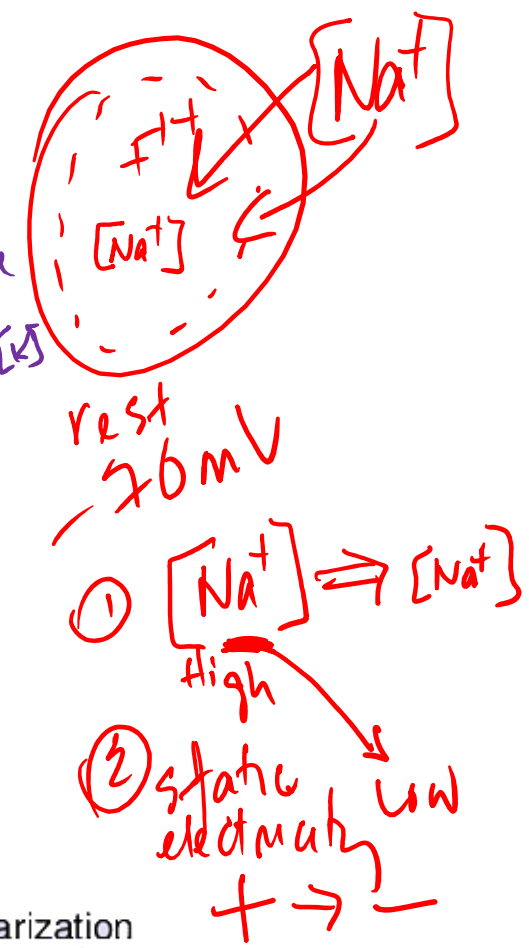
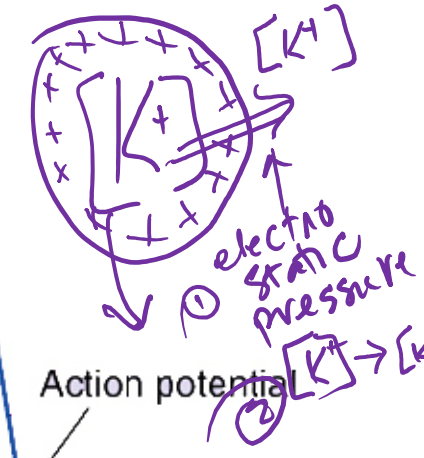
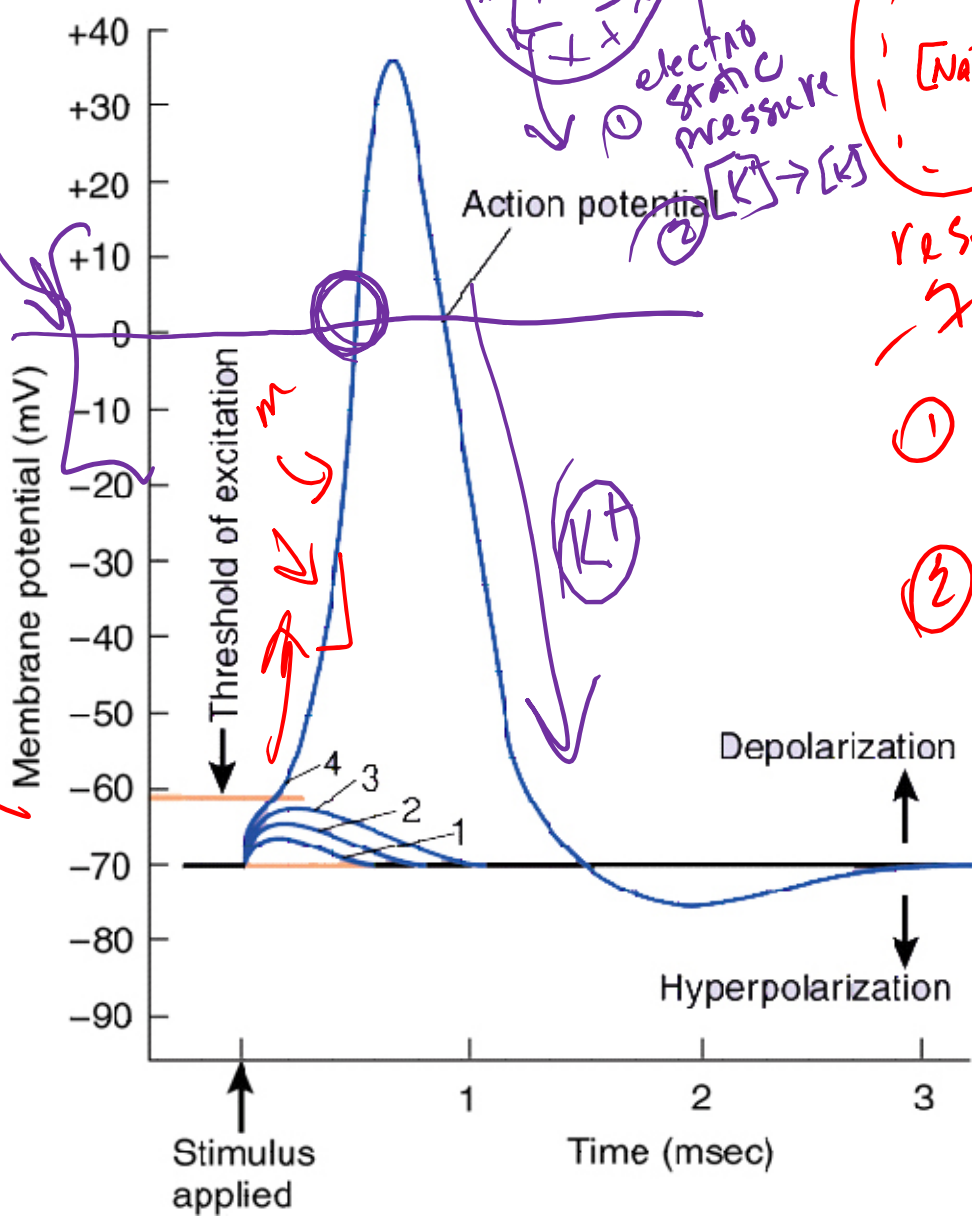
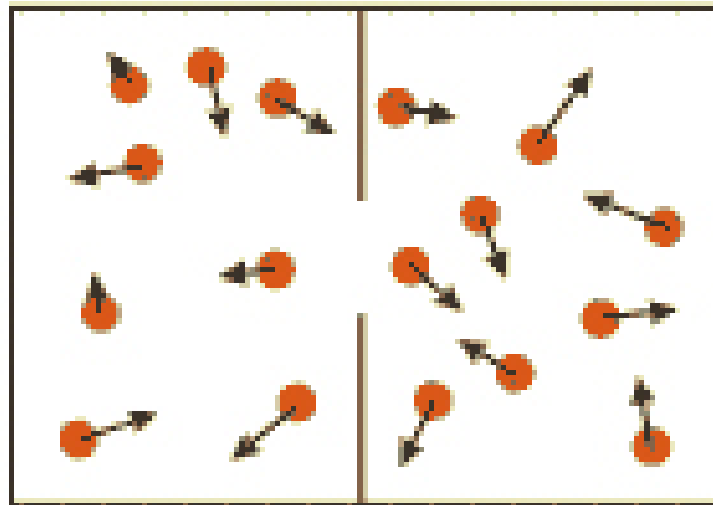
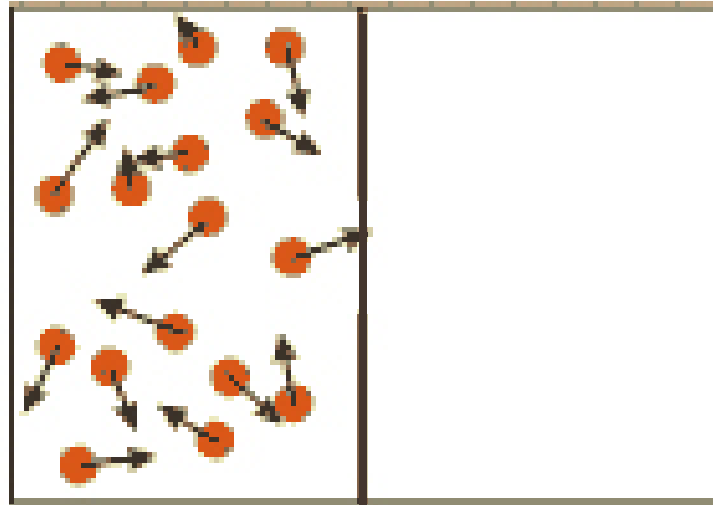
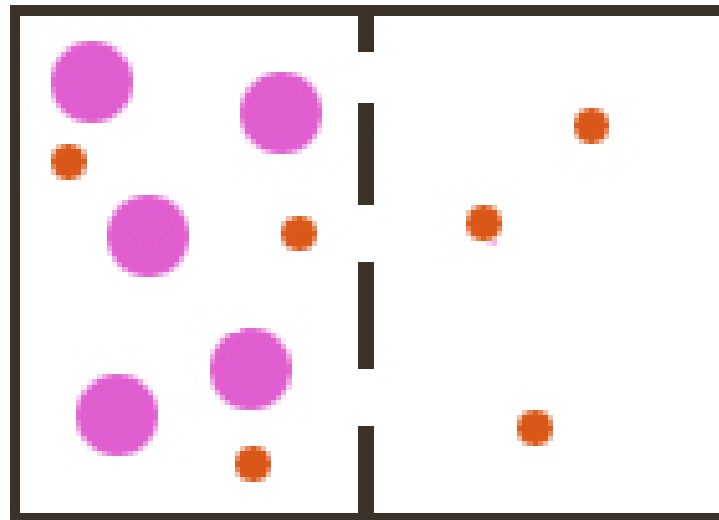
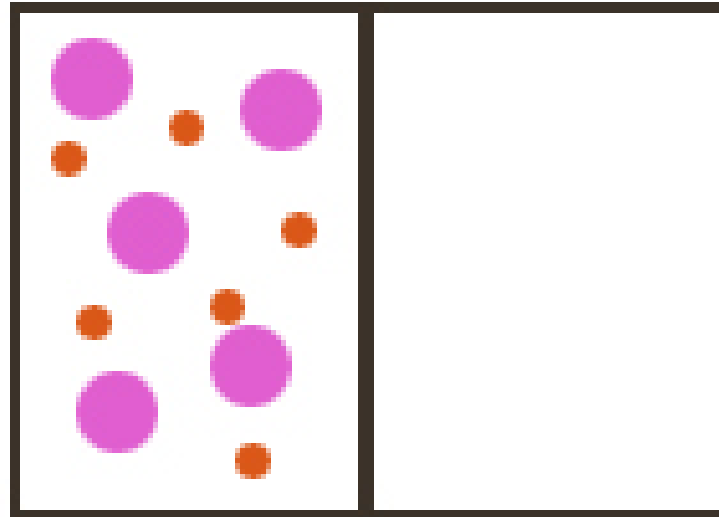


