

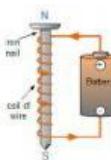
Learning Target #1: I can describe and explain how electromagnets work.

Learning Target #2: I can describe and explain the factors that affect the strength of electric and magnetic forces.



[How do Electromagnets Work Video Notes?](#)

1. An electromagnet is a \_\_\_\_\_ magnet made by winding wire around an \_\_\_\_\_ core. When \_\_\_\_\_ current flows in the coil of wire the iron becomes a \_\_\_\_\_, which creates a \_\_\_\_\_ field around it. When the current is turned \_\_\_\_\_ it loses its magnetic properties.



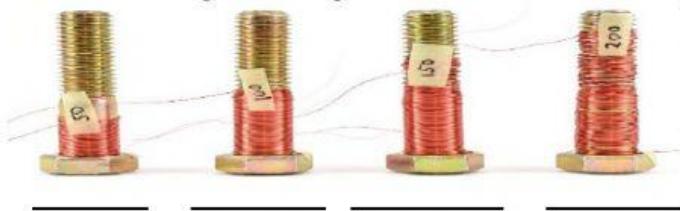
2. What do you need to make an electromagnet? \_\_\_\_\_

3. What happens when you run an electric current through a wire? \_\_\_\_\_

4. What is a pro of electromagnets? \_\_\_\_\_

5. What are the four factors that affect the strength of electromagnets? \_\_\_\_\_

6. Label the following electromagnet coils from weakest to strongest.



7. What happens when you add more coils to an electromagnet? \_\_\_\_\_

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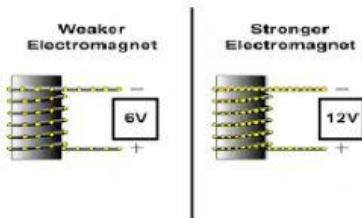
Learning Target #1: I can describe and explain how electromagnets work.

Learning Target #2: I can describe and explain the factors that affect the strength of electric and magnetic forces.

8. What happens when you change the metal core inside an electromagnet? \_\_\_\_\_

9. Which is the strongest metal core to use? \_\_\_\_\_ Which is the weakest metal core to use? \_\_\_\_\_ Which is the most common metal core used in electromagnets? \_\_\_\_\_

10.



Summarize what is affecting the strength of the electromagnet in the diagram above? \_\_\_\_\_

11. What is a danger of increasing the current in an electromagnet? \_\_\_\_\_

12. The larger the electrical wire, the (greater, less) the electrical resistance because there is (more, less) room for electricity to flow. The thinner the wire, the (greater, less) the electrical resistance because there is (more, less) room for electricity to flow.

**Check for Understanding! Pause the video. Take 5 minutes to complete. You Got This!!!!**

1. What are 2 ways you can increase the strength of electromagnets, motors, and generators? \_\_\_\_\_

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2. What are 2 ways you can decrease the strength of electromagnets, motors, and generators? \_\_\_\_\_

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