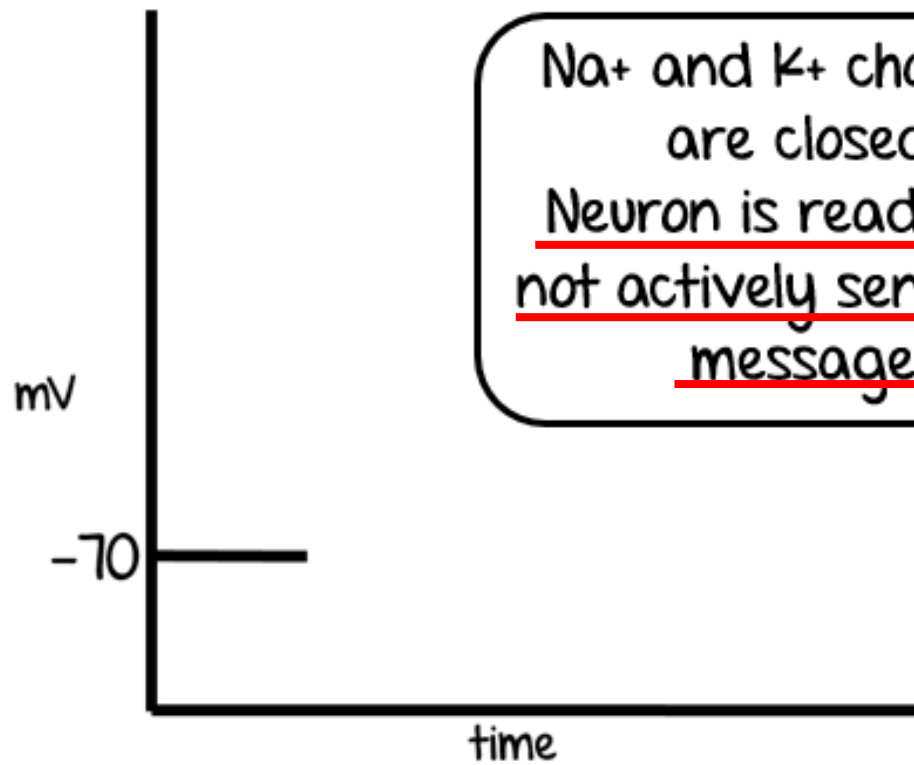


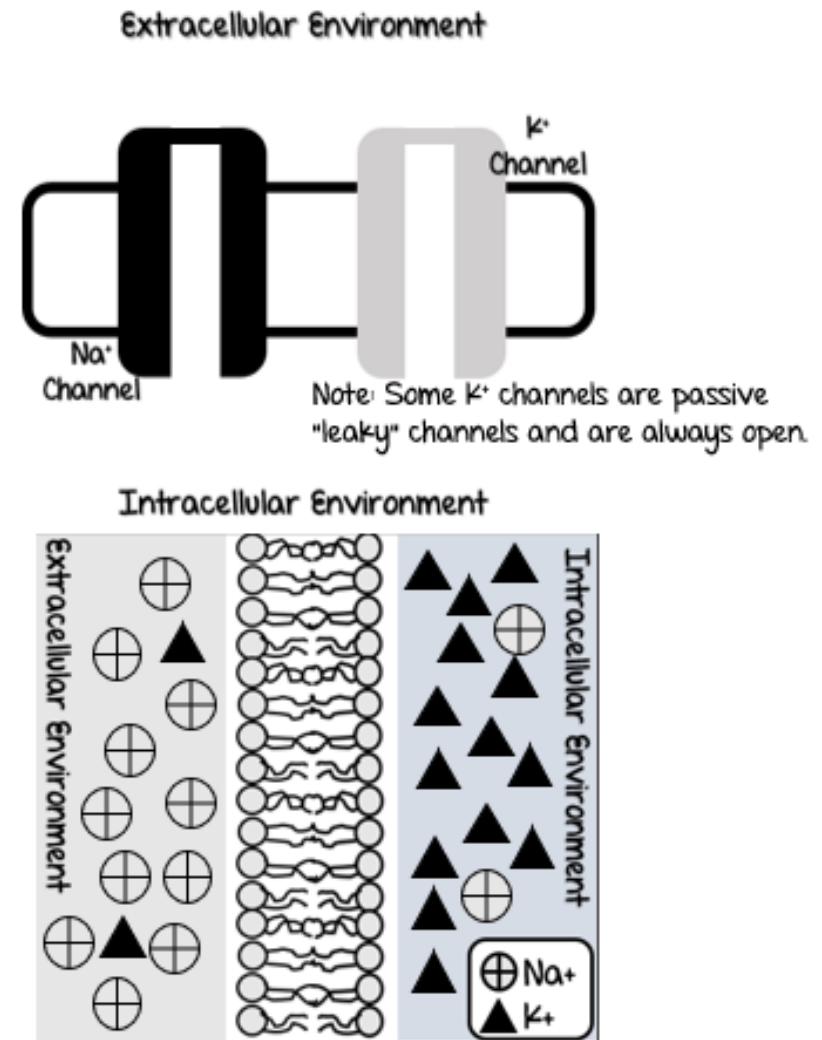
Action Potential Review

- Essential components are