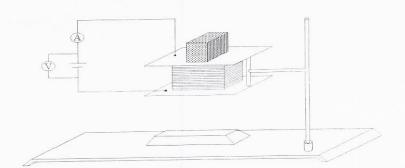
## Electromagnet questions

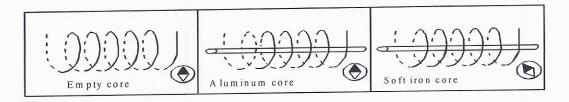
1. Electro-magnets are used in industry to attract metallic objects.



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.



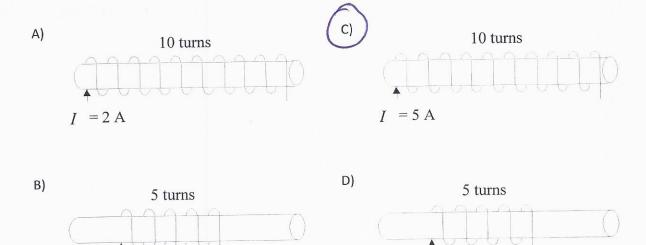
Which of the following statements is true?

- 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.

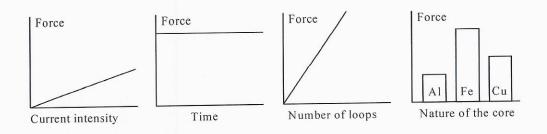
Which electromagnet is it?

I = 2 A



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

I = 5 A



What conclusions can Julie make after studying the graphs?

current, loops a type of Rose affect electromagnet. Time is not relevant.