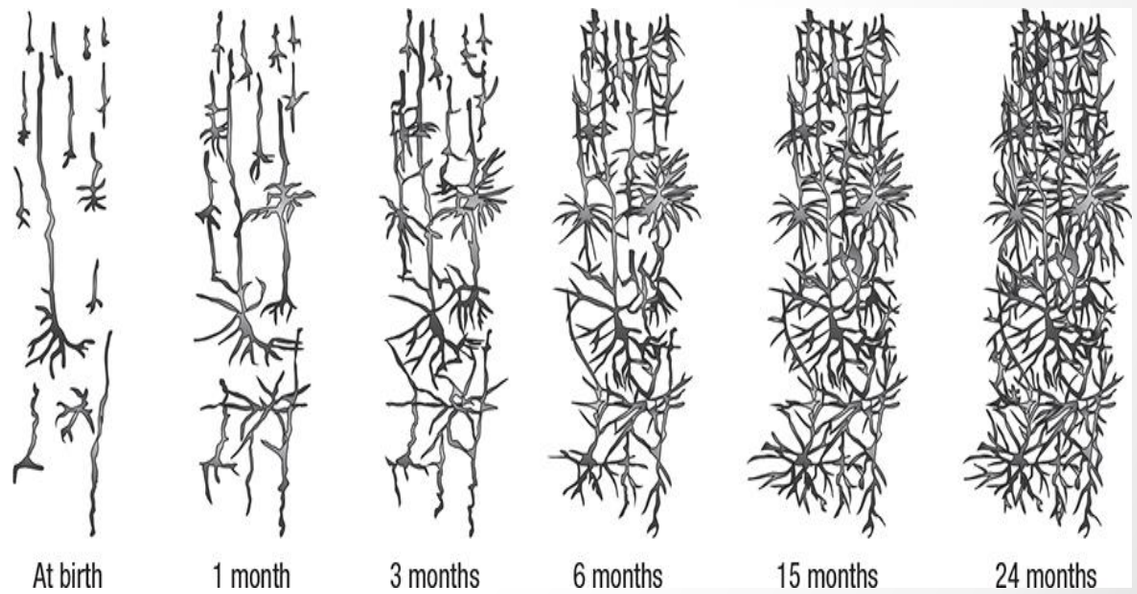


Neural Basis of Learning

Learning is the acquisition of skill or knowledge, while memory is the expression of what you have acquired. The existence of memory indicates that learning has occurred.

Changes in the neural network of the brain takes place as learning occurs. (Neural plasticity) https://www.youtube.com/watch?v=GIGqp6_PG6k



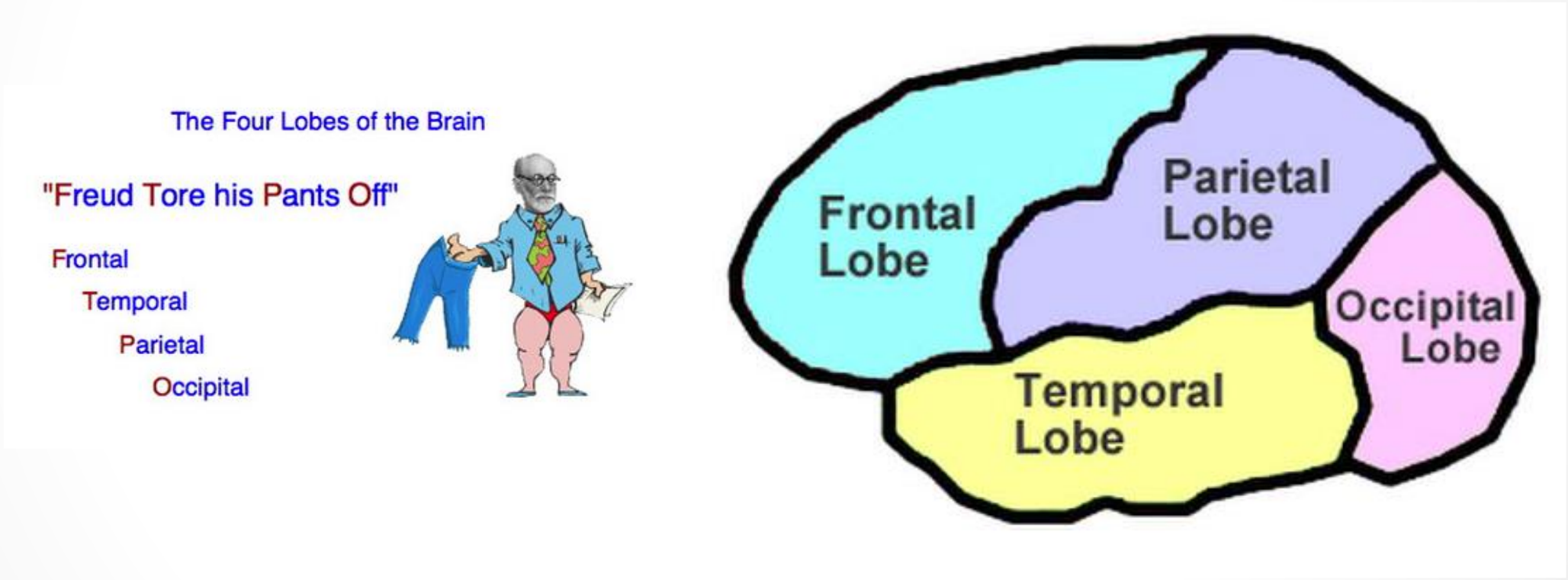


Acronymns Help Retention

- **S-**Set up Notes
- **T-**Take Notes
- **A-**Add to Notes
- **R-**Review Notes

