

Electromagnets Experimentation

1. What is a permanent magnet?

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- Put the permanent magnet into the small nails. What happens?
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2. What is a temporary magnet?

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- Put the large nail into the small nails. What happens?
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3. Stroke the large nail with the magnet a few time. Put the large nail in the small nails. What happens and why do you think this happens?

4. Demagnetize the magnet by hitting it on the edge of the desk. Put the big nail in the small nails again. What happens and why do you think this happens?

5. Put the nail head against the permanent magnet. Put the large nail into the small nails. What happens and why do you think this happens?

6. Take the magnet away from the large nail. What happens and why do you think this happens?

7. Explain how a temporary magnet works.

8. Plan your own experiment using an electromagnet.

- a. Hook the wires to the batteries with the switch.
- b. Wrap the wire 5 times around the nail for each experiment
- c. Turn the switch on each time. Try to pick up the small nails with the large nail.
- d. Fill in the table of what happened.

	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5	Ex 6	Ex 7	Ex 8
Number of Wraps								
How many nails?								

- a. Describe what happened.

- b. Tell why you think this happens.

- c. Write a conclusion of the experiment.

9. Do this procedure:

- a. Put a compass near the head of the nail. What happens?

- b. Put the compass near the point on the nail. What happens?

- c. Put the compass near the middle of the nail. What happens?

- d. Explain why the compass did this.
