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Biological Bases of Behaviour

Psychology 1A Tutorial

Reminders

- Tutorial Engagement Tasks
- Complete your 3 hours of Research Participation credit, OR complete the alternative assessment
- MAEs 5 & 6 - due 13th June
- If you have missed or scored <15 for any MAEs, complete the Redemption MAE for a maximum of 15/30

Don't lose easy marks!!

Biological Bases Tutorial Plan

- Neurons & action potentials
- Anatomy of the brain & functions

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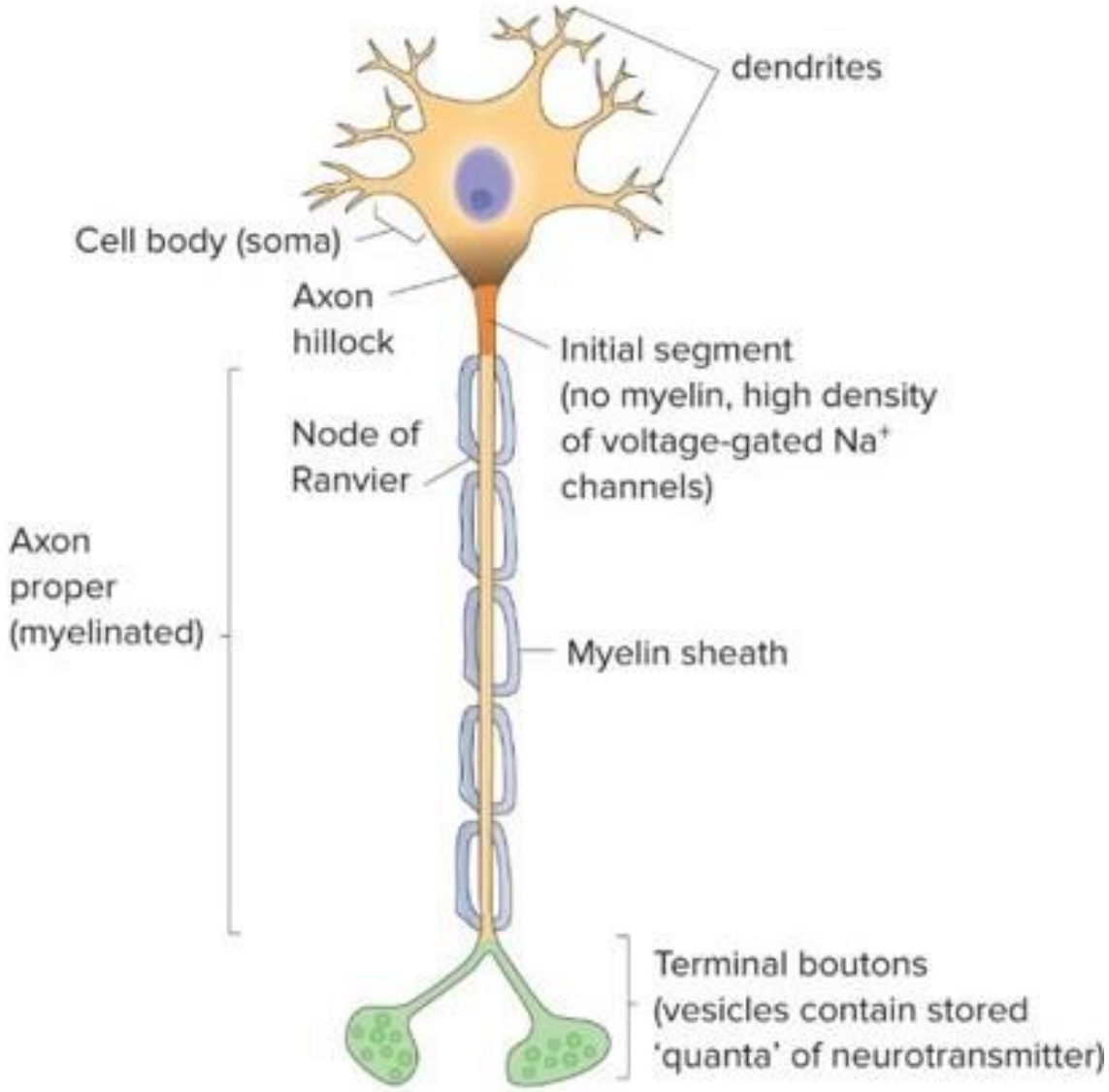
NEURONS & ACTION POTENTIALS