SOH - CAH - TOA

Lobes of the Brain



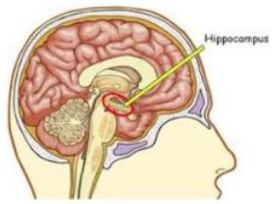
Elaborative Rehearsal: (Transfers to LTM)

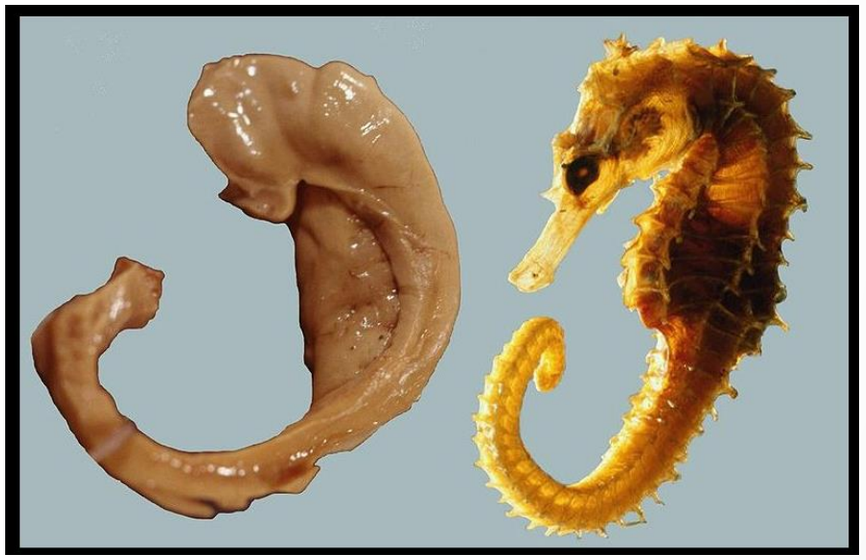
Hippocampus-If you saw a hippo on campus,

you would remember that!

- The primary role of the Hippocampus is to form new memories

EX: if you ever saw a hippo on campus, you would certainly remember that forever.





Page 5&6 Research Methods Design

- Important: Don't Confuse Methods with Design

Methods

- **E**xperiment
- **C**ross Sectional Studies
- **C**ase Studies
- **O**bservational Studies
- **S**elf Reports (Questionnaires, interviews etc)

Design (DIRM

- **I**ndependent Groups
- **R**epeated Measures
- **M**atched Participants
- **(My Excellent Class Can Often Say- Does It Really Matter)**

VCAA 2014

Question 6 (3 marks)

Dr Bannatyne conducted a repeated-measures design in a hospital's sleep laboratory by using healthy, pain-free individuals as participants. Results showed that small decreases in sleep time and a reduction in rapid eye movement (REM) sleep produced increased sensitivity to pain from a needle prick the following morning.

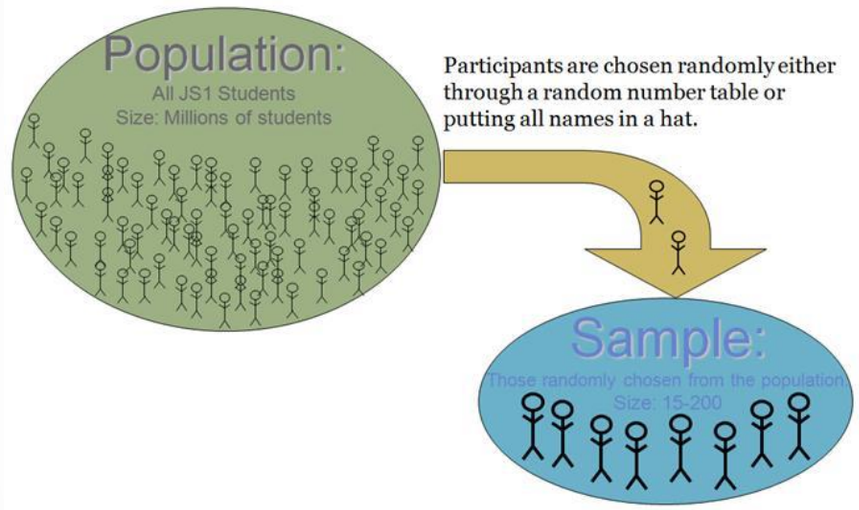
a. What is one bene t of using a repeated-measures design in this particular study? 1 mark

Question 6a.

Marks	0	1	Average
%	84	16	**0.2**

Students did not answer this question well. Students needed to be able to apply their knowledge of repeated-measures designs to the scenario. In a repeated-measures design each participant acts as his or her own perfectly matched control, reducing the potential for confounding variables that tends to occur in between-group designs. In the context of the experiment described, the key advantage of using a repeated-measures design is that it would enable the experimenter to control for individual differences between participants in variables that may affect the data and the interpretation of the results, including differences in things such as sleep patterns, weight, age, and especially pain sensitivity (the dependent variable). No marks were awarded to students who provided a generic response without direct reference to the scenario. The question asked specifically that students refer to 'this particular study'.

Sampling Methods



- **C**onvenience
- **A**nd
- **R**andom
- **S**tratified

2017 Assessor's Report

Question 9 (3 marks)
The Sunnydown Basketball League has 1500 players aged 12–18.
Explain how a researcher could design a random sampling procedure to investigate the effect of sports drinks on the performance of under-16 basketball players in the Sunnydown Basketball League.

