HANDS-ON ACTIVITY

Solve a Magnet Problem

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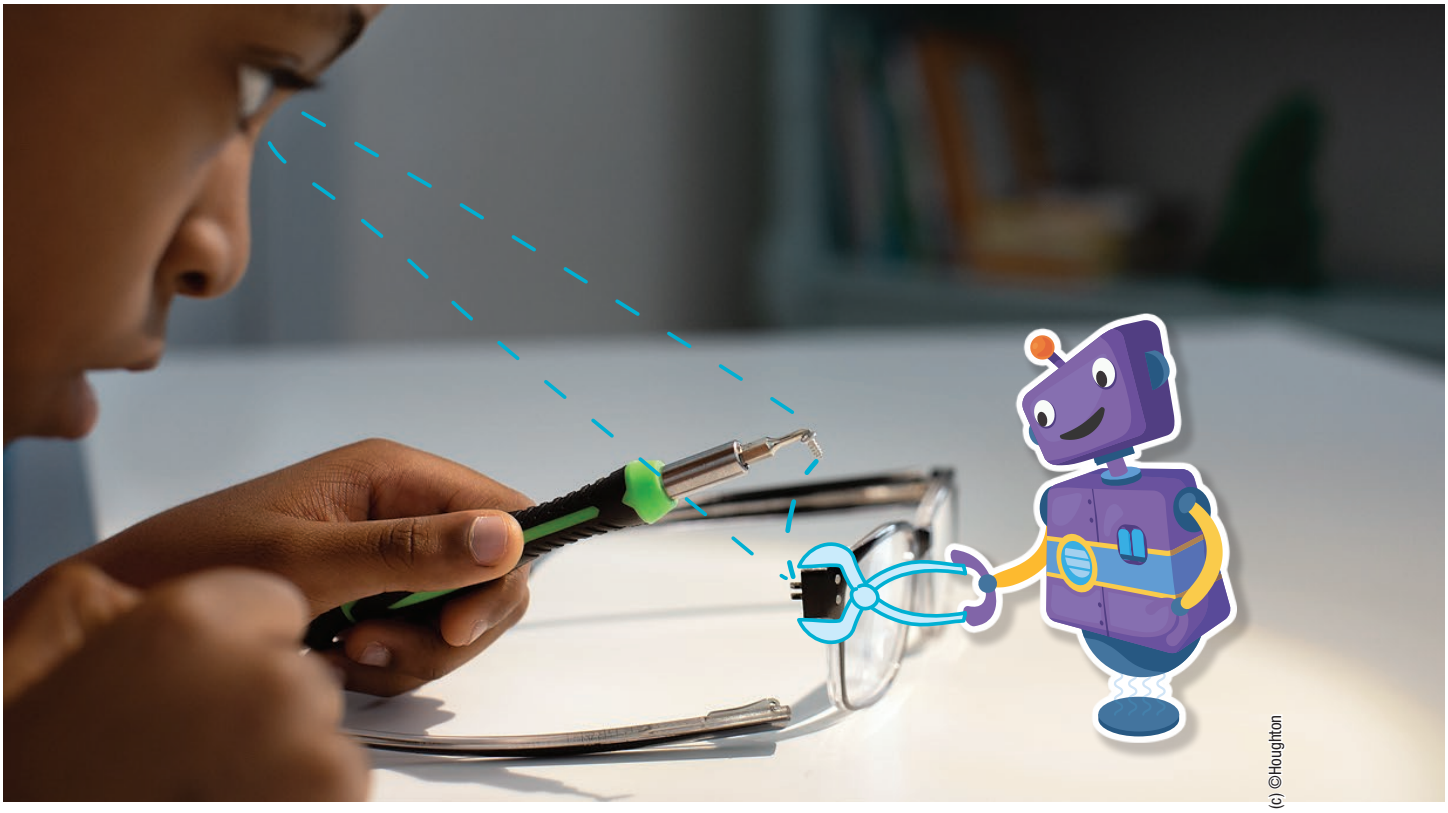

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Engineers rely on the properties of magnets to make or improve many tools. A **magnet** is an object that attracts things made from certain metals. Some screwdrivers are now magnetic. This helps hold the metal screw in place while the student works on the glasses.

Form a question Ask a question about the ways magnets interact with other objects.

Did you know?

Metal detectors use magnetic fields to find lost items in the ground!

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POSSIBLE MATERIALS

- ☐ bar magnet
- ☐ various classroom objects

STEP 1 **Investigate your question** Look at the objects on your table. Use the magnet to see how it affects the objects.

With your group, develop a way to separate the objects into groups using the magnet.

Describe your plan in the space below.

STEP 2 **Analyze your data** Follow your plan. Then, analyze your results and write a cause-and-effect statement based on your observations.

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STEP 3 **Draw conclusions** Think about your observations. What pattern do you notice between the magnet and the objects?

Ask a new question you could investigate based on your results.

Make a **claim** about another problem that could be solved using a magnet. Use **evidence** from your observations to support your claim. Explain your **reasoning**.

Making Sense

How does this activity help you better understand how the ring magnets interact?

