

Conceptual Physics  
Review: Chapters 36 and 37.

Name: \_\_\_\_\_  
Period: \_\_\_\_ Date: \_\_\_\_\_

1. What causes magnetism?
2. What are magnetic domains?
3. How does an iron rod become magnetic?- explain in terms of electron spins.
4. How do you determine the direction of the magnetic field caused by a current passing through a straight wire? A wire loop? Are there conditions when the current does not create a magnetic field?
5. Why does a loop of wire in a motor rotate?
6. How do you determine the force on a charge moving in a magnetic field? When is this force largest?
7. Which geographic pole is closest to the north pole?
8. What is magnetic induction? Under what conditions will magnetic induction occur?
9. What is Faraday's Law?
10. What is the name of a device that has a coil that is mechanically rotated in a stationary magnetic field?
11. Where does the energy needed to create electricity in a generator come from?
12. What happens to the magnetic field in a current carrying coil when a iron rod is inserted in the coil?

13. What is the name of the device that transforms electrical energy to mechanical energy?
14. Draw a schematic diagram of a transformer, and write down the transformer equation.
15. What causes electromagnetic radiation? What types of waves carry the energy?
16. What is common amongst all electromagnetic radiation?
17. Which of these are not an electromagnetic radiation?  
Light   sound   radio   ultraviolet   infrared   microwaves   waterwaves
18. Draw the direction of the electric current.
19. Draw the direction of the magnetic field.
20. A proton is moving east in a magnetic field directed towards the north. Determine the direction of the force on the proton.
21. If the particle in problem #19 was an electron, what is the direction of the force on it?
22. Determine the direction of the force on the wire.
23. Know how to do transformer problems.