

Learning Target: I will be able to understand the differences between magnets and electromagnets, how they work, and their applications.



Magnets vs. Electromagnets Interactive Activity

Part 1: Key Concepts – Write whether the following definitions are electromagnets or permanent magnets.

1. _____: Objects that produce a magnetic field without needing electricity.
Examples: fridge magnets, bar magnets.
2. _____: Magnets created when electric current flows through a wire coil. They can be turned on and off. Examples: doorbells, cranes in scrapyards.

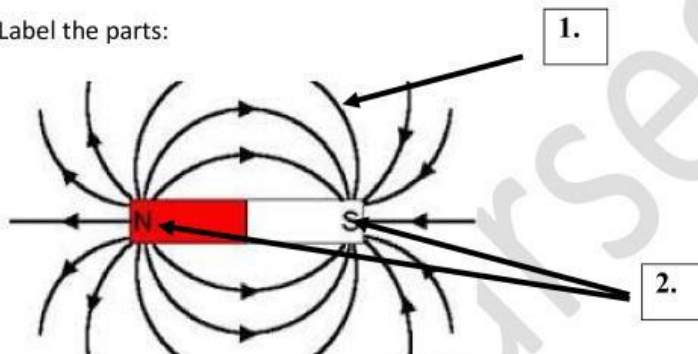
Part 2: Label the Diagrams

Below are two diagrams. Use the word bank to label each part.

Word Bank: (Magnetic Field, Wire Coil, Iron Core, Electric Current, Poles)

Diagram 1: Permanent Magnet

Label the parts:

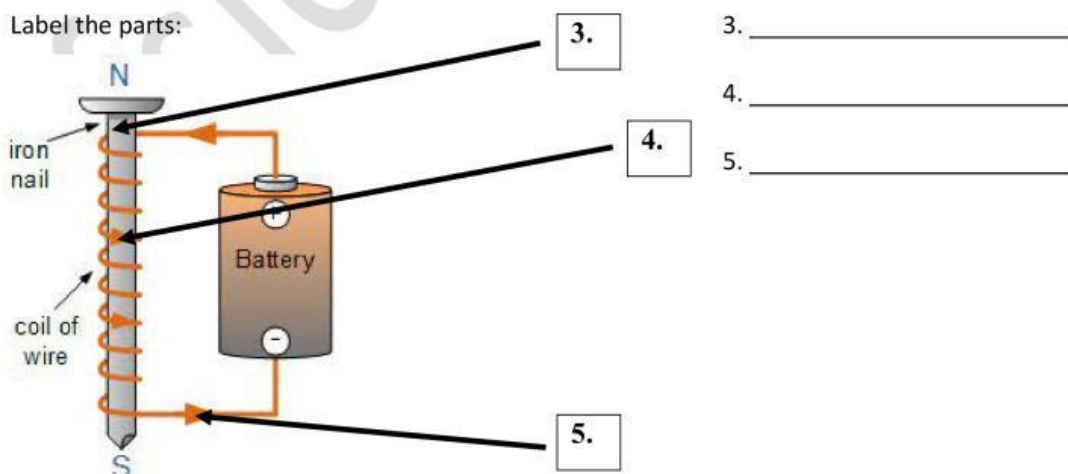


1. _____

2. _____

Diagram 2: Electromagnet

Label the parts:



Created By: Chivas & Jordan Spivey

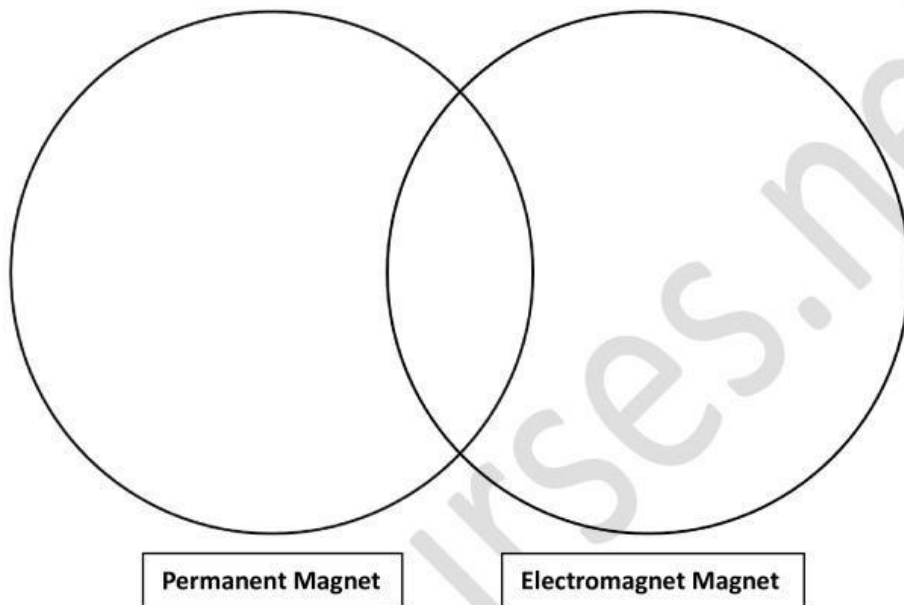
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Part 3: Compare and Contrast

Complete the Venn Diagram below to compare permanent magnets and electromagnets. You can drag and drop or write the answers/numbers of answers in the diagram. Use the following features:

1. Requires electricity
2. Magnetic field is always present
3. Can be turned on and off
4. Has poles
5. Used in everyday applications



Part 4: Multiple-Choice Questions

1. Which of the following statements is true about electromagnets?
 - A. They are always magnetic.
 - B. They require electricity to work.
 - C. They cannot be turned off.
 - D. They repel all materials.
2. What happens when you increase the number of wire coils around an iron nail in an electromagnet?
 - A. The magnetic field gets weaker.
 - B. The magnetic field gets stronger.
 - C. The magnetic field disappears.
 - D. The nail heats up but doesn't change the magnetic field.
3. Which is an example of a permanent magnet?
 - A. A nail connected to a battery
 - B. A fridge magnet
 - C. A doorbell
 - D. An electric motor

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Part 5: Applications in Real Life

Write one example of how each is used in daily life:

1. Permanent Magnet: _____

2. Electromagnet: _____