V_{K^+} open
 V_{Na^+} open

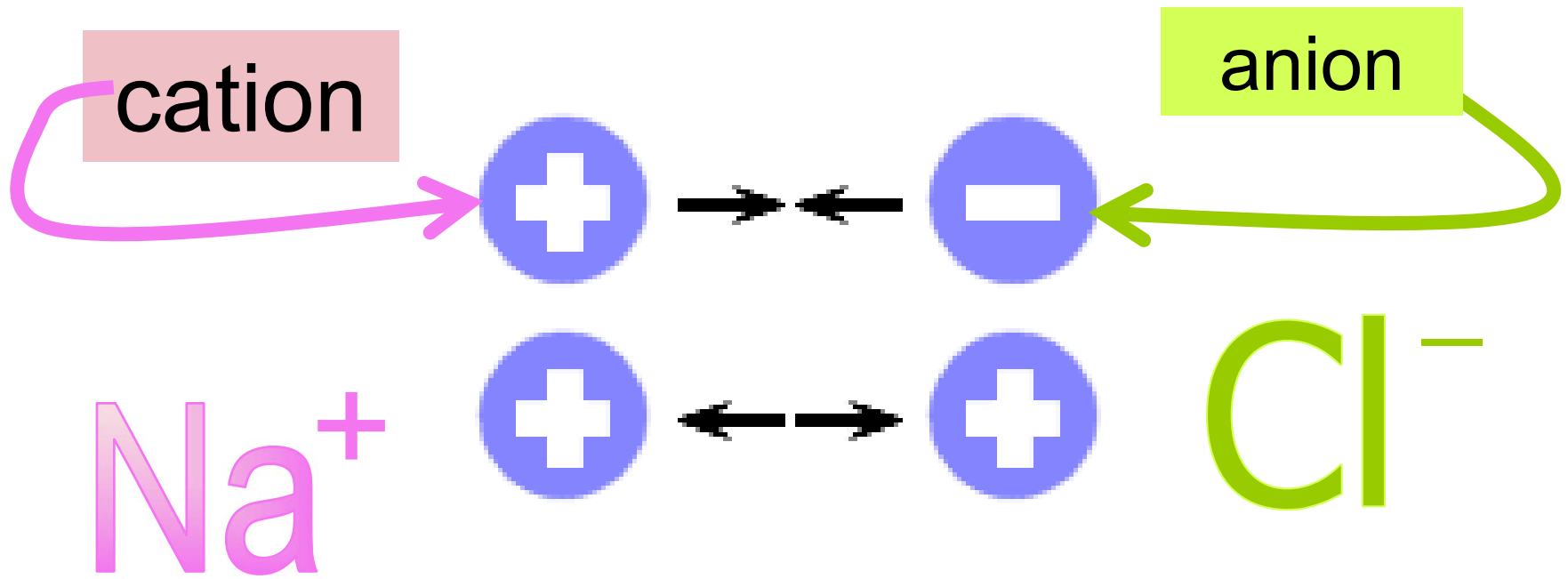




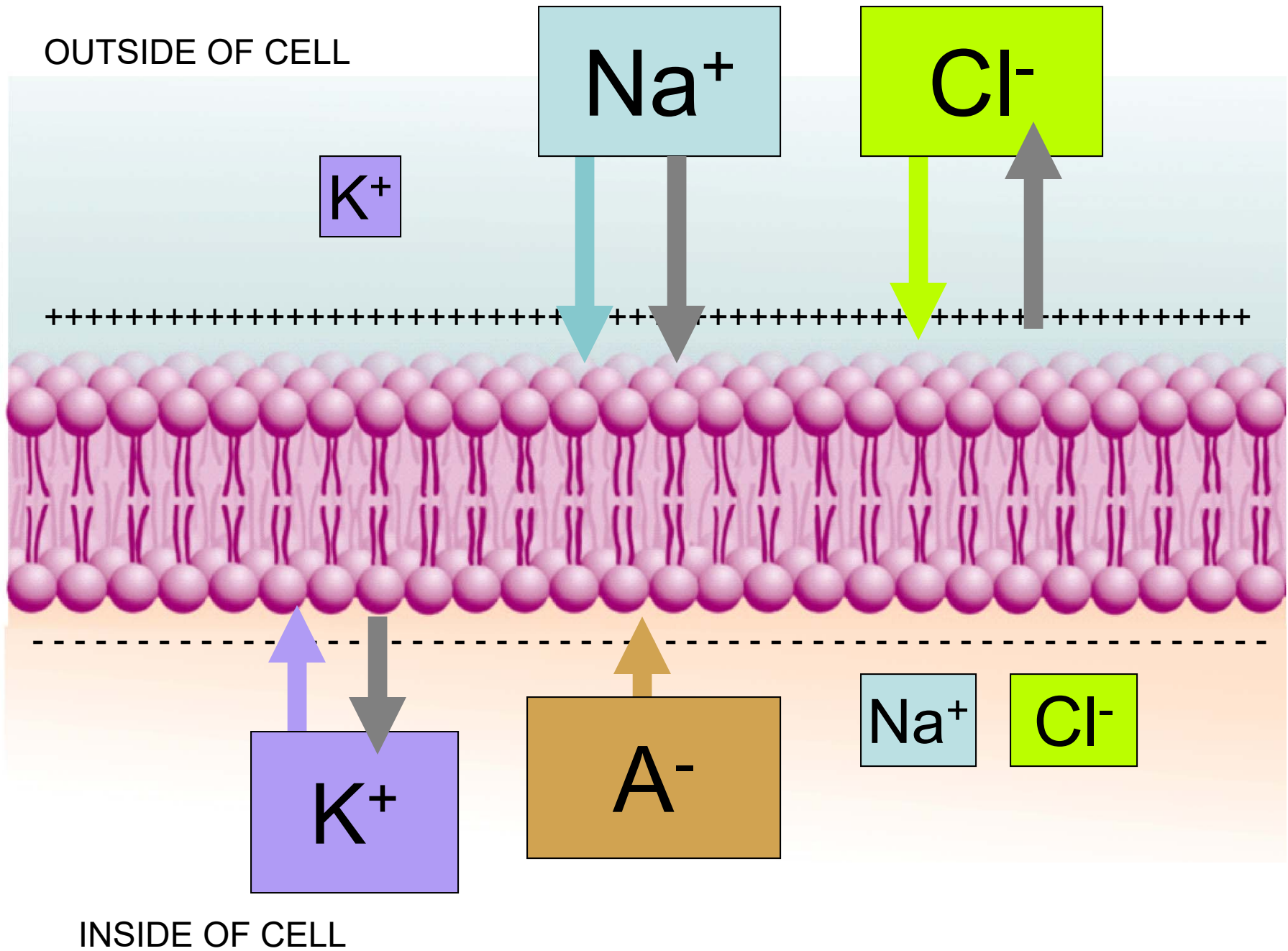
diffusion

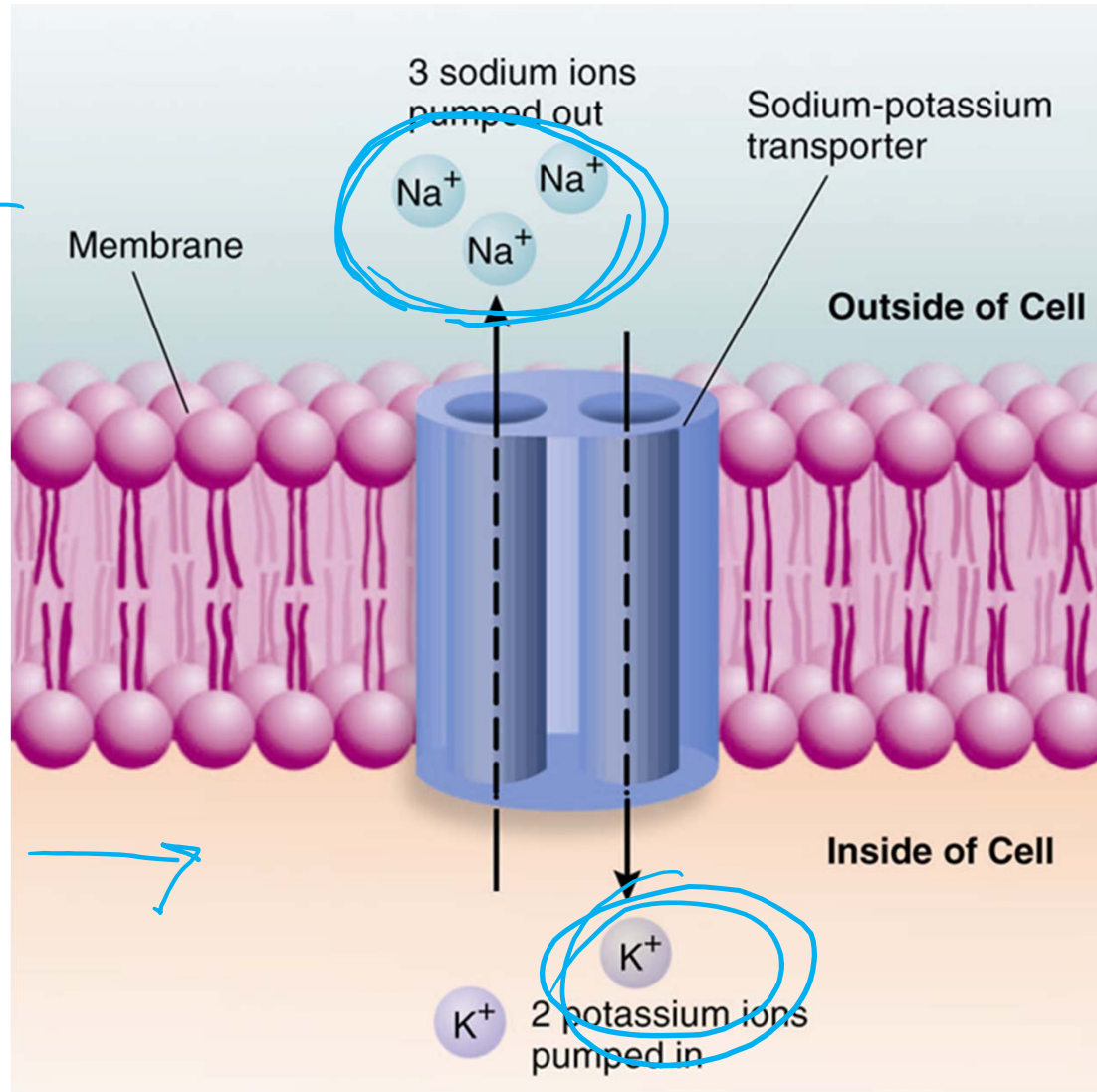


