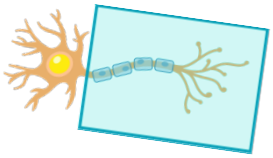
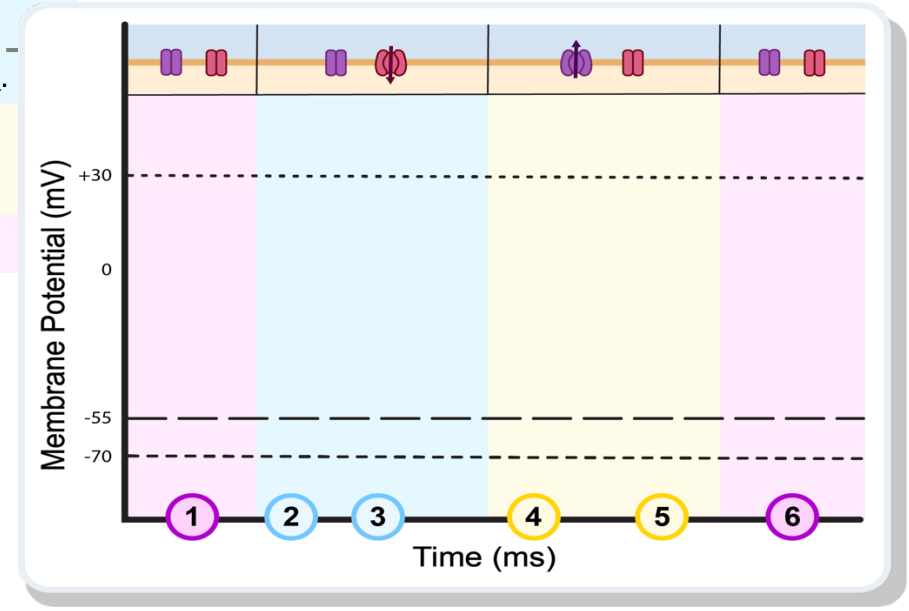
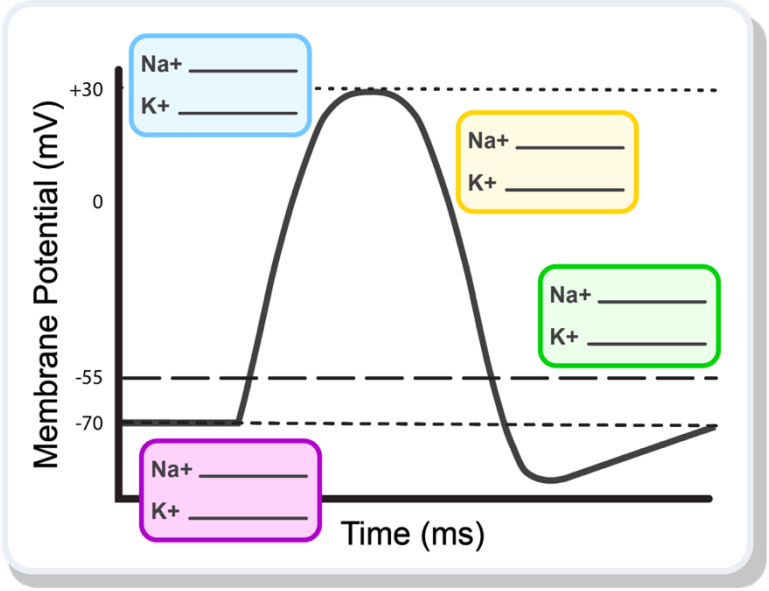
TOPIC: ACTION POTENTIALS



- **Sequence of an Action Potential:**
  - **Step 1**: Neuron at _____.
  - **Step 2**: Depolarization.
  - **Step 3**: Neuron reaches_____.
  - **Step 4**: Repolarization.
  - **Step 5**: Hyperpolarization.
  - **Step 6**: Return to resting potential.



EXAMPLE: Below is a graph depicting change in membrane potential during an action potential. Within this graph, write the state of voltage-gated Na+ and K+ channels during each main phase of the action potential.



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PRACTICE: Casey is taking a new medication that blocks potassium channels. What stage of an action potential would be MOST affected by this drug?

a) The depolarization phase.

b) Reaching threshold.

c) The repolarization phase.

PRACTICE: When an action potential is at its peak, the electrical gradient forces potassium _____.

a) Out of the cell.

b) Into the cell.

PRACTICE: What happens when the neuron reaches threshold (-55 mV)?

a) Voltage-gated potassium channels open and potassium rushes into cell.

b) Voltage-gated sodium channels open and sodium rushes into the cell.

c) Voltage-gated potassium channels open and sodium channels close.

d) The sodium potassium pump immediately establishes resting potential.