



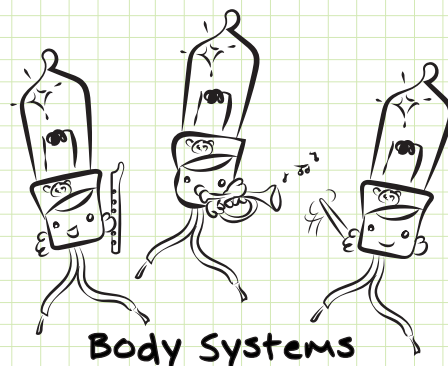
The Nervous System

Testing Conductors and Insulators

What materials are conductors and insulators?

Make a testing loop circuit and test your materials. Circle the light bulb or the "x."

<p>Copper</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>	<p>Aluminum Foil</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>
<p>Brad (Brass)</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>	<p>Plastic (Drinking Straw)</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>
<p>Cotton (Your Shirt)</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>	<p>Salt (NaCl) Water</p> <p>Clip to leads. salt water will make whiney rust.</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>
<p>Cardboard or Paper</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>	<p>Sugar Water</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>
<p>Wood</p>	<p>Your Guess:</p> <p>Insulator Conductor</p>	<p>Test Results:</p> <p>Conductor Insulator</p>			

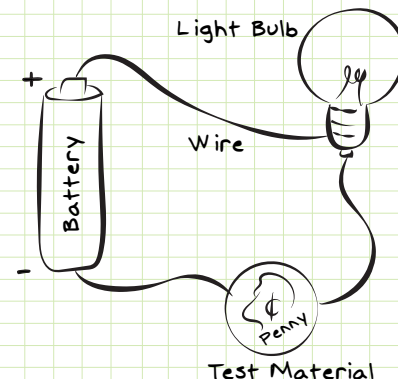


Body Systems

STEMTaught®

Name: _____

Make this testing circuit:



Peripheral Nerve

(Any nerve branching from the spine)

Blood Vessels

(Transports sodium (Na), chlorine (Cl), and potassium (K) to Nerves)

Insulative Outer Covering (Epineurium)

Bundle of hundreds of nerve cell Axons

(Each nerve cell has an insulative covering called a Myelin Sheath)

Insulative coverings for nerve bundles (Perineurium)

This is what a cut through a nerve line in your body would look like. It is a bundle of nerve cells grouped together in a long string. It resembles computer cables that we use today.

Computer Wire Bundle

Observe a wire under the microscope. Draw and label its conductors and insulators.

Thinking and discussion:

Understanding the basic principles of electricity will help you understand and relate to how our Nervous System works. The Nervous system is literally and electrical system, and it obeys all the same principles of electricity that your test circuit does. Electricity must flow in a loop. The direction of the flow of electricity is from negative to positive. Electricity flows through conductors and is held back by insulators. Did you know that your nerve cells have a positive and a negative end? Wow!