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Field Lines and Equipotential Lines Kit
#ELEFLDLN

Warning:

- **Not a toy; use only in a laboratory or educational setting.**
- **California Proposition 65 Warning: This product can expose you to chemicals including styrene, nickel, and lead, which are known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information go to www.P65Warnings.ca.gov.**

Introduction

An electrical field is the three-dimensional region around an electrically charged object that represents the force of the electrical charges emanating from a positively charged region to a negatively charged region. Equipotential lines are drawn perpendicularly to the field lines, and represent three-dimensional regions within the field that have uniform electric potential. Use this kit to plot electrical field and equipotential lines in a two-dimensional space to help you visualize the electromagnetic field that is created when electricity flows through an electrode.

Components

1. Trough with graph print
2. Aluminum needle
3. Rod with a socket
4. Multimeter with flexible plug leads
5. Cylindrical base
6. Bar Electrodes (x2)
7. Disc Electrodes (x2)
8. Ring Electrode
9. Stand rod
10. Boss head

How to Use

1. Arrange the setup as per the picture.
2. Make the connections as per circuit diagram.
3. Put the bar electrodes in the trough filled with water.
4. Adjust the output voltage up to 12 volts from the power supply.
5. Touch the variable probe to the positive electrode (+), it will show 12 volts on the multimeter.
6. Touch the variable probe to the negative electrode (-), it will show 0 volts on the multimeter.
7. Now, put the variable probe in the center of the electrodes, you will find the just half voltage of the adjust voltage i.e. 6 volts approx.
8. Now start moving the variable probe towards positive and negative electrode one by one.
9. While moving from negative electrode to positive electrode, the voltage will get increase from lower to higher set voltage.
10. Along with the electrode the voltage will remain same and at the end points of the electrodes, the same voltage points will divert as per below picture:
11. Trace the same points on graph paper as observed in trough.
12. Now replace the bar electrodes with disc electrodes, and repeat the same procedure.
13. The pattern of waves will be as per below picture.