

SECTION 7: THE ELECTROMAGNET

LAB

INTRODUCTION

An electro magnet under the street makes the traffic light change when your car drives over it. Telephone earphones and audio speakers, buzzers and alarms use electromagnets to transform electrical energy to acoustic energy (sound). Electric motors use electromagnets to transform electrical energy to mechanical energy (motion)/ Electro magnets are used to read and write data on magnetic media, such as diskettes, tapes, credit cards, phone cards, and motel card ‘keys.’

ASSESSMENT ANCHORS ADDRESSED

- S4.A.2.1 Apply skills necessary to conduct an experiment or design a solution to solve a problem.
- S4.A.2.2 Identify appropriate instruments for a specific task and describe the information the instrument can provide.
- S4.C.1.1 Describe observable physical properties of matter.
- S4.C.3.1 Identify and describe different types of force and motion, or the effect of the interaction between force and motion.

PURPOSE

Students will recall how electric currents produce magnetic fields and apply that knowledge to build a simple electromagnet. After studying the electromagnet and its properties, students will know the role of electromagnets in the construction of electric motors, electric generators, and simple devices such as doorbells and earphones.

MATERIALS

For Each Pair of Students

rivet

coil

Small steel disks (50)

battery

*Teacher provides items marked with **