

Preliminary Planning Sheet for a Science Task

Title of Task: How Strong is Your Electromagnet

State Standard(s) Addressed: Physical Science (Motion and Forces, Transfer and Transformation of Energy) Scientific Method

Scientific Concepts and Content	Scientific Procedures	Tools and Technologies
<ul style="list-style-type: none"> • Electrical Circuits (current travels through a complete or closed circuit) • Electromagnetism (current moves through a wire and nail creating a temporary magnetic force) • Physical properties of magnetic and non-magnetic materials • Magnets have an invisible force field • The more current put through a circuit, the greater the amount of magnetism created 	<ul style="list-style-type: none"> • Observation skills • Making predictions/hypotheses • Understanding cause and effect • Collect, record and interpret data • Control variables • Draw conclusions • Ask questions 	<ul style="list-style-type: none"> • Constructs an electromagnet using a nail, wire, and battery (ies) • Coils the wire around the nail tightly so that magnetism is generated
Scientific Representation and Notation (Communication)	Possible Solutions	Related Tasks
<ul style="list-style-type: none"> • Data chart/table with title and labels • Data recorded in chart 	<ul style="list-style-type: none"> • Electromagnet works and attracts a number of paper clips • Testing and data chart/table is complete and organized • Conclusions are accurate and relevant 	<ul style="list-style-type: none"> • Learning about Magnetism: Part 1 and 2 • How Powerful is a Magnet? • Can You Light the Bulb • Can You Get 2 Light Bulbs to Light? • Learning about Electricity: Part 1 and 2