PreAP: Due Wed., Apr 12 (Assigned Mon., Apr 10)
Reg. Due Thurs., Apr 13 (Assigned Tues., Apr 11)

Magnetism 1

1. Magnet	A. Where a compass points to (in Hudson Bay, Canada).
2. Permanent magnet	B. Becomes a magnet near a magnet, then loses its magnetism when moved away.
3. Temporary magnet	C. Anything that attracts or repels another magnet or magnetic material.
4. True north	D. The North Pole; where maps point to as north.
5. Magnetic north	E. Does not lose its magnetism: lodestone and magnetite are only types.

1. Compass	A. The center of an electromagnet.
2. Electromagnet	B. A magnetic navigational device that point toward magnetic north.
3. Magnetic field	C. The area in which magnets will feel magnetic force. More arrows show a stronger one.
4. Core	D. Best magnetic substance; more of this in an electromagnetic core makes it stronger.
5. Iron	E. A magnet made from electricity.

Two magnetic north poles: attract or repel?

A magnetic north and south pole: attract or repel?

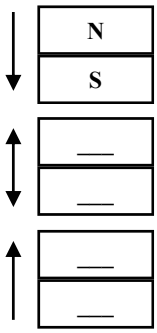
Draw a simple electromagnet:

Name three ways you could increase the strength of an electromagnet:

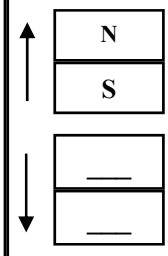
1) Label the north and south poles of the nail magnet.
2) Draw the magnetic field lines.
(don't forget arrows).

A magnet has a 20 cm magnetic field. If a piece of metal is 18 cm from the magnet, will it be attracted or not?

Why?



If the three magnets are ***attracting*** each other, label N and S on the second magnet.



If the two magnets are ***repelling*** each other, label N and S on the sec-ond

1. Core	A. The area in which magnets will feel magnetic force. More arrows show a stronger one.
2. Iron	B. The center of an electromagnet.
3. Compass	C. A magnetic navigational device that point toward magnetic north.
4. Electro-magnet	D. Best magnetic substance; more of this in an electromagnetic core makes it stronger.
5. Magnetic field	E. A magnet made from electricity.

1. Temporary magnet	A. Anything that attracts or repels another magnet or magnetic material.
2. True north	B. Where a compass points to (in Hudson Bay, Canada).
3. Magnet	C. Becomes a magnet near a magnet, then loses its magnetism when moved away.
4. Permanent magnet	D. The North Pole; where maps point to as north.
5. Magnetic north	E. Does not lose its magnetism: lodestone and magnetite are only types.

1. Magnetic Induction	A. Making an object "float" with magnets to reduce friction.
2. Maglev	B. Uses work to spin magnets and make energy.
3. Generator	C. Forcing energy into wires by moving mag-nets.
4. Motor	D. Uses energy to cause electromagnets to turn and do work.

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Magnetism 1

If a 2 μC going 100 m/s feels a 25 N force, find the magnitude of the magnetic field.

A 25 Teslas produces 35 N on a 4 Coulomb charge. How fast is the charge moving?

If a charge is moving to your left in a magnetic field that points straight up, find the direction of the force produced on the charge. (Second right hand rule.)

There are 25 loops of wire, each of 3 m^2, the angle is 30 degrees. The magnetic field strength increases from 1 to 6.5 Teslas in 2 seconds. Find the induced emf.

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