selective
permeability



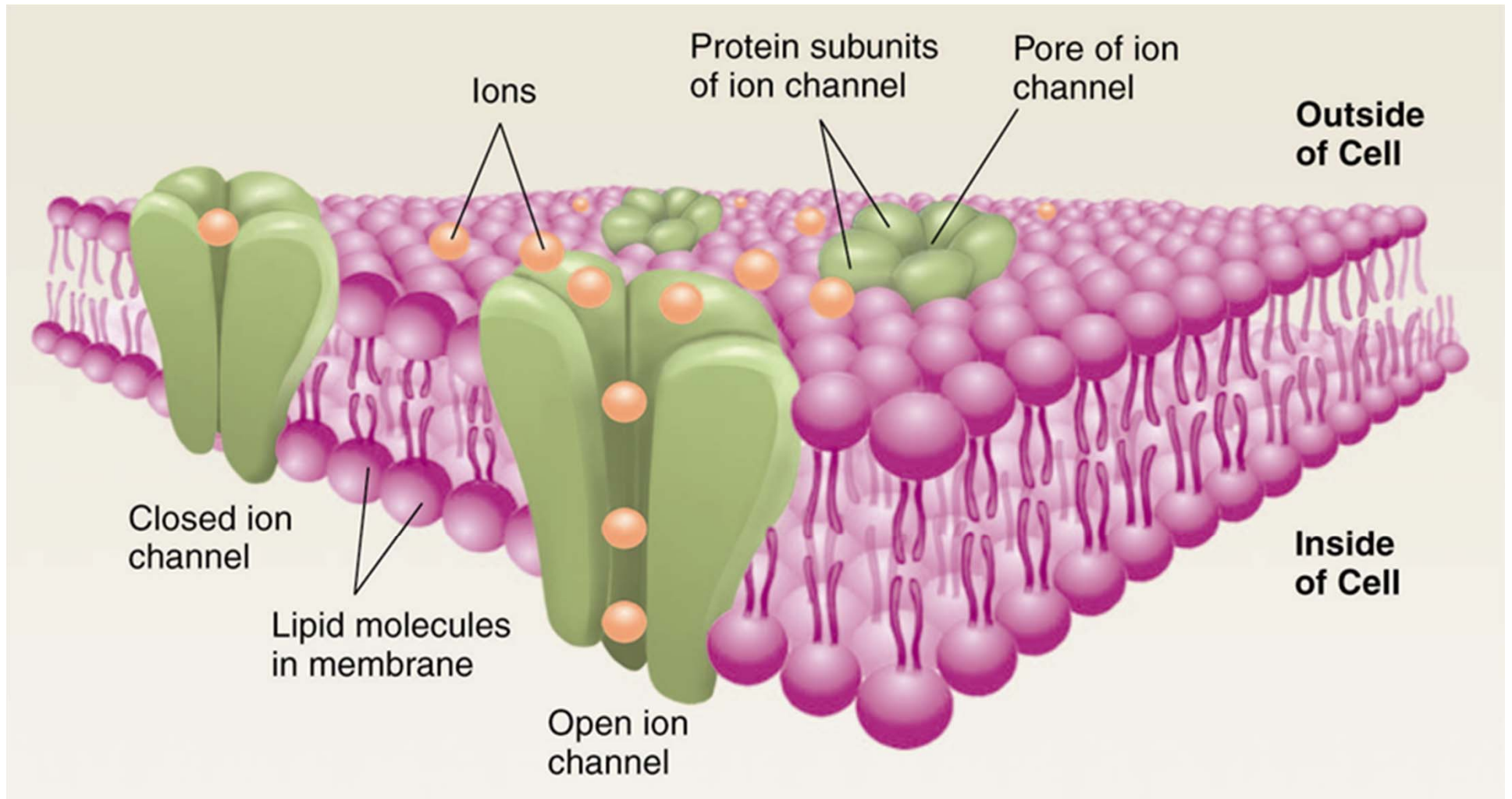
ELECTROSTATIC
PRESSURE

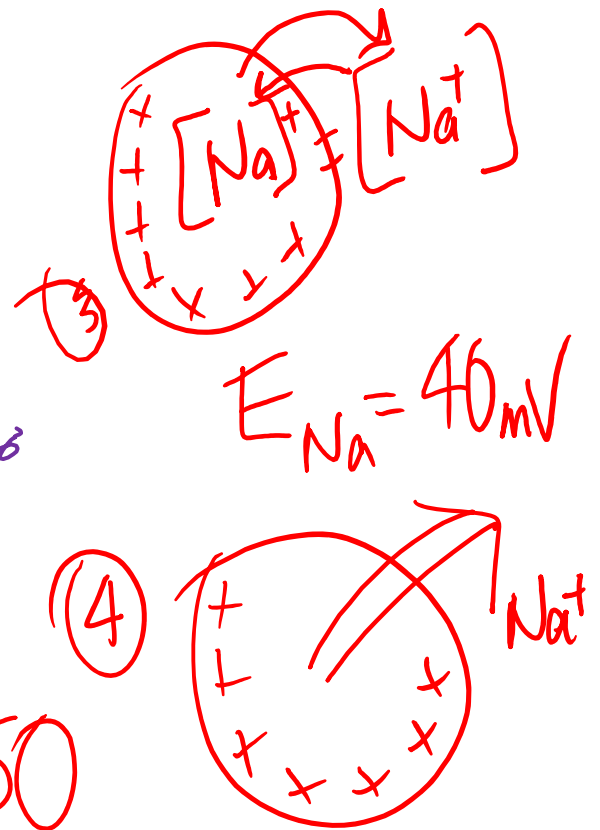