identified as Essential on your sheet and are underlined in red on the lesson.
- The extension concepts are labeled as such on the sheet and not underlined on the lesson.

Stage 1: Resting

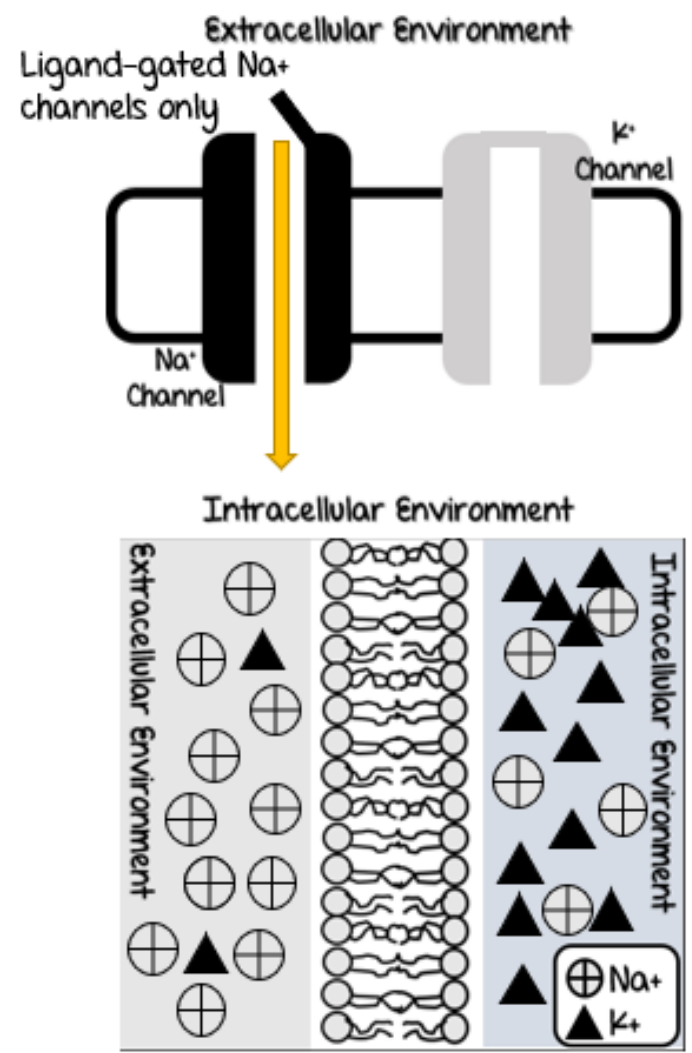
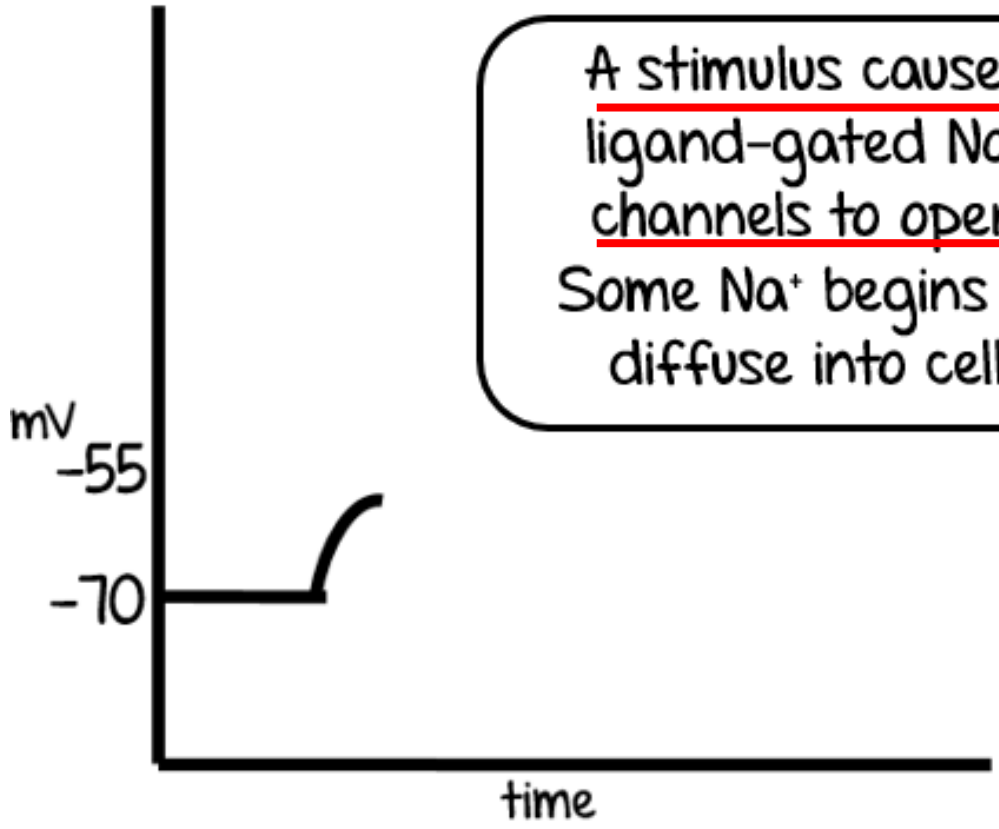


