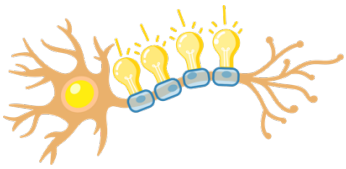
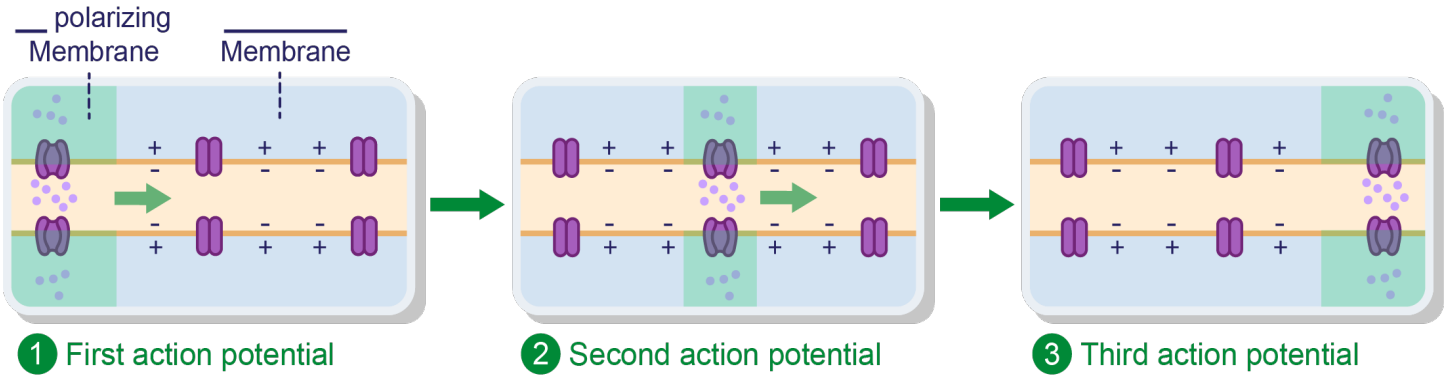
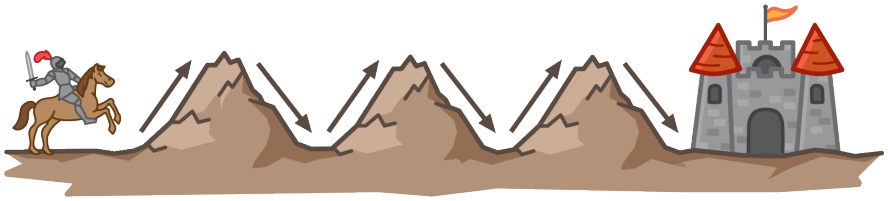
TOPIC: PROPAGATION OF ACTION POTENTIALS



Types of Propagation: Continuous Conduction

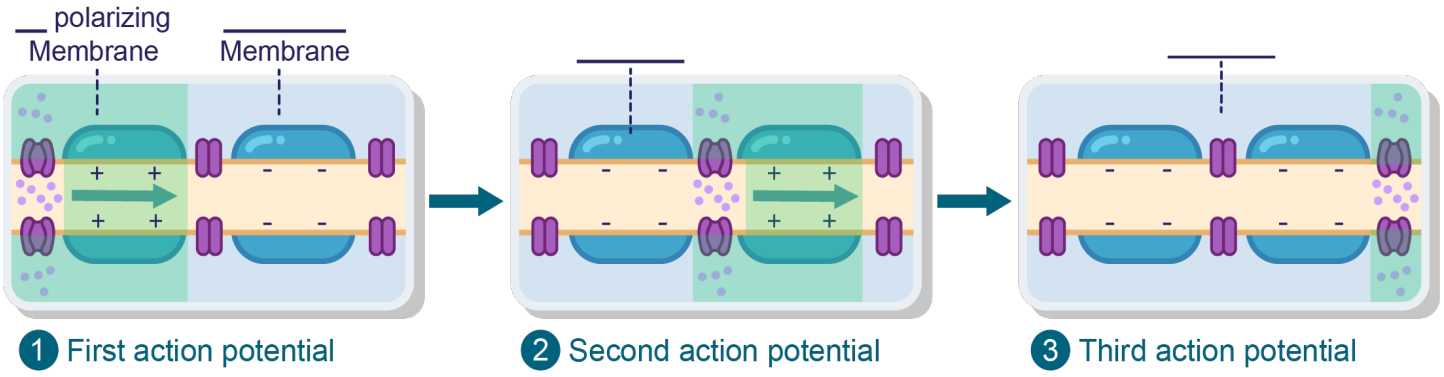
- **Propagation**: Unidirectional spread of an action potential down plasma membrane.
  - **Continuous Conduction**: Relatively _____ propagation along unmyelinated axon.





Types of Propagation: Saltatory Conduction

- **Saltatory Conduction**: _____ propagation along myelinated axon – only nodes of _____ depolarized.



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EXAMPLE: During saltatory conduction, action potentials are generated _____.

a) Regardless of if threshold is reached.

b) When the entire axolemma depolarizes.

c) Along the length of the entire unmyelinated axon.

d) Only at the nodes of Ranvier of myelinated axons.

PRACTICE: In unmyelinated axons, action potentials are propagated by_____ conduction.

a) Continuous.

b) Saltatory.

PRACTICE: Dr. Roberts is testing a new drug that blocks sodium channels in the axons of a neuron. Which of the following statements is correct?

a) The drug would prevent both the generation of graded potentials and the propagation of action potentials.

b) The drug would prevent the generation of graded potentials.

c) The drug would prevent the propagation of action potentials.

d) The drug would only have a mild effect on the neuron because potassium channels are still operational.