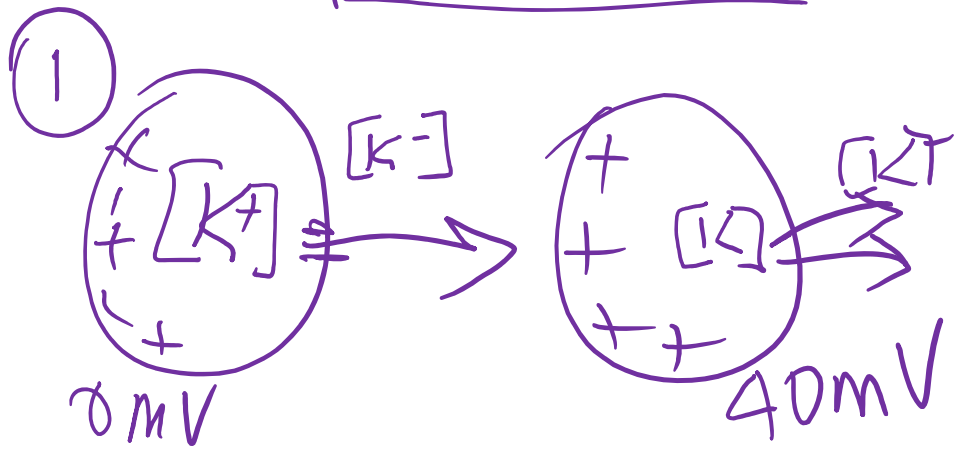
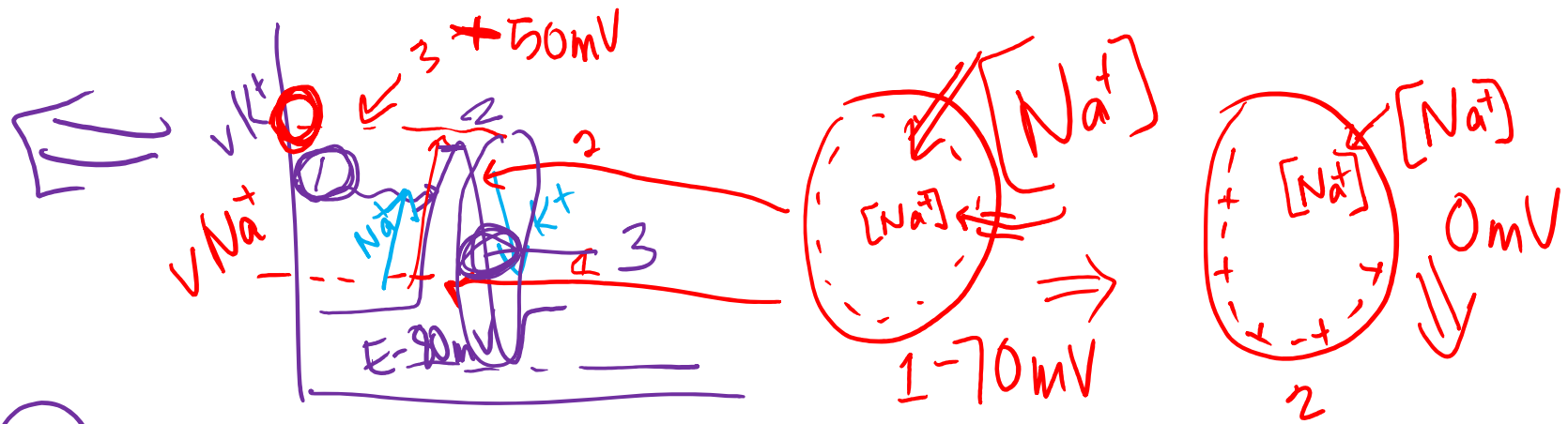


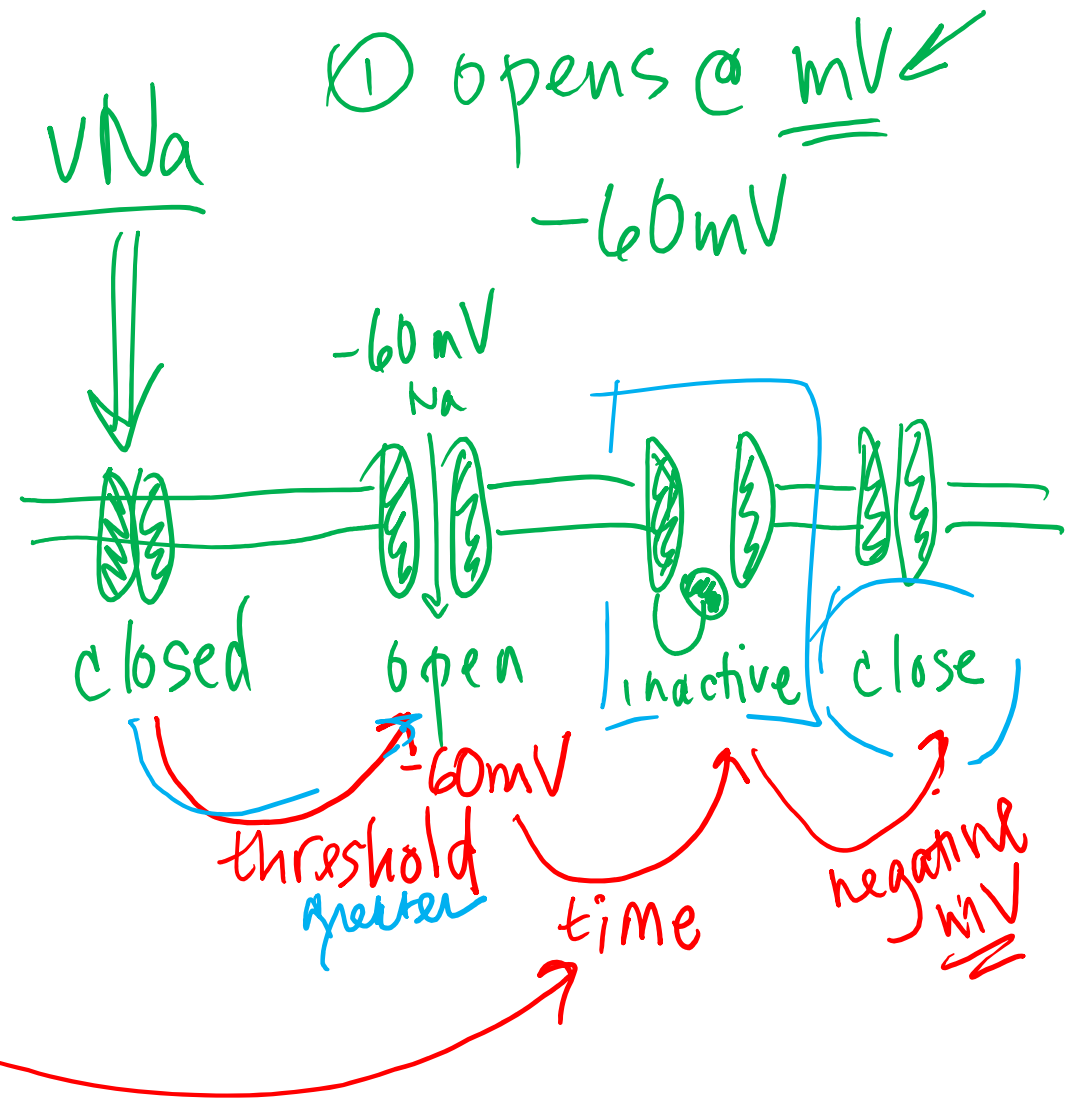
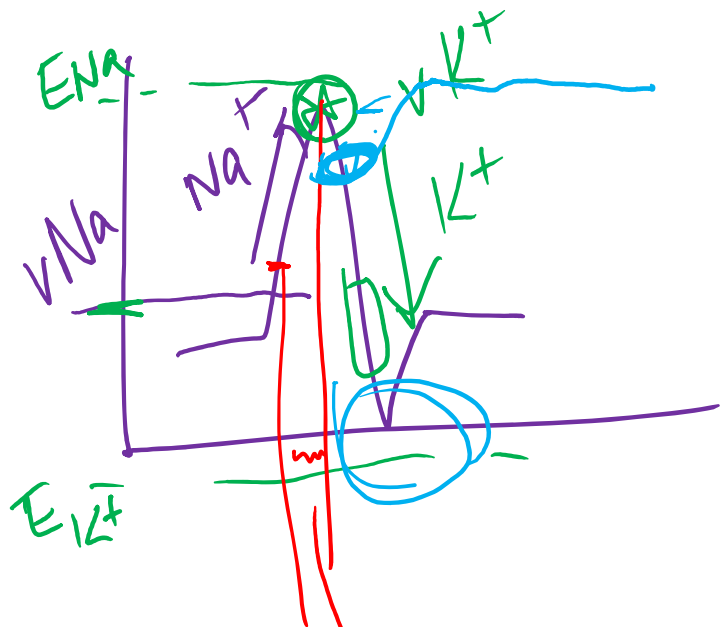