Na⁺ and K⁺ channels are closed.
Neuron is ready; but not actively sending a message

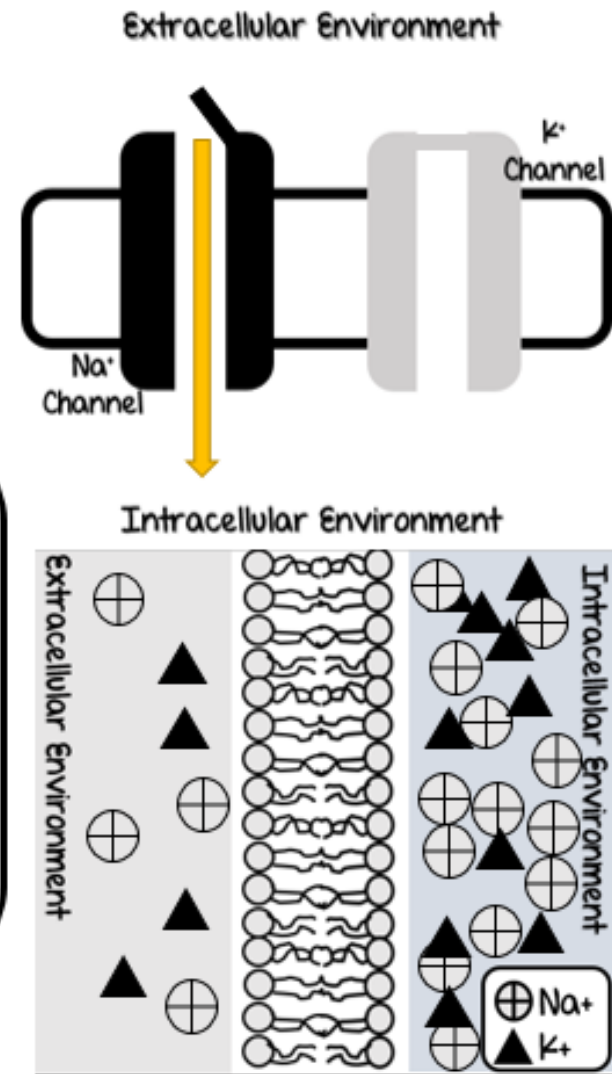
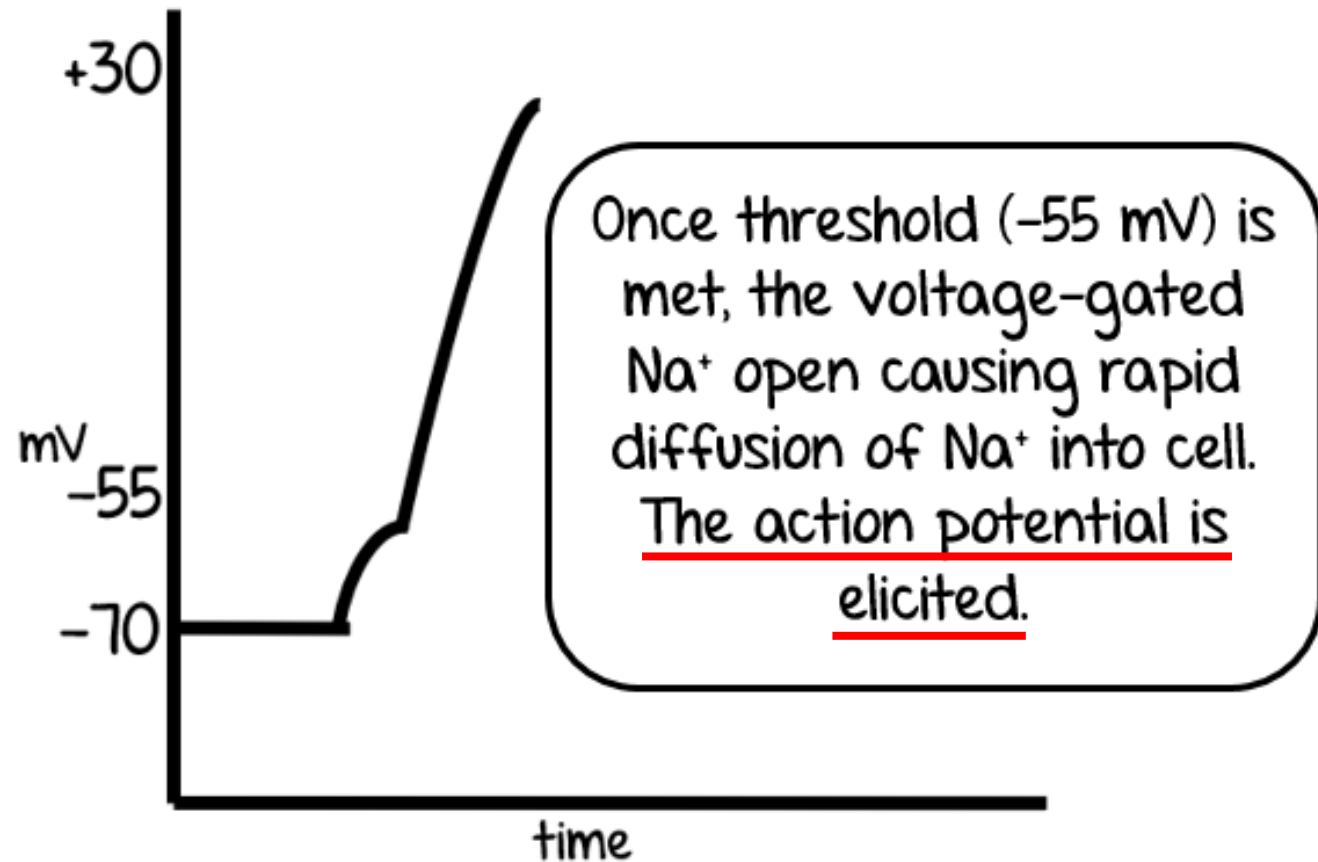


