

Preliminary Planning Sheet for a Science Task (Sample)

Title of Task: *How Strong is Your Electromagnet*

Standards Addressed:

- *Physical Science (Motion and Forces, Transfer and Transformation of Energy)*
- *Scientific Method*

Scientific Concepts and Content:

- *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*

Scientific Procedures:

- *Observation skills*
- *Making predictions/hypotheses*
- *Understanding cause and effect*
- *Collect, record and interpret data*
- *Control variables*
- *Draw conclusions*
- *Ask questions*

Tools and Technologies:

- *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):

- *Data chart/table with title and labels*
- *Data recorded in chart*

Possible Solutions:

- *Electromagnet works and attracts a number of paper clips*
- *Testing and data chart/table is complete and organized*
- *Conclusions are accurate and relevant*

Related Tasks:

- *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*