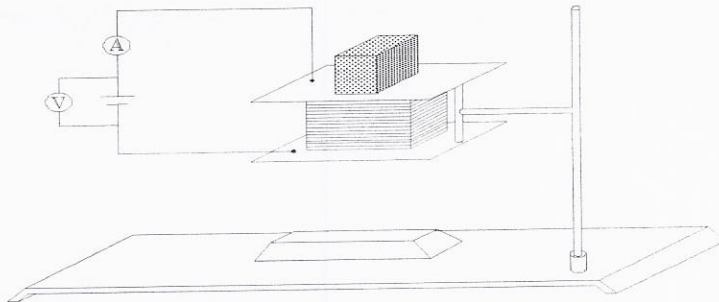


Electromagnet questions

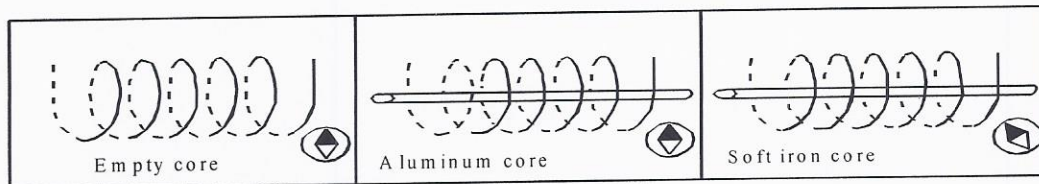
1. Electro-magnets are used in industry to attract metallic objects.



The diagram shows an electro-magnet with an iron core.

Which of the following changes would increase the strength of the electro-magnet?

1. Increase the potential difference of the power supply.
  2. Increase the temperature of the core.
  3. Use a core made of copper instead of iron.
  4. Increase the number of turns.
2. You experiment with an electromagnet by inserting three different cores into a solenoid.

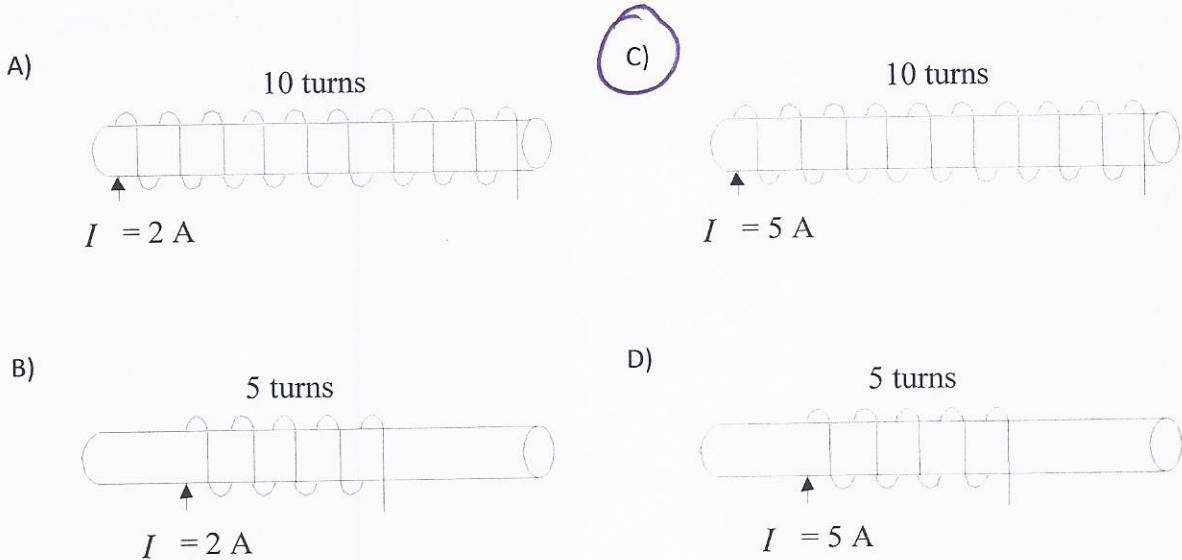


Which of the following statements is **true**?

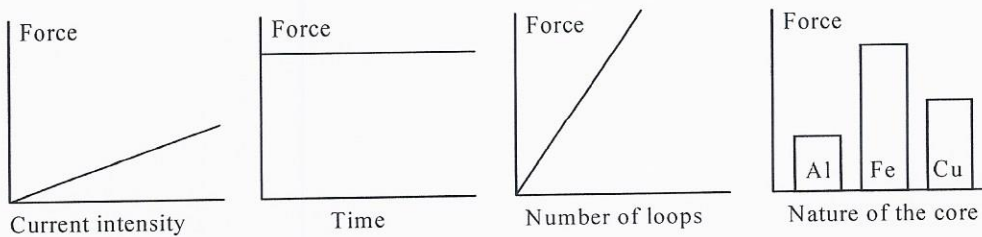
- A) Insertion of a soft iron core reverses the poles of the solenoid.
- B) Insertion of an aluminum core reduces the strength of the electro magnet.
- C) Insertion of a soft iron core increases the strength of the electromagnet.
- D) Insertion of a core has no effect on the strength of the electromagnet.

3. The diagrams below illustrate electromagnets all consisting of the same core. One of these electromagnets produces a magnetic field that is more intense than that of the others.

Which electromagnet is it?



4. Julie performed several experiments in the laboratory investigating the magnetic field produced by a solenoid. She plotted the following four graphs.



What conclusions can Julie make after studying the graphs?

*Current, loops & type of core affect electromagnet. Time is not relevant.*