Stage 2: Stimulus → Threshold

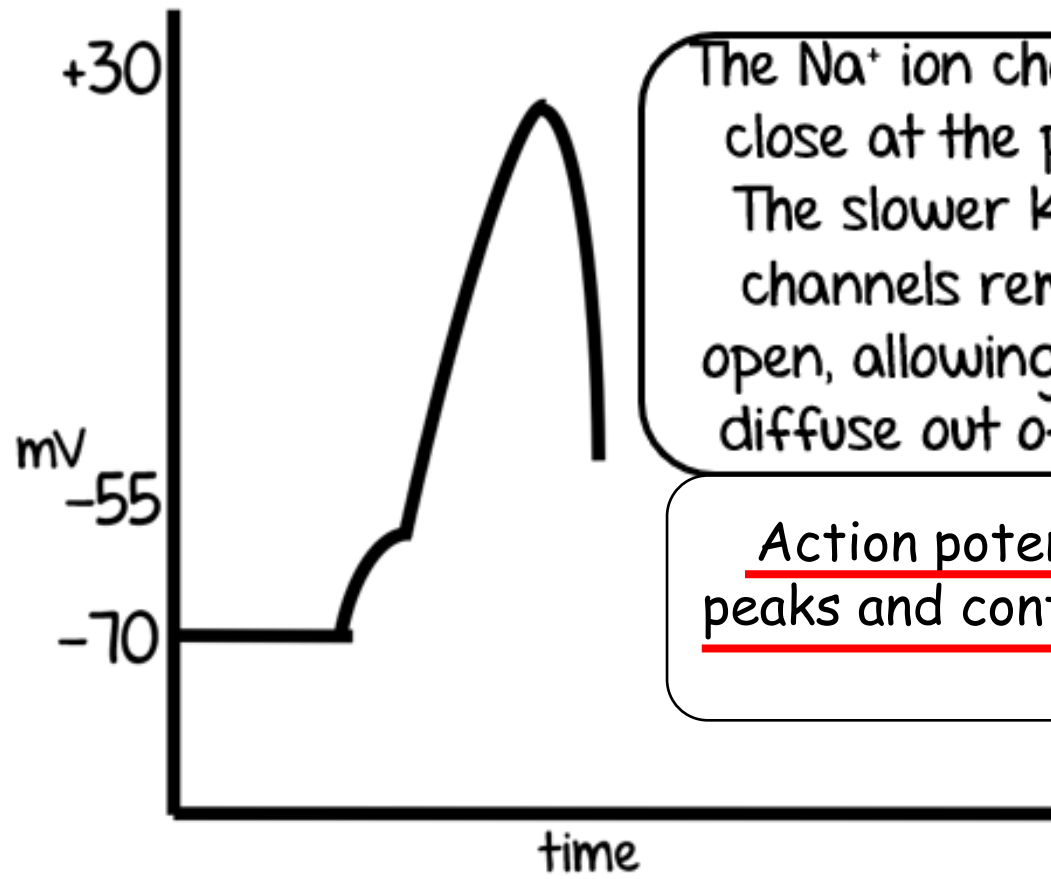
A stimulus causes ligand-gated Na⁺ channels to open
Some Na⁺ begins to diffuse into cell