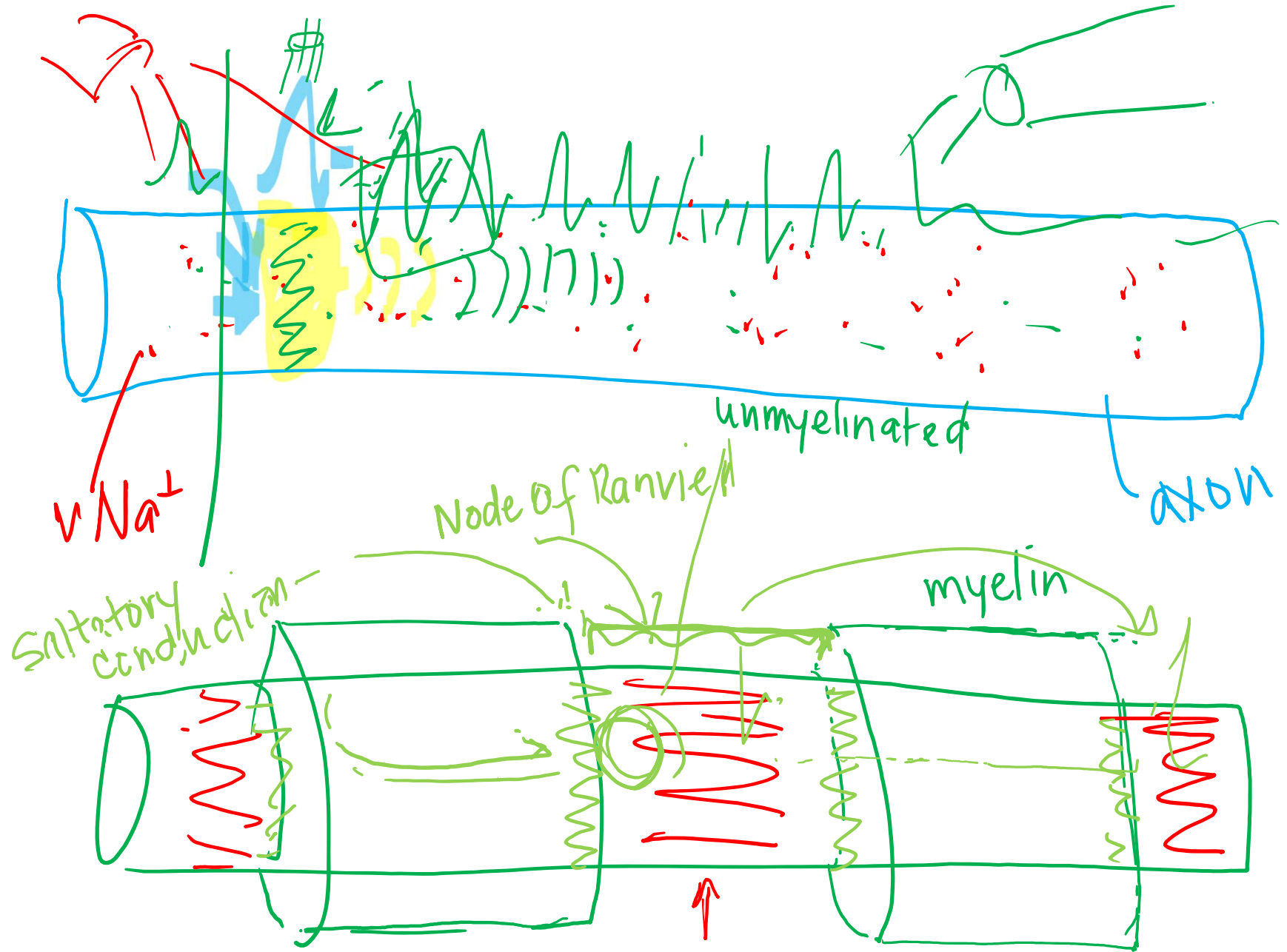
Na-K Pump Animation

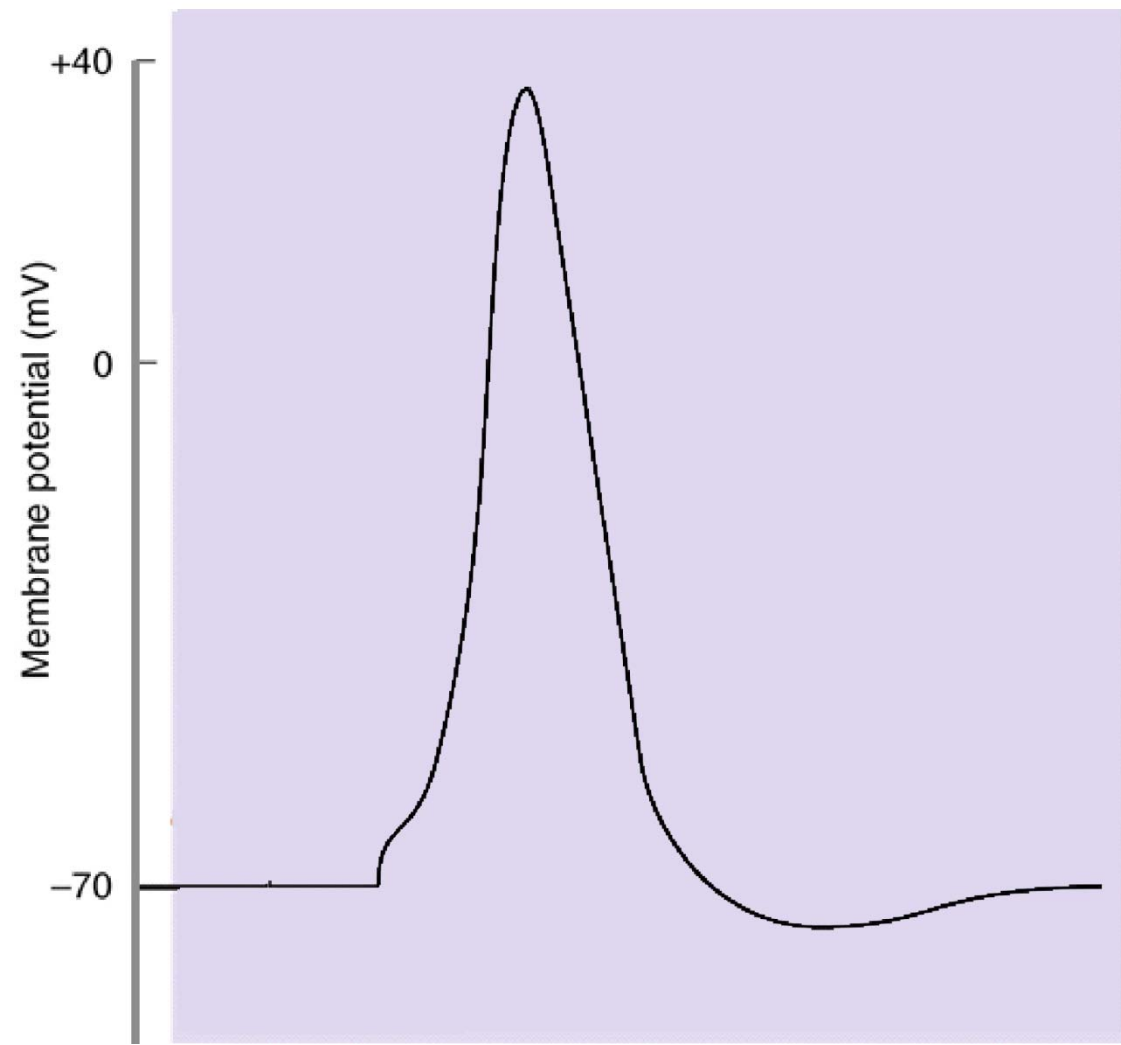
<http://highered.mcgraw-hill.com/olc/dl/120068/bio03.swf>