Question 9

Marks	0	1	2	3	Average
%	37	33	22	8	1

Page 20: Example Short Answer Response

- researcher needs to ensure that every member of the population (under-16 players from the Sunnydown Basketball League) has an equal chance of being selected in the sample.
- could put all the names of the under 16-players into an online database and then have that program randomly select the appropriate number of participants.
- **Participants could then be randomly allocated into groups, with one drinking sports drinks and the other using water.**

VCAA 2016

Question 2

Marks	0	1	2	Average
%	36	9	55	1.2

Students were asked to name the sampling procedure used and to identify one advantage of it. 'Convenience sampling' was the only acceptable response. 'Convenient sampling' was not accepted. Students are expected to know the correct terminology. Acceptable advantages included that participants are readily available or that it is time-efficient.

Ethics

- Harm
- Voluntary Participation
- Informed Consent
- Confidentiality
- Withdrawal
- Deception
- Debriefing

Question 16b.

Marks	0	1	2	Average
%	73	23	4	0.3

Two of:

- no psychological or physiological harm to participants
- no invasion of personal privacy, which can cause stress
- no coercion, which can place participants under duress.

It was necessary for students to provide a response that corresponded with the ethical considerations listed in Question 16a.

Debriefing takes place after research has concluded and conclusions have been drawn. Many students indicated that participants should be told what would be involved in the research, implying incorrectly that debriefing occurs before the research.

New Ethics …..

- apply ethical principles when undertaking and reporting investigations, including consideration of the role of the experimenter, (must act in a professional manner) **protection and security of participants' information**, confidentiality, voluntary participation, withdrawal rights, informed consent procedures, use of deception in research, debriefing and use of animals in research

IPAD= Hypothesis

- **I= IV**
- **P=Participants**
- **A= Affect expected**
- **D=DV**

Example

- If is hypothesised that **female participants from St Leonard's College aged between 12 and 18** who **consume 1200 grams of chocolate for each day over a period of 5 weeks will gain more weight** compared to **those participants who do not consume chocolate on any day for a period of 5 weeks.**

Question 1

Marks	0	1	2	3	Average
%	17	31	46	5	1.4

Students were asked to construct a research hypothesis for the study. A research hypothesis should state a prediction relating to the expected effect of an independent variable on a dependent variable as a means for testing a theory, or for answering a specific research question. To score full marks for this question, students needed to:

- include reference to the initial manipulation of memory (i.e. the independent variable)
- include reference to the subsequent test of memory, with percentage, likelihood or number of false memories/false 'yes' responses as the dependent variable
- indicate the direction of the predicted effect – that is, the way in which the two groups were predicted to differ on the dependent variable (not simply that there would be a difference).

Students could express their hypothesis in fully operationalised terms or in broader terms.

Reference to a specific population was not required in this case related to human memory performance in general (i.e. the first line of the scenario stated that the researcher wanted to 'investigate how the introduction of false information affects people's eyewitness testimonies'), and so it was implicit that the hypothesis pertain to people in general. Most experimental work in psychology is concerned with deriving general principles/theories about human behaviour and performance, rather than being focused on specific populations, unless a particular population (e.g. people experiencing depression) is the stated focus of the research question. It was not correct to identify university students as the population; university students comprised the sample (albeit a non-representative sample of people in general, a point to make in the limitations section of the discussion).

The most common error was a tendency to refer to the initial questioning phase as if it were also the final test phase. That is, there was often no clear separation of the initial manipulation of memory (the independent variable) and the subsequent test phase five days later (the dependent variable). For example, many responses stated a variant of the following: 'Participants who were asked misleading questions would be more likely to respond "yes" to objects or items that did not appear in the video than those who were asked open questions.' Responses such as this could score no more than two marks.

A number of example research hypotheses for this question have been provided below. All of these examples meet the three criteria required to obtain full marks. Reference to the initial manipulation of memory (independent variable) is in **bold font**; reference to the subsequent test of memory (dependent variable) is in *italic font*, and reference to the direction of the effect is <u>underlined</u>. Note the use of past tense for expressing hypotheses, which is appropriate because research reports always refer to work that has already been conducted. The use of past tense

Pg 6: 6th Dot Point: Extraneous & Confounding Variables?

- *Identification of potential extraneous and confounding variables **including** individual participant differences, non-standardised instructions and procedures, order effects, experimenter effect and placebo effects.*

So……

O….PEPSI

Order Effects+ Participant Differences+ Experimenter Effect+ Placebo Effect+ Standardised Instructions (non)

Pg 5 6th Dot point: How to Control for Extraneous & Confounding Variables?

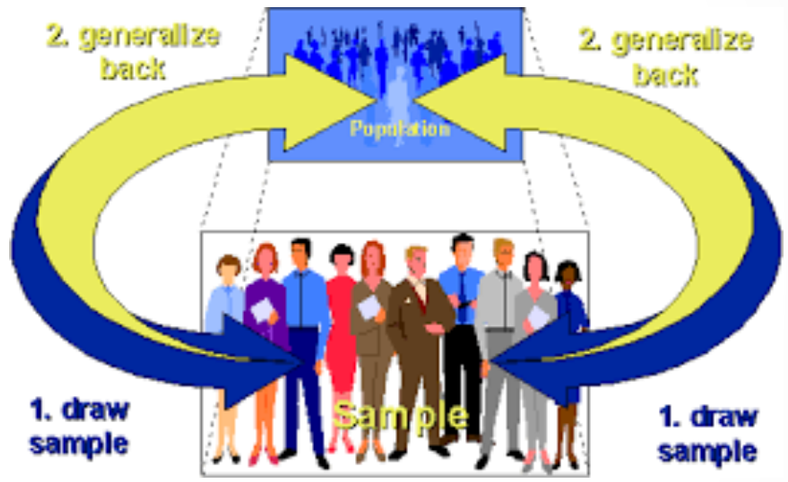
By considering…

- type of **s**ampling procedure
- Type of **e**xperiment
- **C**ounterbalancing
- Single & double **b**lind procedures
- **P**lacebos
- Standardised **I**nstructions & Procedu