Neuron structure

- Neurons are cells that work by creating electrical impulses (action potentials) and releasing chemicals to communicate

- This is a **multipolar neuron** (the most common type in the human brain):



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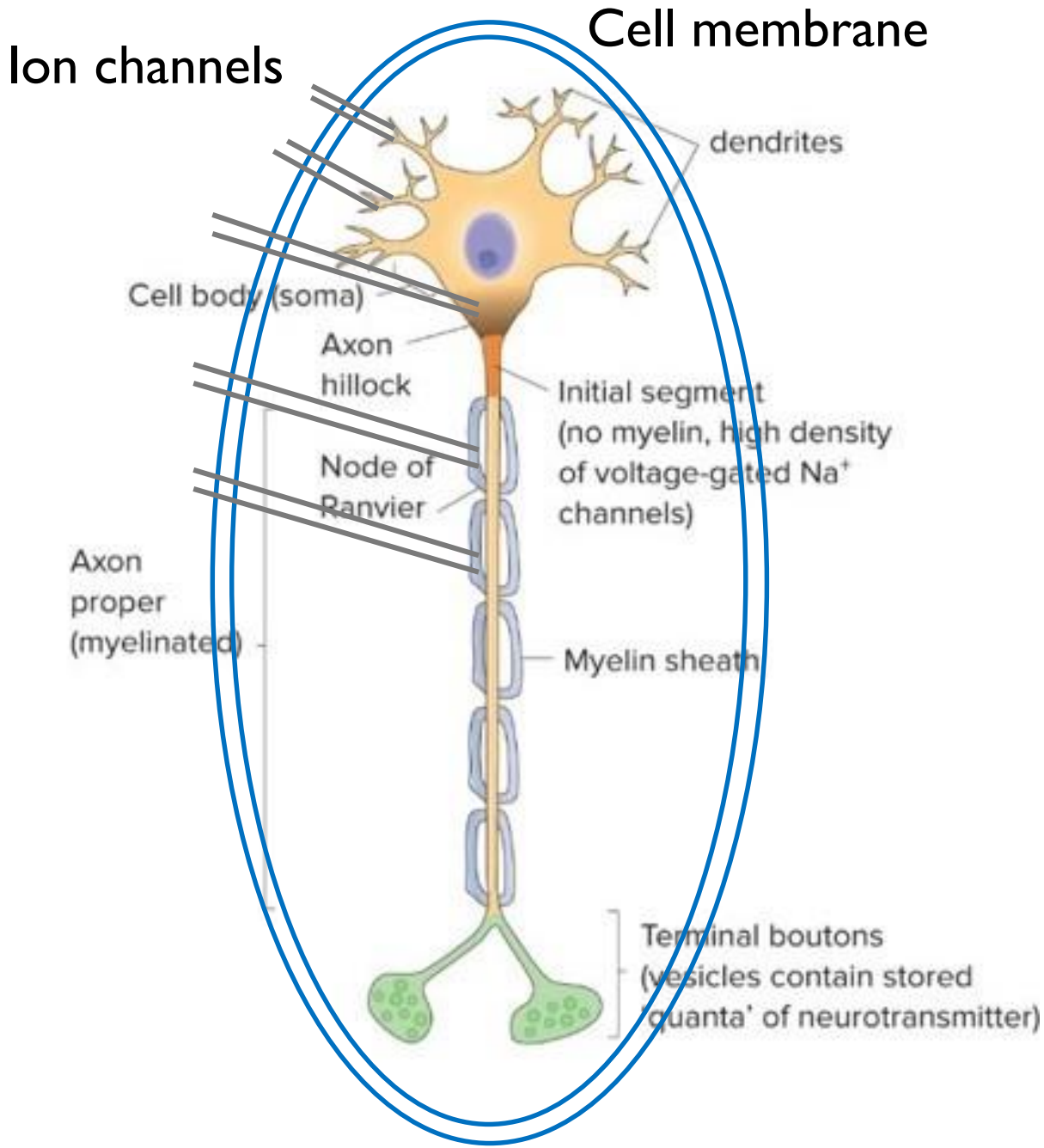

Tutorial Engagement Task 1: What is an action potential?

https://www.youtube.com/watch?v=BB0qVcp7FOQ

As you watch the video, think about the answers to Tutorial Engagement Task 1 in your handout.