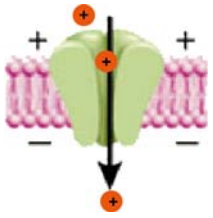




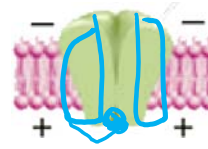
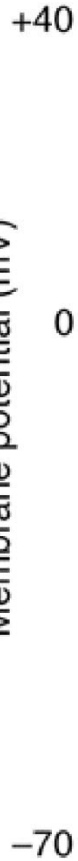




Na⁺ Opens



Membrane potential (mV)



Na⁺ becomes Refractory/*inactivate*

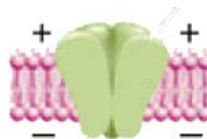
K⁺ continues to leave cell. Causing the membrane potential to return to the resting potential.

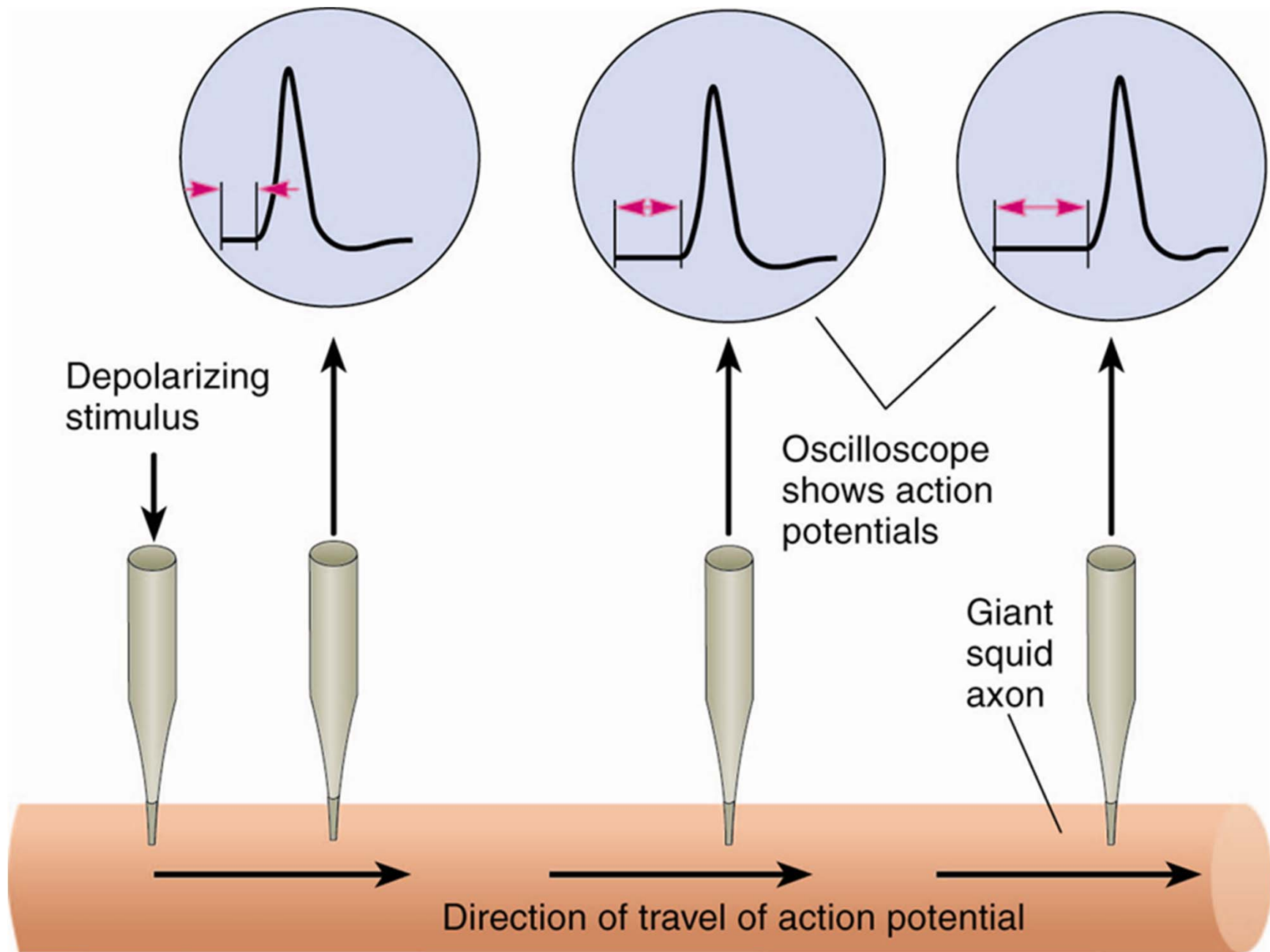
Na⁺

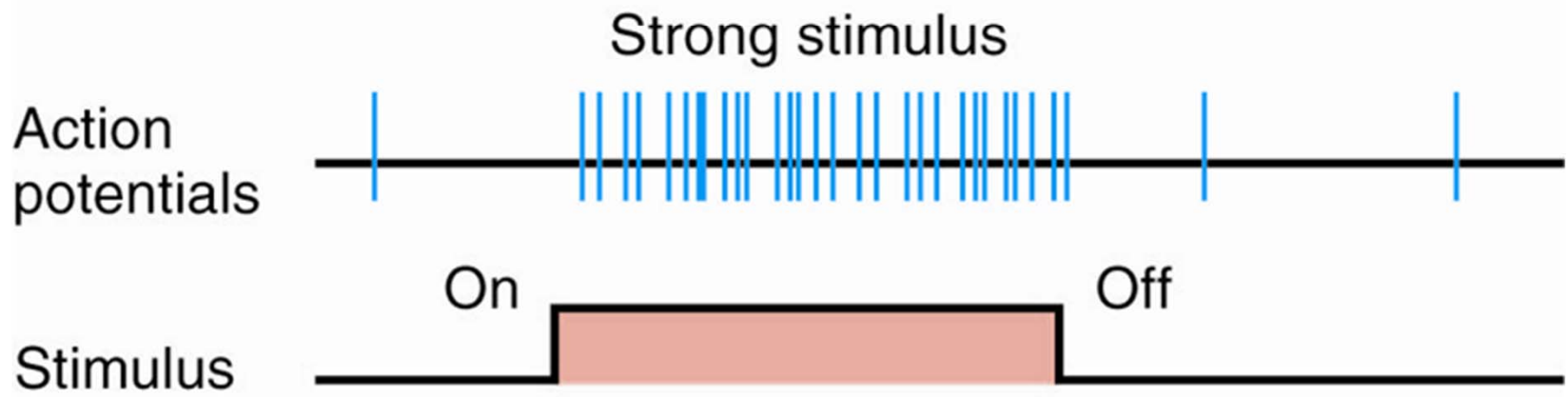
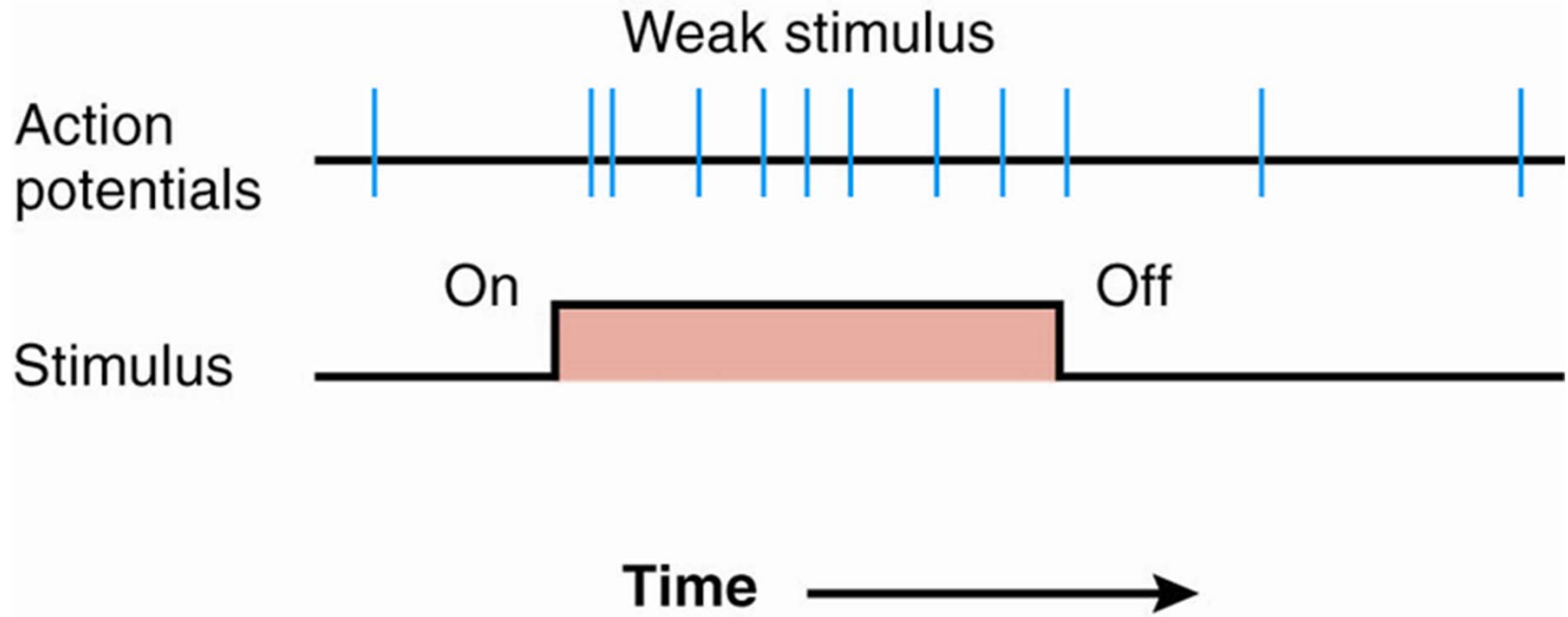
~~K⁺ channels close.~~