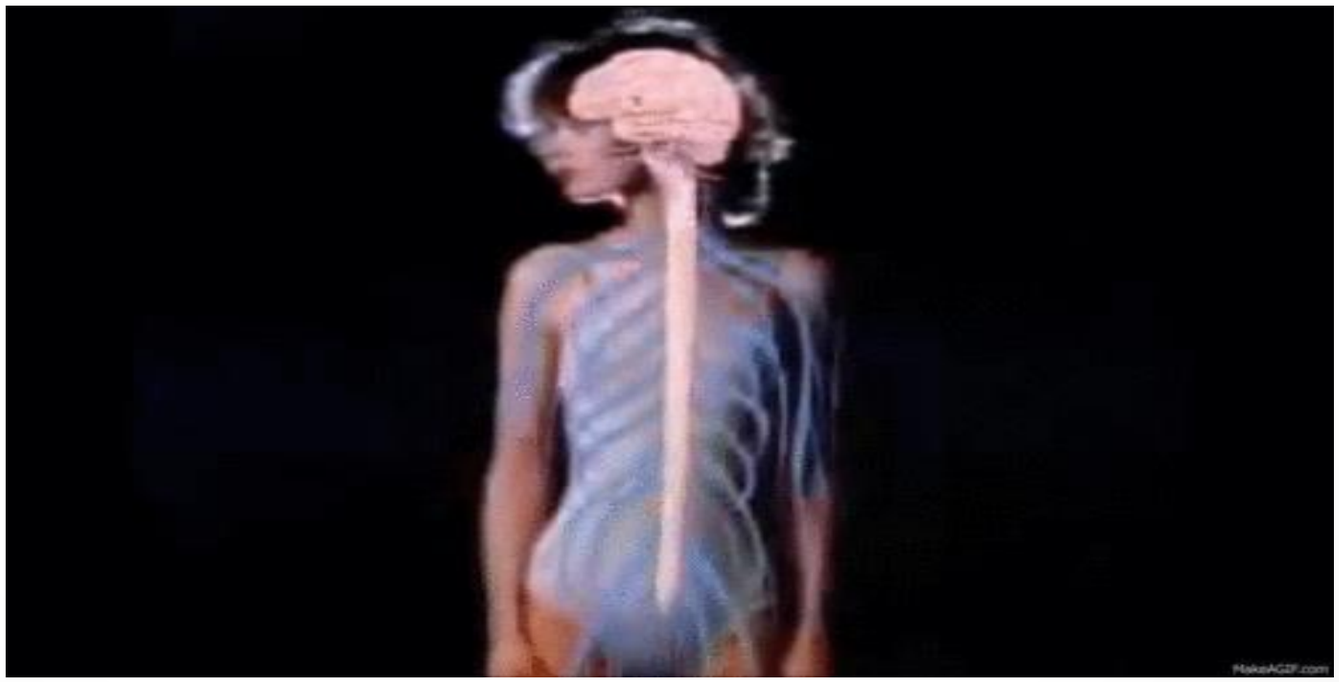
- =BICEPS

Can you Generalise your research findings to the population? Yes if…..

- **Y**ields **S**tatistically Significant **E**xtraneous Variables & confounding variables controlled for
- **S**ample (large, representative of population& random)



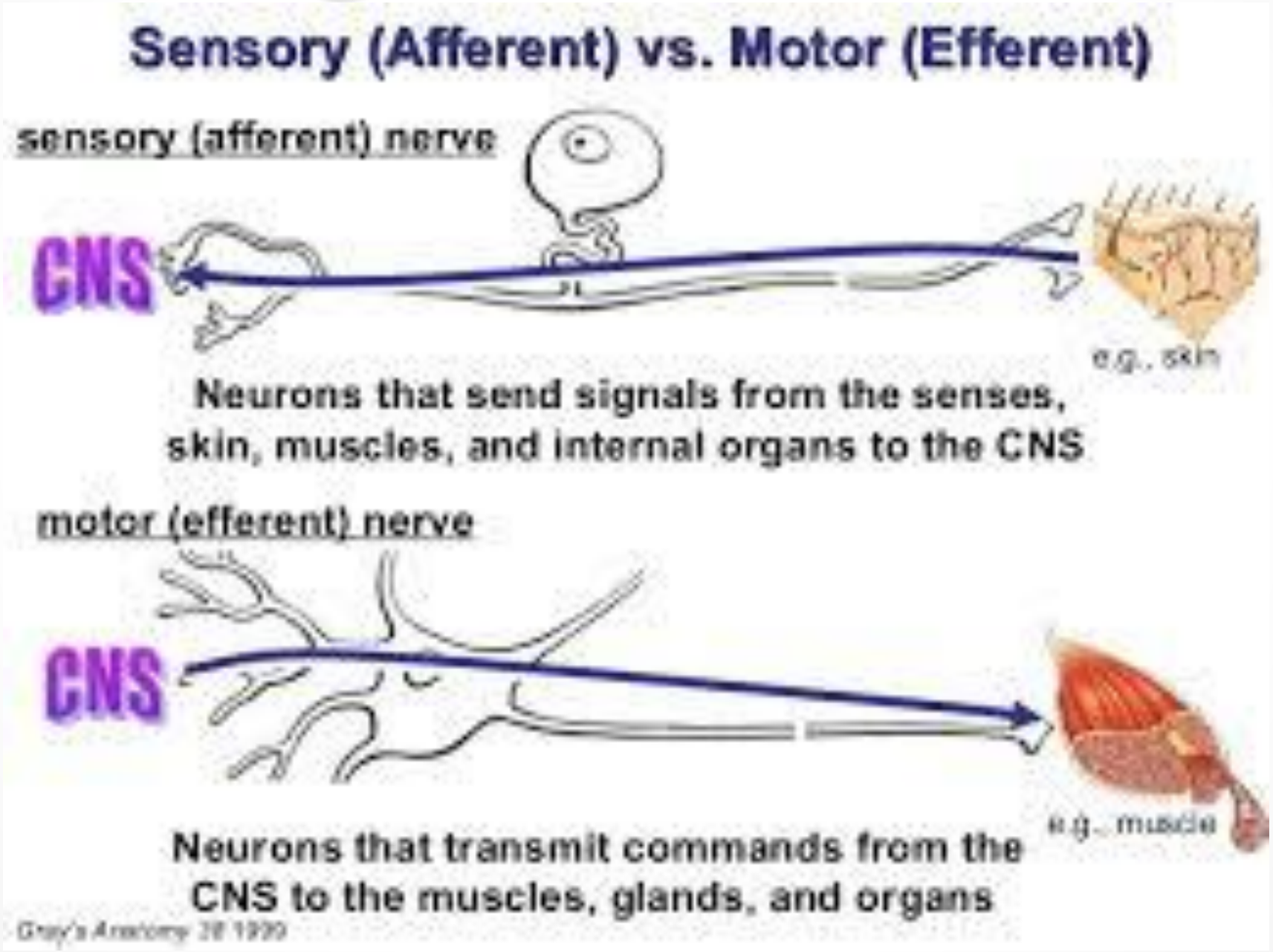
Unit 3: Area of Study 1: How does the nervous system enable psychological functioning?