Another good summary video if you're interested:
https://www.youtube.com/watch?v=HnKMB11ih2o

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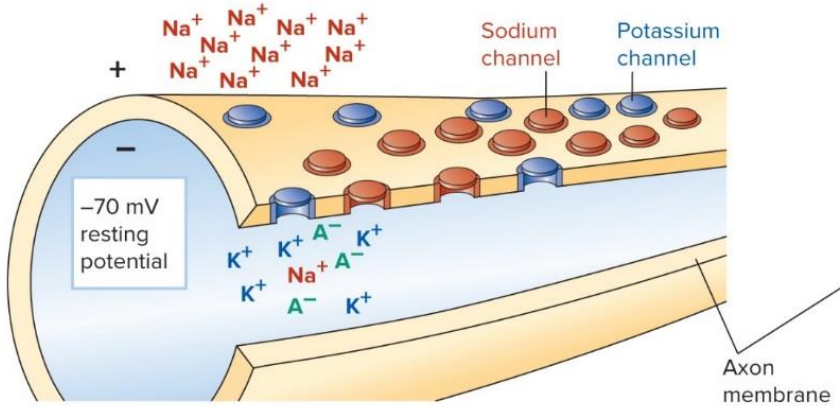
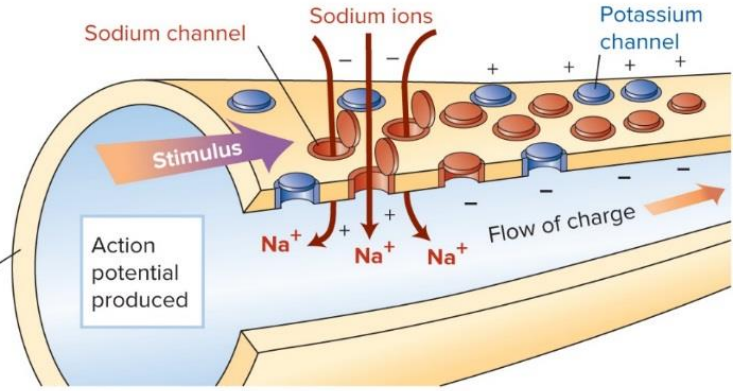
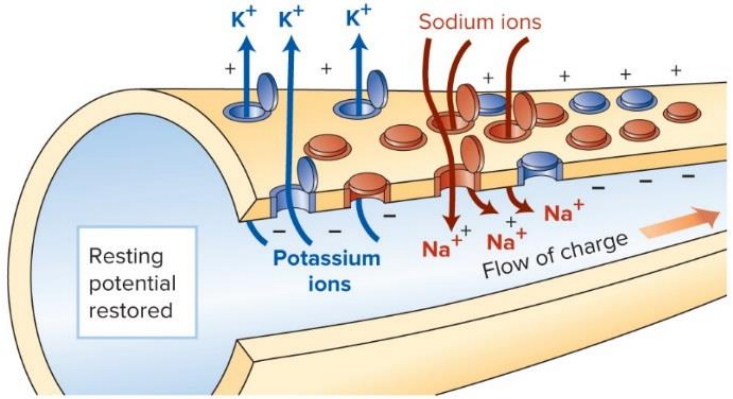


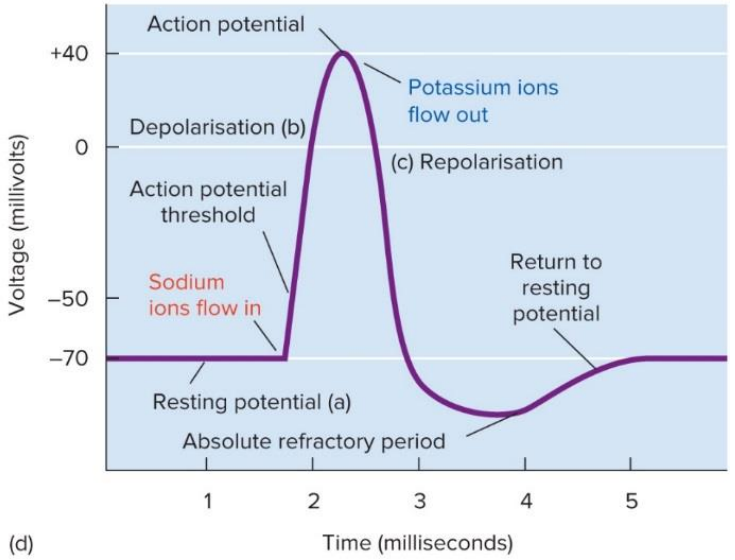
(a) Resting potential: The 10:1 concentration of sodium (Na^+) ions outside the neuron and the negative protein (A^-) ions inside contribute to a resting potential of –70 mV.