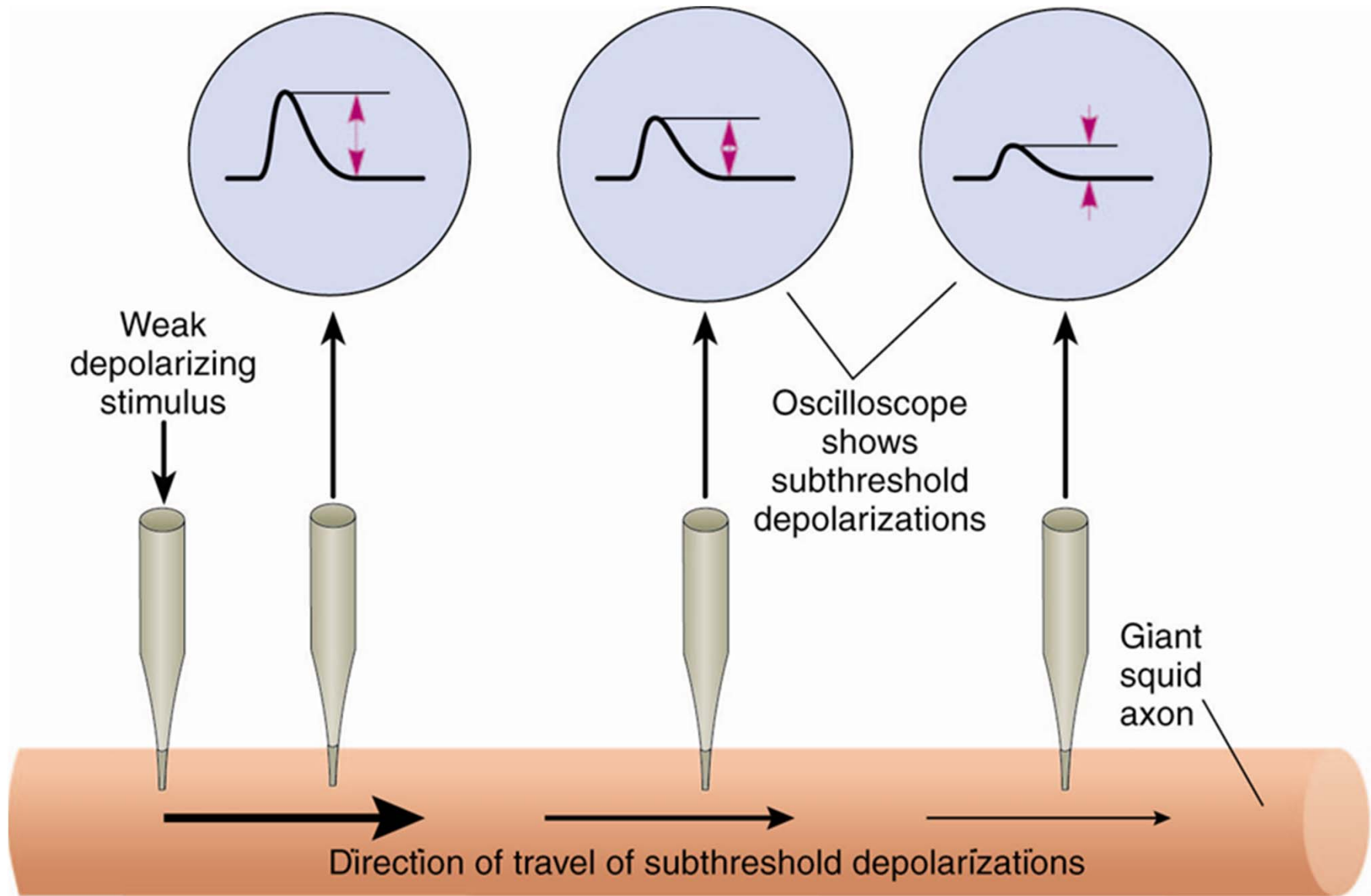
Na⁺ channels reset, ready for action again!

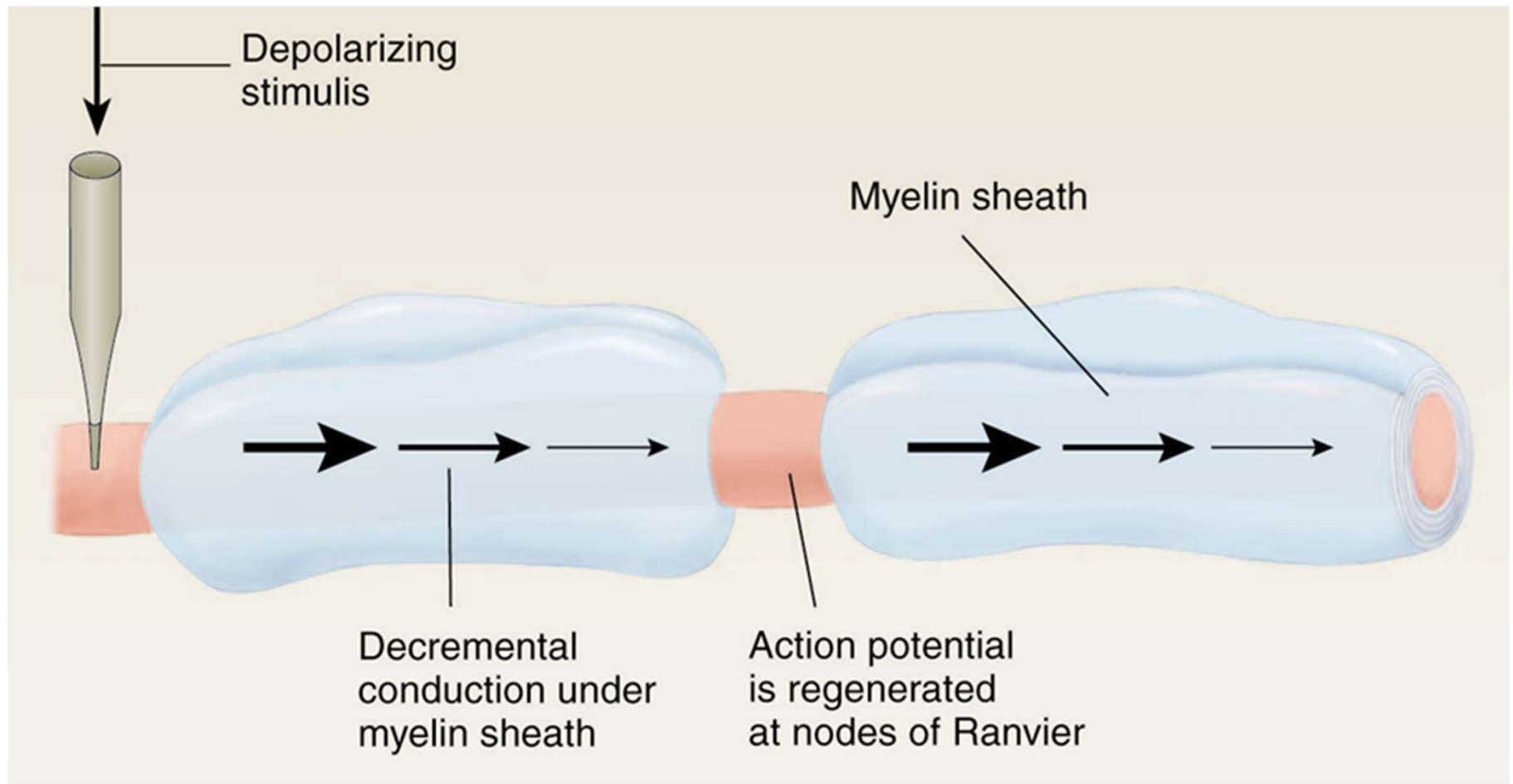
Extra K⁺ outside diffuses away.

