Assignments and Activities - 2

Task 1: Test your understanding

Question 1: On which side of the neuronal membrane are Na^+ ions more abundant?

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Question 2: When the membrane is at the potassium equilibrium potential, in which direction (in or out) is there a net movement of potassium ions?

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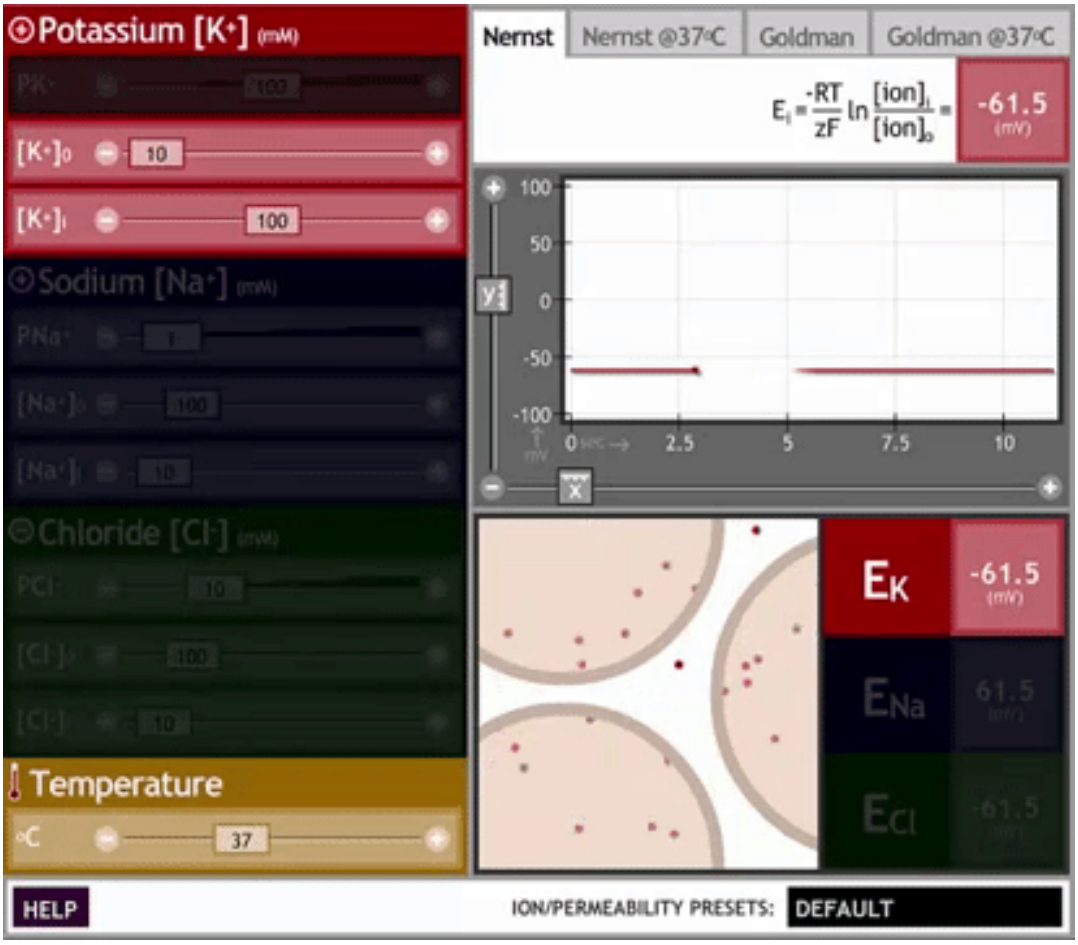
Task 2: Simulating the equation (computational neuroscience)



Use ***The Nernst/Goldman equation simulator***
- (web flash version discontinued http://www.nernstgoldman.physiology.arizona.edu/)
- local (only for Windows) flash version can be downloaded from:
https://alexandria.physik3.uni-goettingen.de/downloads/lecture_basics_of_computational_neuroscience/
- or download from course repository

a. Describe the relationship between the internal and external ion concentrations and the equilibrium potential for each ion (K^+, Na^+ and Cl^-).