(b) Depolarisation: If the neuron is sufficiently stimulated, sodium channels open and sodium ions flood into the axon. Note that the potassium channels are still closed.



(c) Repolarisation: Sodium channels that were open in (b) have now closed and potassium channels behind them are open, allowing potassium ions to exit and restoring the resting potential at that point. Sodium channels are opening at the next point as the action potential moves down the axon.



(d)

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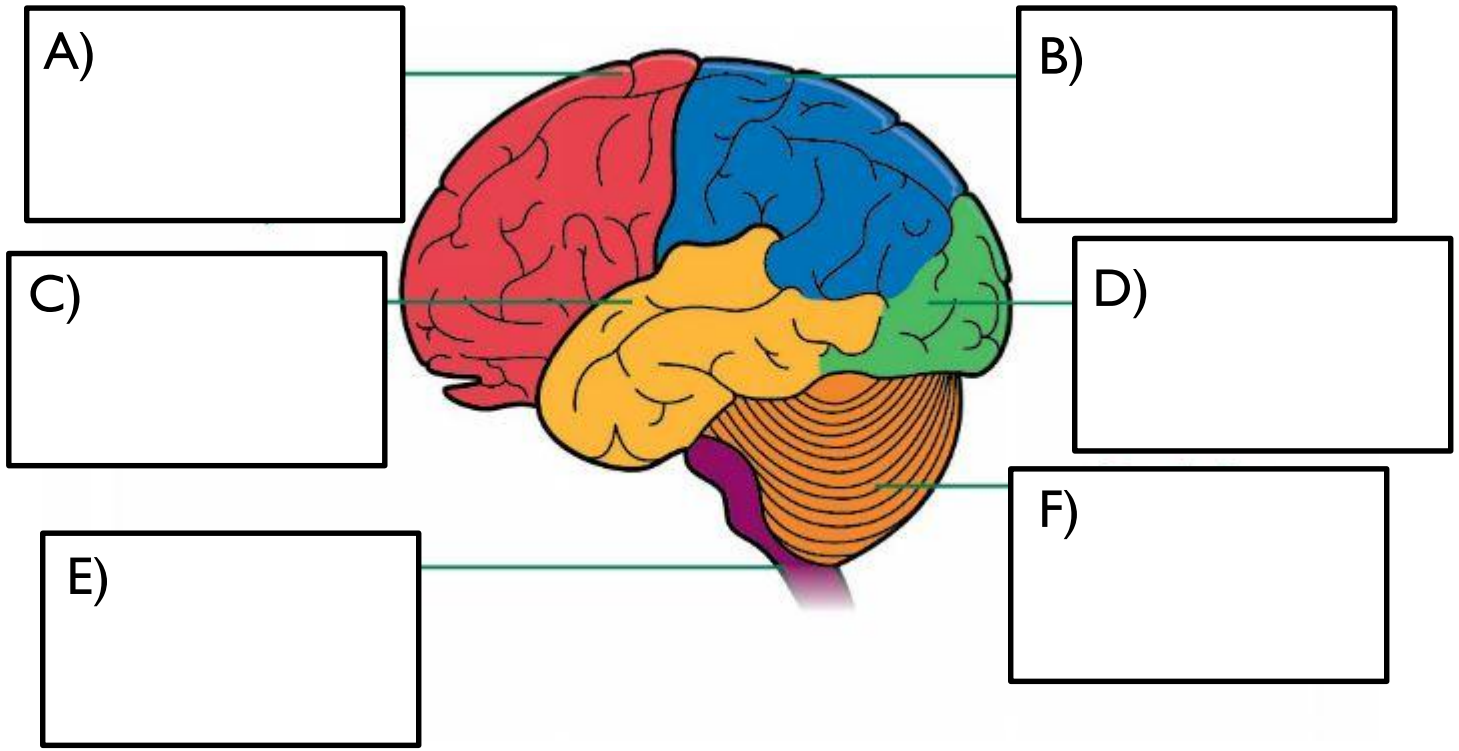
ANATOMY OF THE BRAIN & FUNCTIONS

Tutorial Engagement Task 2: Brain anatomy

- Label each part of the brain and note its functions:
- Refer to the Brain Facts website for tips
- You might also like to look up the Limbic system:
  - Thalamus
  - Hypothalamus
  - Hippocampus
  - Amygdala



Thank you!

See you next fortnight for our final tutorial
in Psychology 1A