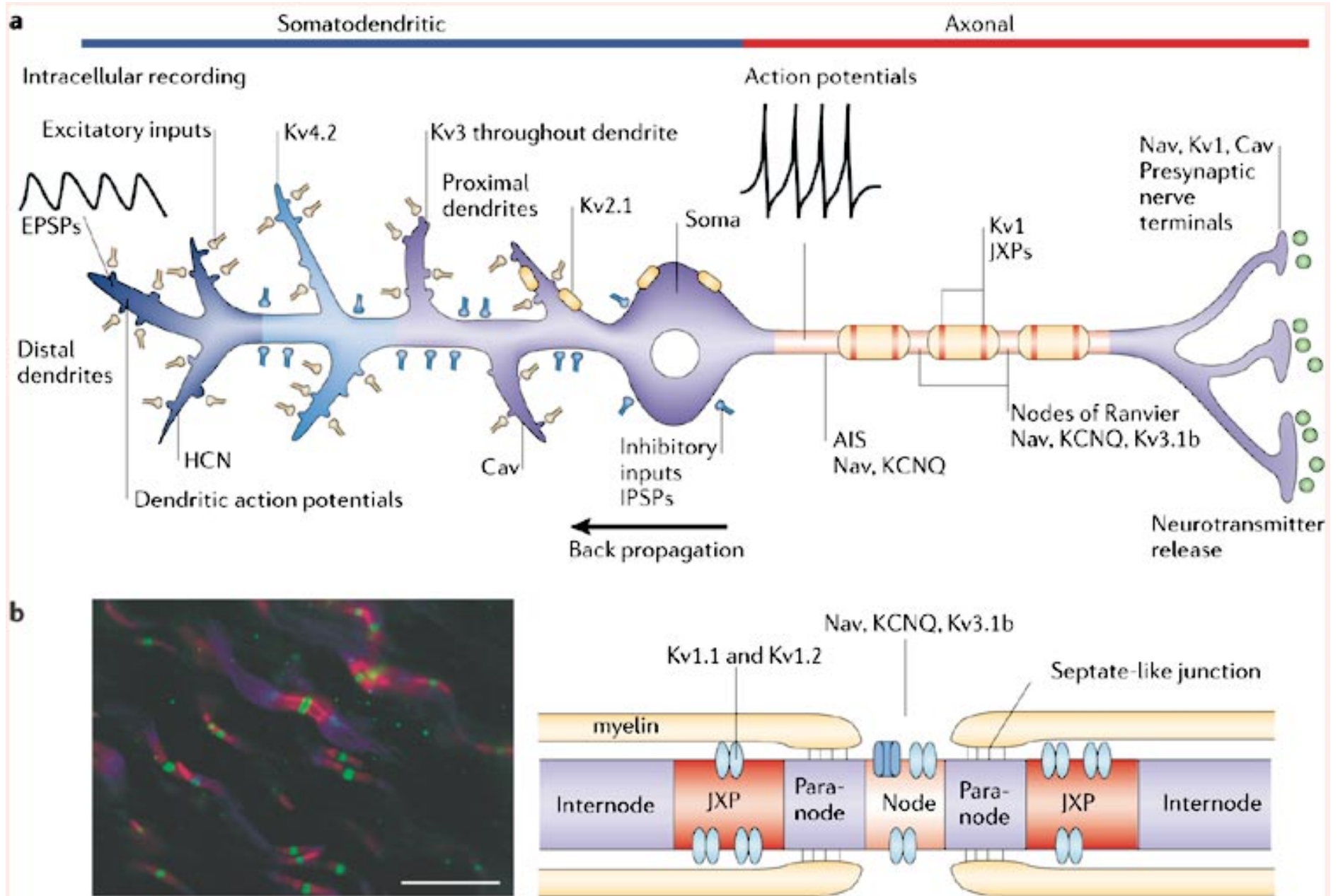












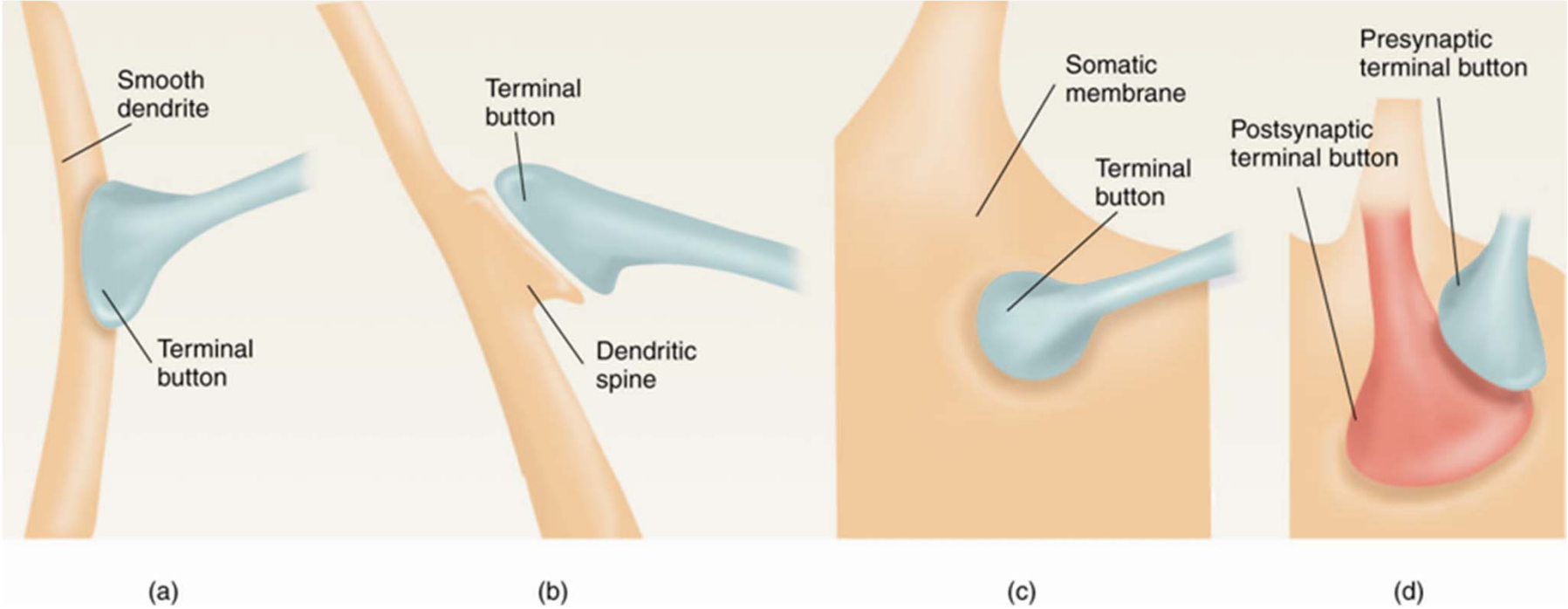
Lai et al. *Nature Reviews Neuroscience* 7, 548–562 (July 2006) |
doi:10.1038/nrn1938

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“This phone has a special filter that makes calls from your mother 20% less stressful.”



Synaptic Transmission