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b. Describe the relationship between the permeability of each ion (K^+, Na^+ and Cl^-) and the membrane potential.

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c. What effect does temperature have on the simulations?

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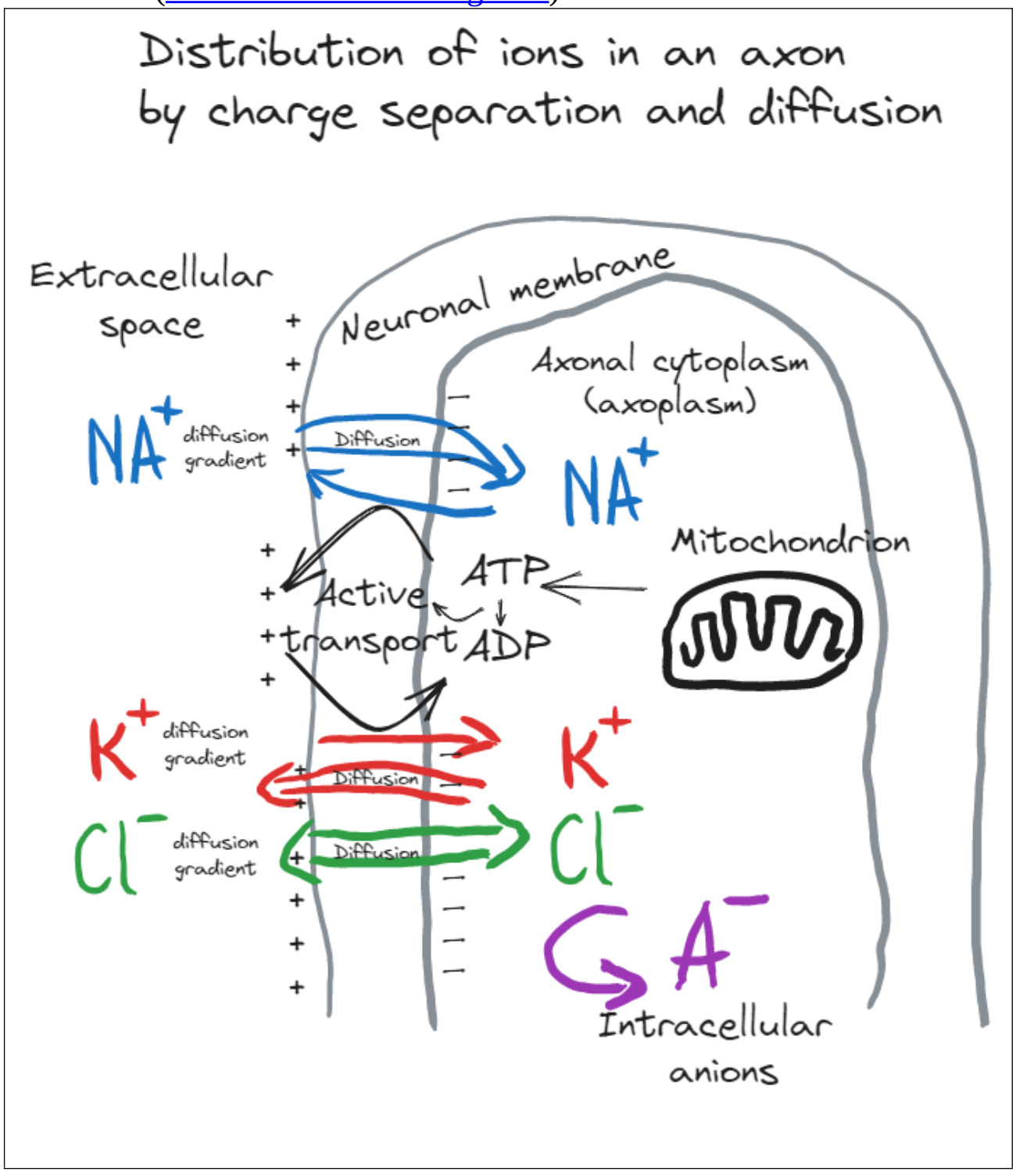
Task 3: Draw me a Brain Ep. 2

Draw this (link to editable drawing here):



Your turn: