

Electromagnetism Grade 4 Lab Practical

Teacher's Answer Key

This is your chance to see how well your students have picked up on important key concepts, and if there are any holes. Your students also will be working on their homework assignment as you do this test individually with the students.

Materials:

- AA battery case
- 2 AA batteries
- Alligator clip leads
- Plain nail (not wrapped in wire)
- Electromagnet (nail already wrapped in wire), ends *not* sanded
- Electromagnet (nail already wrapped in wire), ends sanded down
- Paper clips
- 9-18 VDC motor
- LED

Lab Practical: Ask the student *Note: Answers given in italics!*

- Design and build an electromagnet that picks up paperclips. *Battery connects to the electromagnet that has both ends sanded down. When the coil is brought next to the paperclips, they jump up onto the electromagnet.*
- Design and build an experiment that shows how magnetism creates electricity. *Connect the LED to the back of the motor at the terminals, and when you spin the motor, the LED lights up. Explain to the teacher that there's an electromagnet inside moves past a permanent magnet.*

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Student Worksheet

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Lab Practical:

- Design and build an electromagnet that picks up paperclips.

- Design and build an experiment that shows how magnetism creates electricity.