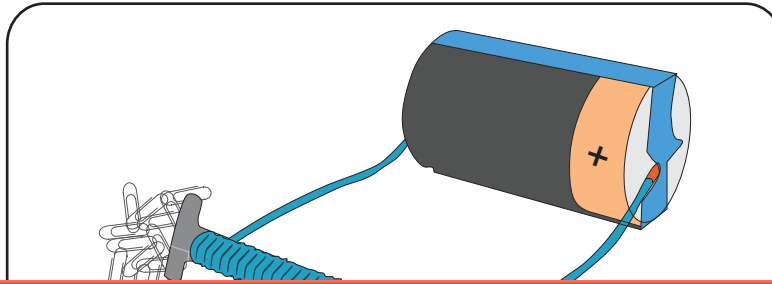


# Electromagnetism

Read the passage on electromagnets and answer the questions that follow.



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Joel'  
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Ms. K  
both ends. She stripped off a bit of the insulation and connected each end of the  
wire to the terminals of the single battery. She taped the wire to the battery to  
ensure the circuit is complete.

When the tip of the nail was placed above the paper clips, Joel was amazed to see  
that the paper clips were picked up by the nail. The nail had turned into a magnet!  
Ms. Keller explained that the current created a magnetic field around the nail,  
making it attract the paper clips. The nail had turned into an electromagnet with  
distinct poles. The end in which the current flows clockwise is the south pole, and  
the one where the current flows counterclockwise is the north pole.

# Electromagnetism

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Electromagnetism refers to the phenomenon in which a magnetic field is generated around a conductor with the help of electric current. An electromagnet is a metal core magnetized by current flowing through a coil around it.

We can turn electromagnets 'on' and 'off' by completing and interrupting the circuit respectively. Unlike permanent magnets, the magnetic field around an electromagnet exists only as long as the current flows.

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# Electromagnetism

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1) Define electromagnetism and electromagnet.

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2) W  
th



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3) W

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4) Explain why the paper clips were picked up by the nail when the circuit was complete.

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# Electromagnetism

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- 5) List out the similarities and differences between a permanent magnet and an electromagnet.

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- 6) Fill in the blanks:
- a) \_\_\_\_\_
- b) \_\_\_\_\_ magnet.
- c) \_\_\_\_\_
- d) We can turn on electromagnets by \_\_\_\_\_ the circuit.
- e) We can turn off electromagnets by \_\_\_\_\_ the circuit.