Stage 3: Depolarization

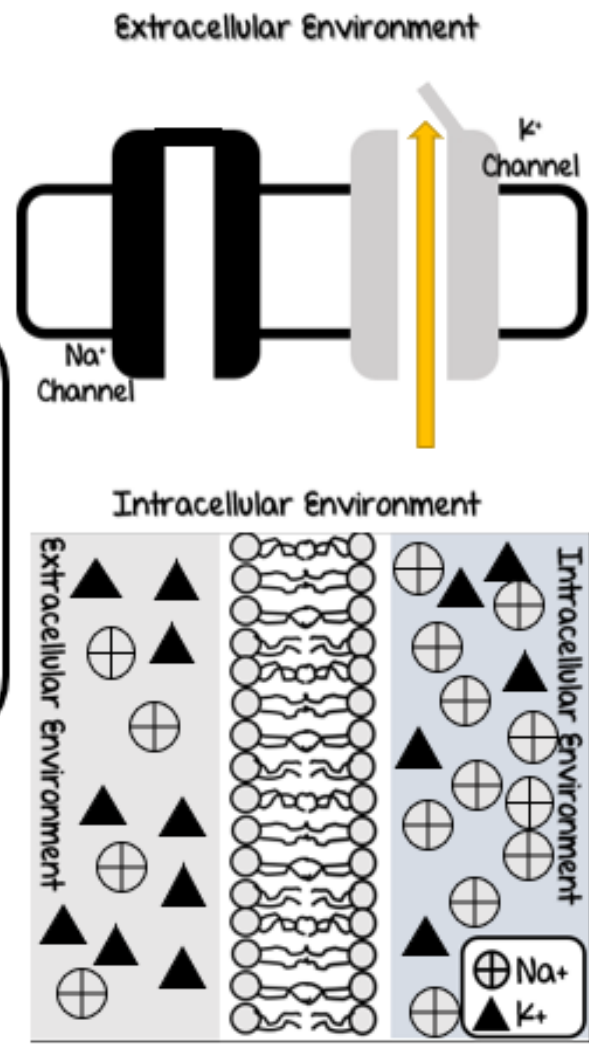


Stage 4: Repolarization

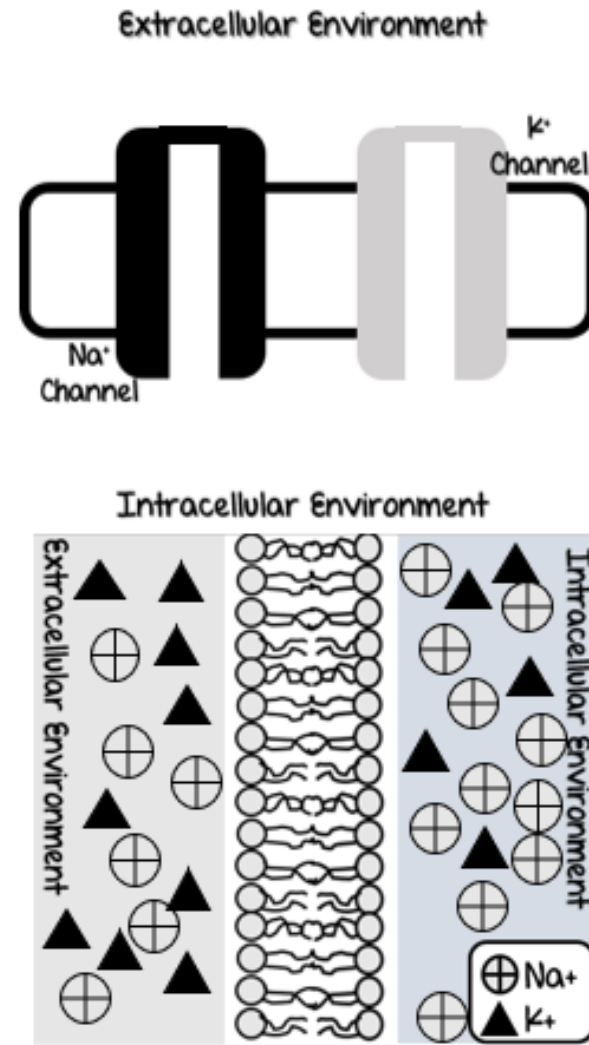
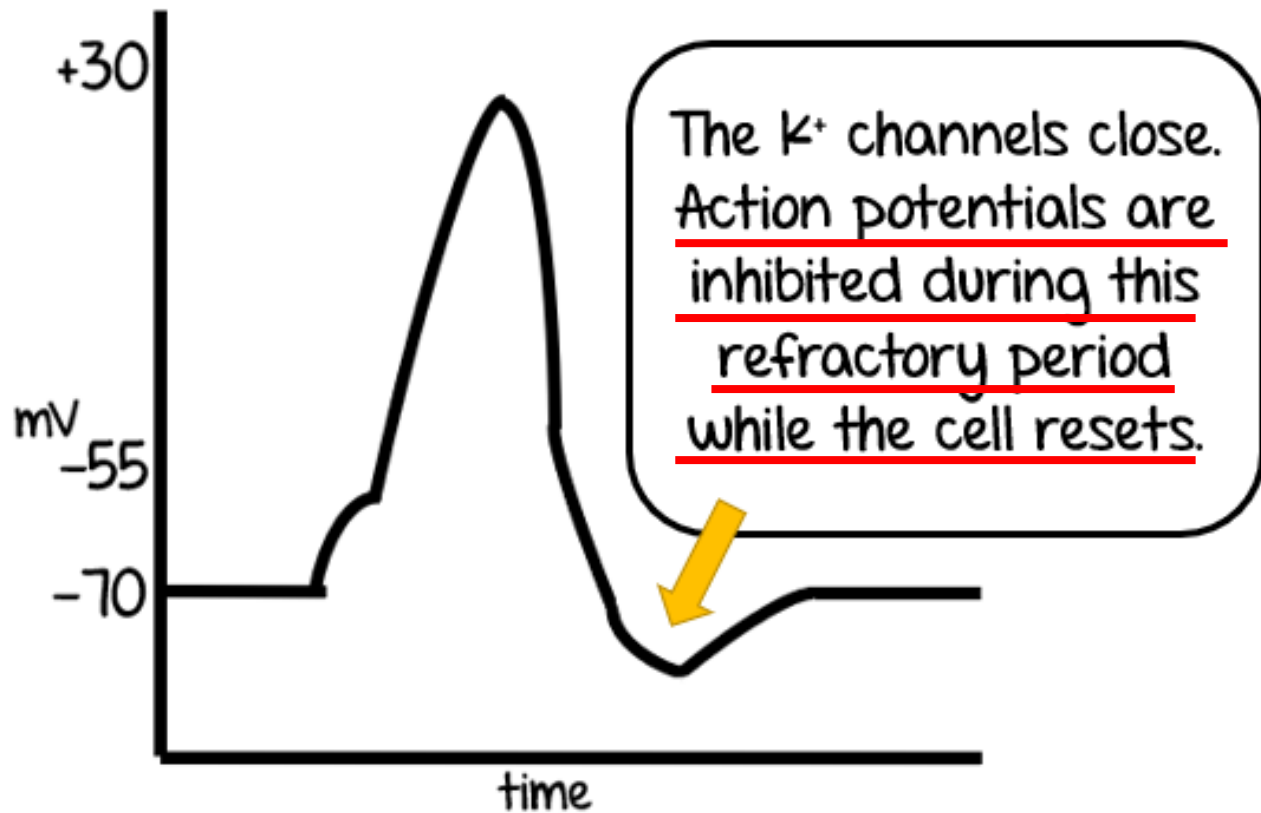


The Na⁺ ion channels close at the peak. The slower K⁺ ion channels remain open, allowing K⁺ to diffuse out of cell.

Action potential peaks and continues.



Stage 5: Hyperpolarization



Stage 6: Resting

The Na^+/K^+ pumps uses ATP to pump 3 Na^+ out of cell and 2 K^+ into cell.

Cell resets and goes back to its resting state.

