



# Stick to It!

## Procedure

- 1. Measure** Work with a partner. Measure about 20 cm from one end of a 125-cm length of insulated wire. **Safety:** Wire may be sharp.
- 2.** Starting at the 20-cm point, wrap 25 turns of the wire around a nail. Leave a length of free wire at both ends of the nail.
- 3. Predict** Make a small pile of paper clips. With your partner, predict what will happen when you bring the nail close to the paper clips. Record your prediction and then test it. Record your observations.

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- 4. Predict** Attach each end of the wire to a different end of the dry cell. Predict what will happen if you now bring the tip of the nail toward the paper clips. Record and test your prediction.

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- 5. Record Data** Disconnect the wire ends from the dry cell. Bring the tip of the nail close to the paper clips. Record your observations.

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Name \_\_\_\_\_ Date \_\_\_\_\_

## Conclusion

Write the answers to the questions below.

1. **Analyze Data** How do your predictions about the nail and the paper clips compare with your observations?

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2. **Infer** How did electric current flowing through the wire affect the nail?

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**Design an Experiment** Find out what happens if you double the number of times the wire is wrapped around the nail. Make predictions and then experiment.

Guided Inquiry