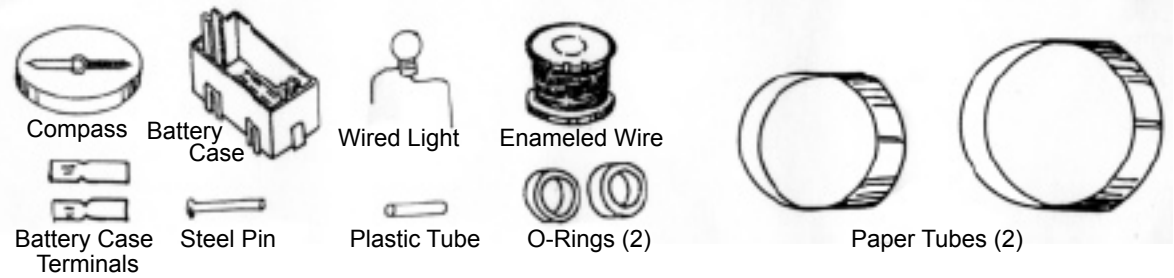


Electromagnetic Study Kit

#17416

Electromagnetism is all around us. Every electrical device we use emits electromagnetic fields. Using basic electric principles and a compass, this kit allows you to understand the magnetic fields created by various electric circuits.



The only assembly required before beginning the tests is the battery terminals need to be inserted into the battery case. The terminals need to be bent at the punched point before inserting them into the case.

<p>1 Test current flow through a wire.</p> <p>Position wire of light assembly over the compass. Connect the 2 wire ends to each terminal of the battery case. As the light illuminates, watch the effect of current flow through the wire on the compass direction. Reverse the connections to the battery and watch the compass direction again. Notice the compass direction as compared to the pole that the wire is connected to on the battery.</p>	<p>2 Test current flow inside a coil of wire.</p> <p>Make a large coil of by wrapping the enamelled wire around paper tube. To keep the enamelled wire on the tube, thread the wire end through one of the small holes in the tube leaving enough excess wire to allow connection to the battery case. Wrap wire approximately 10 times around the tube & end by passing it through the opposite hole in the tube. Using sand paper, remove the enamel from the ends of the wire for connection to the battery case. Place the compass inside the tube & connect the wire ends to the battery case terminals with battery in case. Watch the compass direction. Redo test with only 5 wraps on the paper tube. Notice how this affects the movement of the compass. Reverse the battery connections & watch the compass' reaction.</p>	<p>3 Test current flow outside a hollow coil.</p> <p>Make a small hollow coil be wrapping enameled wire around the small plastic tube. Remove the enamel from the ends of the wire for connection to the battery case. Place the compass under the coil as shown and connect the wires to the battery case. Watch the compass movement. Reverse the compass movement. Reverse the battery connections and watch the compass' reaction.</p>	<p>4 Test the addition a steel rod to the inside of a small coil.</p> <p>Using the small coil made in (3), insert the steel pin into the hollow plastic tube. Bring the compass near the tube and connect the wires to the battery case. Watch the compass movement. Reverse the battery connections and watch the compass' reaction.</p>
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