

Vasquez High School -- Physical Science -- Quest #6 -- Chapter 7 -- 60 points

Write TRUE if the statement is true OR write the word(s) that substitutes for the underlined word(s) that would make it true. Writing false only earns partial credit. Three points each.

- _____ 1) Moving electric charges, such as electric currents, are surrounded by electric fields.
- _____ 2) With magnets, unlike poles attract.
- _____ 3) A strong magnetic field can induce a current in a wire.
- _____ 4) When you stroke a nail with a magnet, you can magnetize the nail by aligning all of the magnetic domains in the same direction.
- _____ 5) The word “magnet” is named after a place in Greece called Magnesia.

Short Answer / Fill-in. Give neat and **complete** answers to each. Three points apiece.

- 6) What is the difference between a generator and a motor? _____

_____.
- 7) Three good examples of generators are _____, _____,
_____.
- 8) The three magnetic elements are _____, _____, and _____.
- 9) What does the N in the formula $\frac{N_I}{N_O} = \frac{V_I}{V_O}$ stand for? _____
- 10) How would you construct a working electromagnet? _____

_____.

Matching Section. Write the letter that best answers each example. Two points each.

- | | |
|-----------------------|---|
| _____ 11) transformer | a) essentially just a coil of wire |
| _____ 12) monopole | b) the unit of magnetic force |
| _____ 13) induction | c) rubs the brushes in a typical motor |
| _____ 14) solenoid | d) changes the resistor of a copper wire |
| _____ 15) commutator | e) has both a north pole and a south pole |
| | f) can be a step-down or a step-up type |
| | g) never been discovered yet |
| | h) one of the fundamental forces |
| | i) Oerstad discovered this around 1820 |
| | j) how a magnet can produce a current in a wire |

Diagram Section. Draw as neatly as you can.

16) Draw the magnetic field lines between these two bar magnets. Five points.



More Short Answer / Fill-in.

17) What causes the Earth to act like a huge magnet? _____
_____.

18) Describe two ways that you could increase the strength of the magnetic field produced by an electromagnet.

a) _____

b) _____

19) How does the 50,000 - 100,000 V coming out of a power plant become the 120 V that comes out of a typical household wall socket? _____
_____.

20) Name a device that measures the electric current in a wire: _____

21) One point each. Is the substance magnetic, yes (Y) or no (N)?

_____ gold

_____ steel

_____ cheese

_____ copper

_____ silver