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Crash Course Anatomy & Physiology #9: The Nervous System Part 2 – Action Potential!

Name: _____ Date: _____

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1. The electrical signal that travels down a neuron is called the _____.
2. When a neuron is more negative inside than outside, it is said to be _____.
3. The _____ pump moves three sodium ions out and two potassium ions in to maintain resting potential.
4. The resting membrane potential of a neuron is typically around _____ millivolts.
5. A small, localized change in membrane potential is called a _____ potential.
6. A _____ potential is a large electrical signal that travels along the axon.
7. The point at which a stimulus triggers an action potential is called the _____.
8. After depolarization, _____ occurs when potassium leaves the cell, restoring a negative charge.
9. When the membrane potential becomes more negative than the resting potential, it's called _____.
10. The brief time when a neuron can't fire another signal is called the _____ period.
11. The type of ion channel that opens in response to voltage changes is a _____-gated channel.
12. The insulating layer that speeds up neural impulses is called the _____ sheath.
13. Gaps between segments of myelin where signals jump are called _____.
14. The jumping of an action potential from node to node is called _____ conduction.
15. The _____ of action potentials, not their strength, conveys the intensity of a stimulus.

Crash Course Anatomy & Physiology #9: The Nervous System Part 2 – Action Potential! KEY

1. The electrical signal that travels down a neuron is called the **action potential**.
2. When a neuron is more negative inside than outside, it is said to be **polarized**.
3. The **sodium-potassium** pump moves three sodium ions out and two potassium ions in to maintain resting potential.
4. The resting membrane potential of a neuron is typically around **-70** millivolts.
5. A small, localized change in membrane potential is called a **graded** potential.
6. A **graded** potential is a large electrical signal that travels along the axon.
7. The point at which a stimulus triggers an action potential is called the **threshold**.
8. After depolarization, **repolarization** occurs when potassium leaves the cell, restoring a negative charge.
9. When the membrane potential becomes more negative than the resting potential, it's called **hyperpolarization**.
10. The brief time when a neuron can't fire another signal is called the **refractory** period.
11. The type of ion channel that opens in response to voltage changes is a **voltage**-gated channel.
12. The insulating layer that speeds up neural impulses is called the **myelin** sheath.
13. Gaps between segments of myelin where signals jump are called **Nodes of Ranvier**.
14. The jumping of an action potential from node to node is called **saltatory** conduction.
15. The **frequency** of action potentials, not their strength, conveys the intensity of a stimulus.

15 Questions

Answer Key Included

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