Nervous system functioning

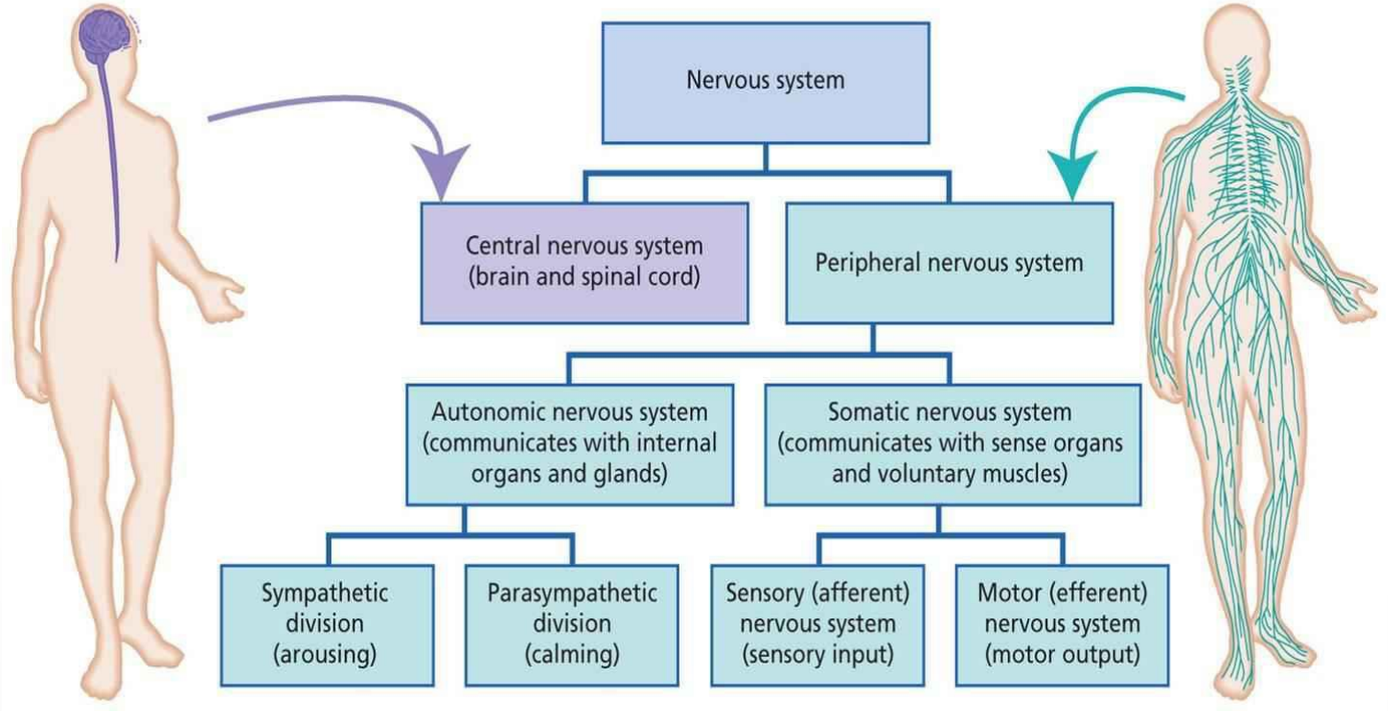
- Roles of different divisions
- Conscious and unconscious responses to sensory stimuli
- Role of the neuron
- Role of neurotransmitters
- How interference to neurotransmitter function can affect nervous system functioning

Pg 25: SAME


Sensory (Afferent) vs. Motor (Efferent)
sensory (afferent) nerve
CNS
e.g., skin
Neurons that send signals from the senses, skin, muscles, and internal organs to the CNS
motor (efferent) nerve
CNS
e.g., muscle
Neurons that transmit commands from the CNS to the muscles, glands, and organs
Gray's Anatomy 28 1909

