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Student:

Worksheet: How Magnetic Fields Are Created

https://study.com/academy/lesson/how-magnetic-fields-are-created.html

1. A ferromagnetic core:

- ◯ is not used in most electromagnets
- ◯ increases the strength of an electromagnet because it is a permanent magnet
- ◯ decreases the strength of the electromagnet because it contains magnetic domains that become randomly configured under the influence of a magnetic field
- ◯ does not increase the strength of an electromagnet but provides support to the wire wrapped around it
- ◯ increases the strength of an electromagnet because it contains magnetic domains that align under the influence of a magnetic field

2. To create a magnetic field, a charged particle must be:

- ◯ moving
- ◯ traveling through a wire
- ◯ stationary
- ◯ negatively charged
- ◯ positively charged

3. Increasing the current through a wire:

- ◯ does not affect the magnetic field around the wire
- ◯ does not affect the strength of an electromagnet
- ◯ causes the magnetic field around the wire to decrease
- ◯ causes the magnetic field around the wire to increase
- ◯ causes the magnetic domains to lose alignment

4. All magnetic fields are created by:

- ◯ moving electric charges
- ◯ electrons moving around an atom
- ◯ electromagnets
- ◯ permanent magnets
- ◯ electrical current in a wire

5. The strength of an electromagnet can be:

- ◯ increased by adding a ferromagnetic core
- ◯ increased by reducing the current through the wire
- ◯ decreased by adding more layers of wire to the coil
- ◯ increased by adding an aluminum core
- ◯ decreased by adding turns of wire to the coil