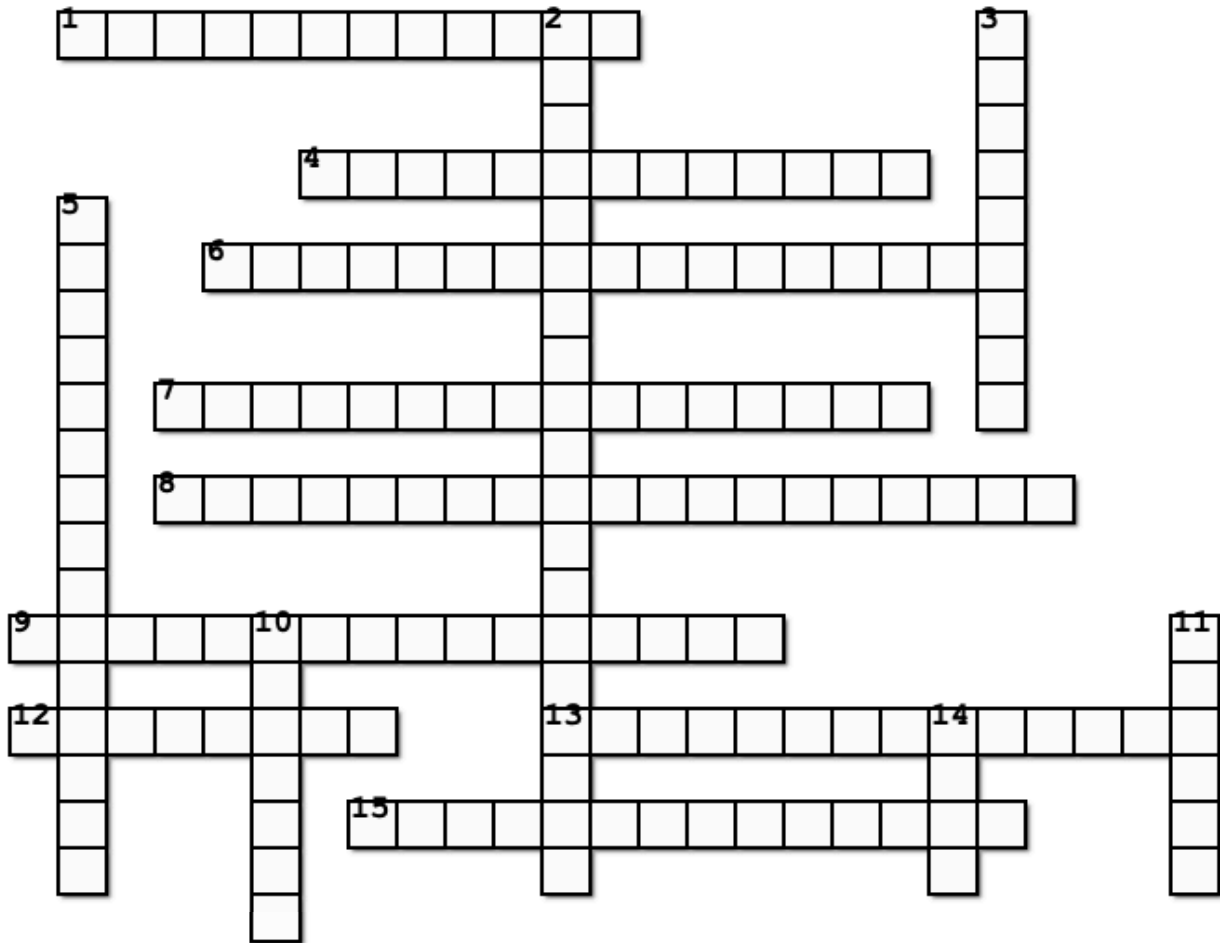


Brain Teaser

By RICHARD ROOKWOOD



Across

1. Ion channel that is activated when current passes through
4. Negatively charged ions that contribute to development of membrane potential and cannot diffuse through the membrane
6. Molecules that are released into the synapse upon AP firing. Usually steroids or other hormones
7. -70 mV, more K⁺ inside, Na⁺ outside
8. Transmembrane transporter protein that contributes to the polarization of the neural cell
9. Recovery phase when the membrane potential is slightly more negative than -70mV due to slow closing of K⁺ channels
12. Thing that triggers an action potential to fire
13. State that the neuron is in immediately following an action potential firing, 'Stage 4' on graph
15. Difference in membrane potential across cell rapidly reduces during this phase

Down

2. Point at which membrane potential has depolarized enough such that an action potential fires
3. Ion that is actively pumped into the cell, against its concentration gradient
5. The signal that a neuronal cell fires, occurrence depends on signal frequency
10. Ion that primarily controls neurotransmitter release into the synapse
11. Ion that is actively pumped out of the cell, against its concentration and electrochemical gradients
14. Part of the neuron that the signal travels down