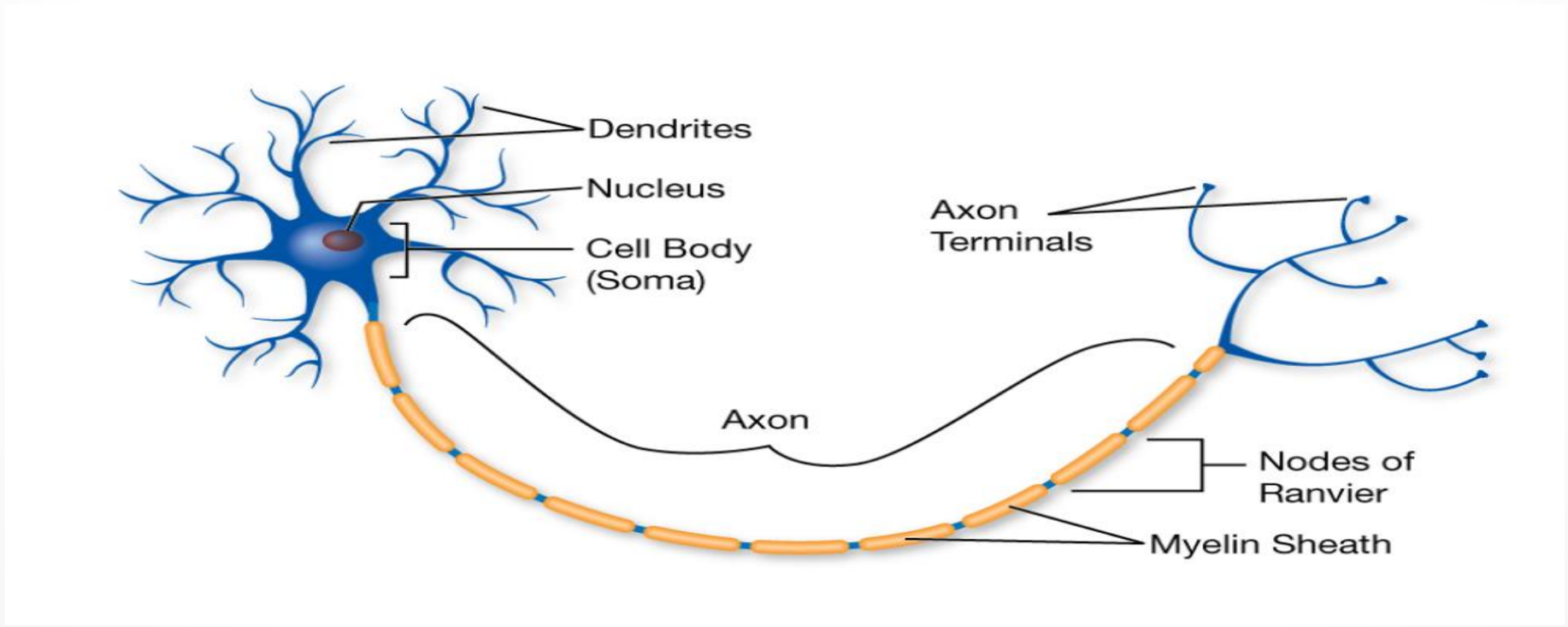
Pg 7: Organisation of the PNS

Purple **A**pples **S**eem **S**lightly **P**roblematic-(Peripheral-Autonomic, Somatic, Sympathetic, Parasympathetic)



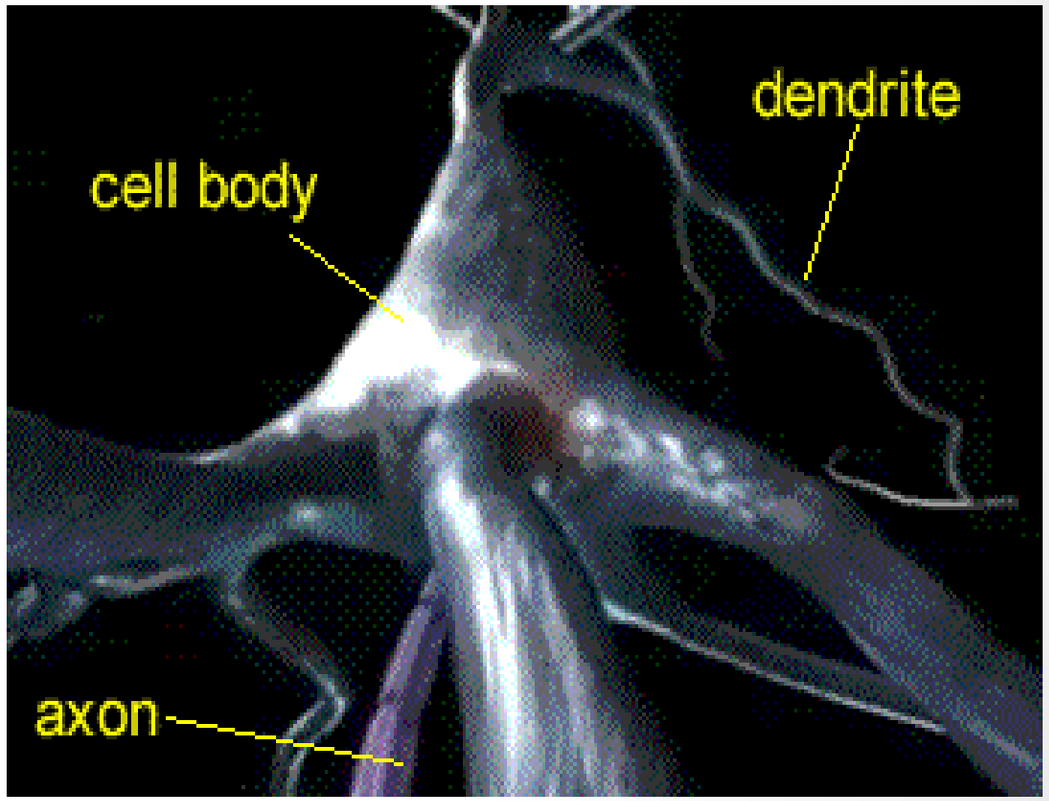
Pg 21: Parts of a Neuron

- **D**on't **S**wim **N**ude **A**round **M**y **A**unt
- **D**endrite-**S**oma-**N**ucleus-**A**xon-**M**yelin Sheath-**A**xon Terminals