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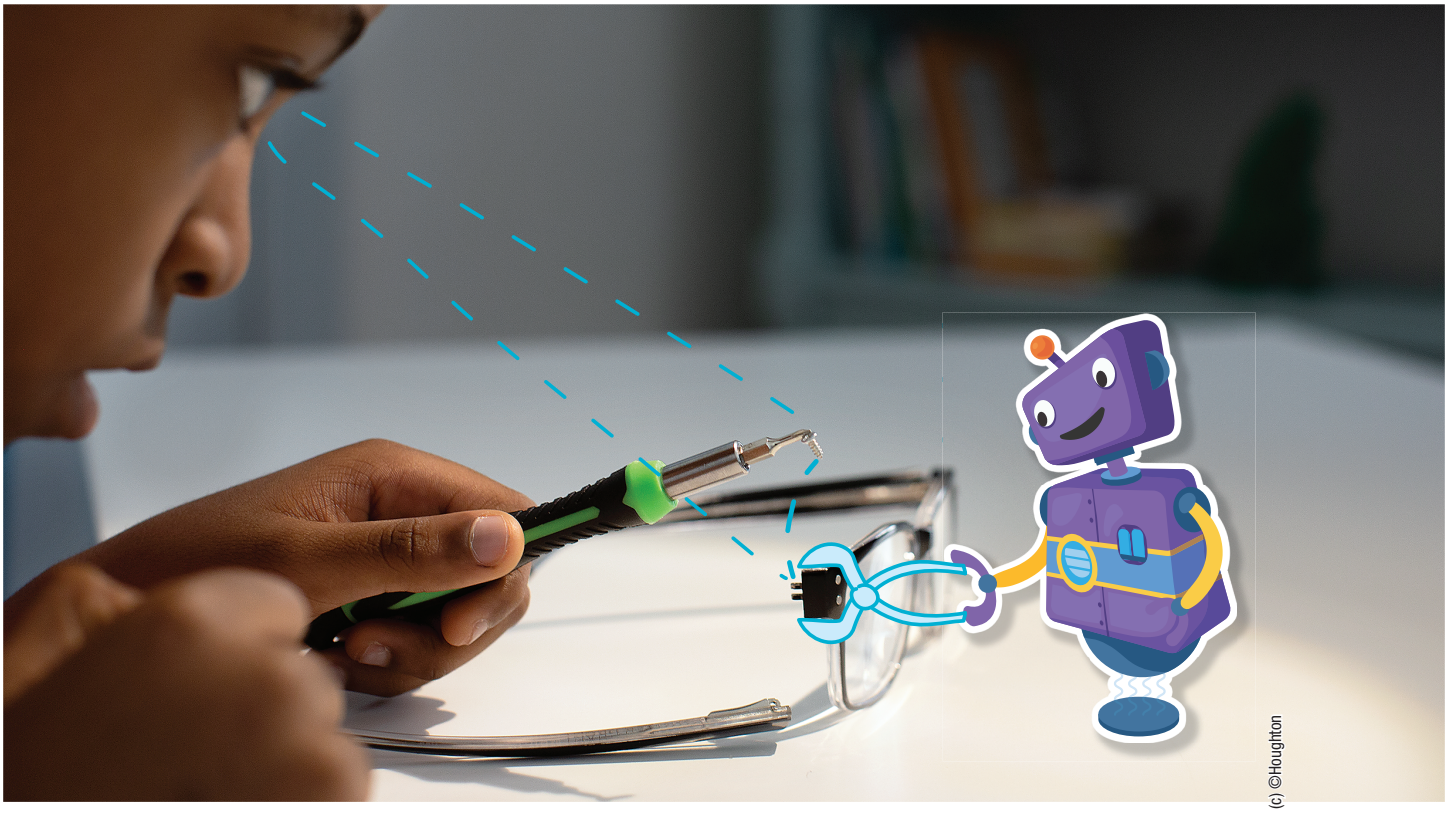

Engineers rely on the properties of magnets to make or improve many tools. A **magnet** is an object that attracts things made from certain metals. Some screwdrivers are now magnetic. This helps hold the metal screw in place while the student works on the glasses.

Did you know?

Metal detectors use magnetic fields to find lost items in the ground!

Form a question Ask a question about the ways magnets interact with other objects.

Possible question: What kinds of objects are attracted to magnets?

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POSSIBLE MATERIALS

- ☐ bar magnet
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STEP 1 **Investigate your question** Look at the objects on your table. Use the magnet to see how it affects the objects.

With your group, develop a way to separate the objects into groups using the magnet.

Describe your plan in the space below.

Student plans will most likely use the magnet to attract all of the magnetic objects and put them on one side of the table while moving the nonmagnetic objects to the other side of the table. However, accept all reasonable plans.

STEP 2 **Analyze your data** Follow your plan. Then, analyze your results and write a cause-and-effect statement based on your observations.

Possible answer: Because the magnet attracts certain metal objects, I was able to sort the items into magnetic and non-magnetic groups.

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STEP 3 **Draw conclusions** Think about your observations. What pattern do you notice between the magnet and the objects?

Possible answer: I noticed that all of the magnetic objects were made of metal.

Ask a new question you could investigate based on your results.

Possible question: What kinds of metal objects are attracted by a magnet?

Make a **claim** about another problem that could be solved using a magnet. Use **evidence** from your observations to support your claim. Explain your **reasoning**.

Possible answer: I could use a magnet and a piece of magnetic metal to keep a cabinet door closed. I know that the magnet was strong enough to hold the metal paper clips so it would also be strong enough to keep a cabinet door closed.

Making Sense

How does this activity help you better understand how the ring magnets interact?

Possible answer: Now I know that magnets are attracted to some objects. I think that some of the ring magnets are attracted to each other.

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