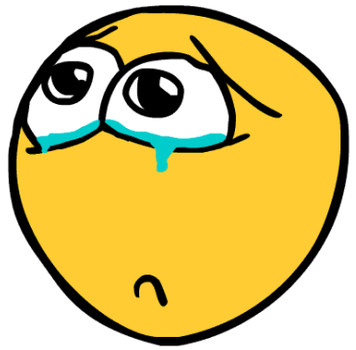
Pg 23: Neural Basis of Learning & Memory

- The dendrites contain the receptors for the uptake of the neurotransmitters, the axon terminal stores the neurotransmitters in sacs known as vesicles, the axon conducts electrical impulses which is enhanced by the surrounding myelin.



When Answering Exam & SAC Questions Be **SAD**

- **S**pecific
- **A**nswer the Question
- **D**efine



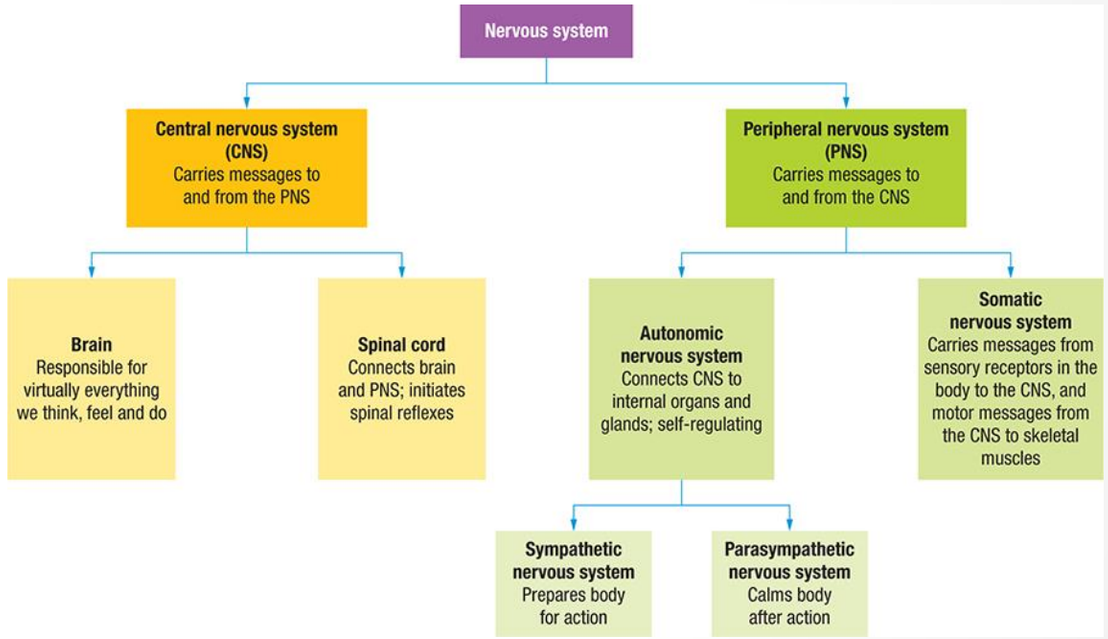
Pg 33: Question 22(Typical 3 Mark)

KKDP 1 The roles of different divisions of the nervous system (central and peripheral nervous systems and their associated sub-divisions) in responding to, and integrating and coordinating with, sensory stimuli received by the body.

Sensory receptors in Karina's peripheral nervous system will detect the sound signal. 1 mark

Afferent signals will then be sent to the spinal cord in the central nervous system, where the interneurons will integrate the sensory and motor information. 1 mark

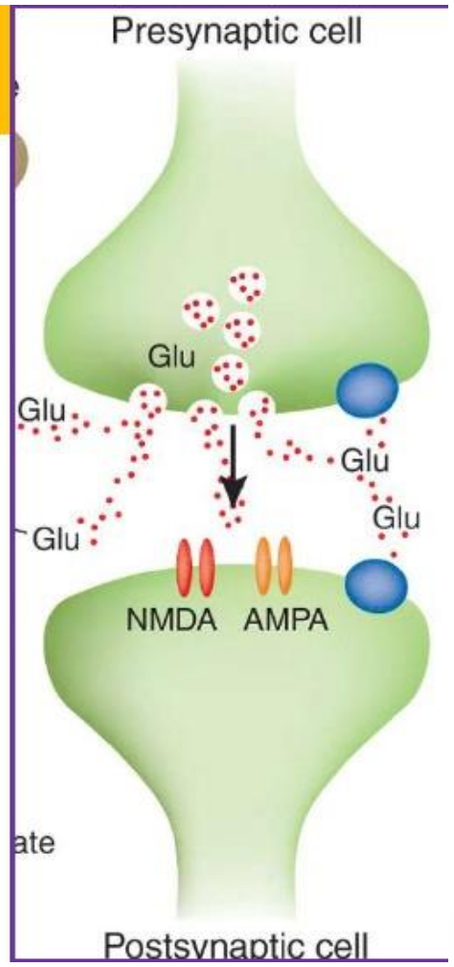
Efferent messages will then be sent back down the spinal cord to the peripheral nervous system, then to the effector muscles in Karina's leg, leading to the tapping of the foot. 1 mark



Your mates excite you=Glutamate!

Glutamate

- **It is the most abundant excitatory neurotransmitter in the nervous system**
- **It plays a key role in learning (LTP), highly concentrated in Hippocampus, amygdala**
- **Stored in the vesicles of the presynaptic neuron**
- **Nerve impulses (action potential) triggers release into the synapse**
- **Glutamite then binds with specialised receptors on the dendrites of the postsynaptic neuron**



Neurotransmitters

Don't spend hours staring at brain parts and repeating them!
Use these mnemonic images and memorize them in minutes.

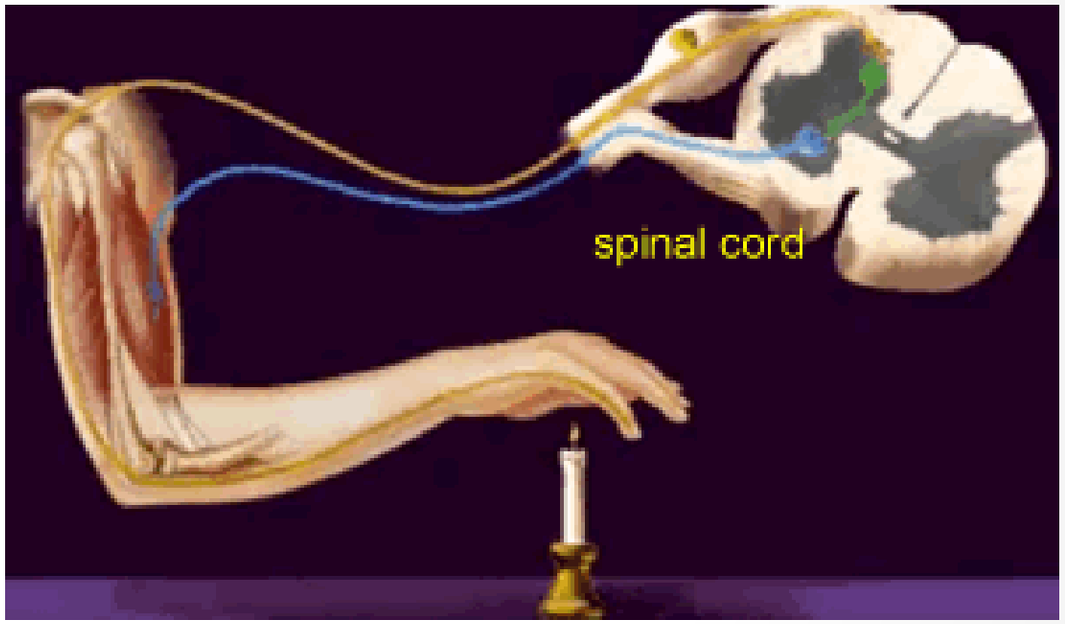
The effect of the neurotransmitter GABA is to reduce anxiety and create a relaxing, almost sleepy feeling, let's think of "Gaga" when we see GABA and use the image of a calm, peaceful, sleeping baby...

Gaba is a neurotransmitter inhibitor. That's why there's a neurotransmitter "in his bib" (to remind you of "inhibitor" get it? - I know it's bad, but it'll work).

Back Home Next

Conscious vs Unconscious

- **Conscious+awareness+voluntary**
- **Unconscious+no awareness+involuntary**
- **Conscious:** The somatic nervous system is responsible for the initial detection of sensory information; for example, shoes that are too tight on a foot. The brain will initiate a conscious motor response, which will travel through the spinal cord back to the somatic nervous system, resulting in the loosening or removal of the shoe.
- **Unconscious:** spinal reflex



Sample Exam Question

Josh's hand comes into contact with a hot coffee cup.
Distinguish between an unconscious and a conscious response to the heat of a coffee in terms of the nervous system.

- If Josh consciously responds to the heat of the cup, then his somatic nervous system will detect and convey the sensory information (in terms of the heat of the cup) towards the central nervous system.
- Afferent signals will be conveyed to the brain via the spinal cord (central nervous system), where he will be aware of the heat of the cup and thus trigger a conscious response.
- His somatic nervous system will also detect and convey the sensory information to the spinal cord.
- The interneurons in his spinal cord will integrate sensory and motor signals and trigger an unconscious spinal reflex, resulting in a rapid removal of the hand from the hot cup that Josh is unaware of whilst the movement is occurring.
- *1 mark for an explanation of the role of the somatic nervous in the conscious response.*
- *1 mark for an explanation of the role of the somatic nervous in the spinal reflex.*
- *1 mark for an explanation of the role of the brain in initiating the motor response (central nervous system) in the conscious response.*
- *1 mark for an explanation of the role of the spinal cord triggering the motor response (central nervous system) in the unconscious response.*

General Sac & Exam Tips

1. Practice Research Design Questions
2. Don't restate the question in your answer:
3. Define any psychological terms first then answer.
4. Use 'whereas' in comparative questions
5. Use 'So,So' in explain questions
6. Be specific to the question
7. Multiple Choice-Tick, Cross, Question Mark
8. BUG
9. Read & ReRead Sample Exam Solutions
10. http://www.tsfx.com.au/wp-content/uploads/2014/09/vce-2014-study-tip-23-unit-34-psychology-exam-advice-final.pdf