

### Magnetism TEST- March, 17<sup>th</sup>

The goals of this unit will allow each student to:

- a. gain a better understanding of **properties of magnetism**.
- b. continue making proper scientific measurements and calculations
- c. define and properly use all vocabulary
- d. properly apply all terms in describing/explaining real world examples
- e. relate these concepts her/his daily activities and behaviors
- f. teach someone else the concepts discussed
- g. practice proper laboratory safety

Georgia Standards:

**SPS10. Students will investigate the properties of electricity and magnetism.**

c. Investigate applications of magnetism and/or its relationship to the movement of electrical charge as it relates to

- electromagnets
- simple motors
- permanent magnets

**SP5. Students will evaluate relationships between electrical and magnetic forces.**

d. Determine the relationship between moving electric charges and magnetic fields.

**Performance Objectives:** After completing this unit, when asked in class or on a written test or quiz, each student will:

1. Describe and list the properties of magnets
2. Recognize that magnetic poles always exist in pairs.
3. Describe and sketch the magnetic field and forces around a permanent magnet.
4. Build a simple electromagnet and change its strength.
5. Explain the magnetic effects produced by an electric current in a wire
6. Use right-hand rule to locate an electromagnet's poles.
7. Explain the source of magnetism in materials.
8. Model magnetism using domains.
9. Explain how a compass responds to a magnetic field.
10. Describe the cause of the Earth's magnetism.
11. Describe the effect an electric current in a wire has on a compass.
12. Describe how electric and battery powered motors use electricity and magnetism to operate and do work. Know the 3 main parts of a motor.
13. Explain how a magnet can be used to produce current in a coil.
14. Describe the design of a simple generator
15. Describe how work and magnetism are used in generators to produce electricity.
16. Explain how transformers change voltage of alternating current.
17. Calculate the number of turns or voltage of a coil in a transformer.

## Magnetism TEST- March, 17th

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

Use this sheet to keep track of reading & homework assignments from your textbook. Due dates for all assignments are noted on this sheet and assignments must be turned in on time to receive credit. Late homework will NOT be accepted.

The story is pretty simple. Homework is the one grade you have FULL control of. Homework is graded on QUALITY and COMPLETION, not accuracy. Homework is exercise for your brain and preparation for quizzes and tests. If you are in pursuit of a good grade, not doing homework is not the route to take. Your grade will gradually go down as you fail to do homework despite the fact that it is only 10% of your grade. On a larger scale, the effect of not doing homework will be realized on the test grade.

The choice of doing or not doing homework lies completely with you. Know that old homework zeros cannot be made up at any time. That is completely unfair to those that sacrifice other things and time to do the assignments by the due dates. Look at the schedule below and budget your time. It is always an option to do the work ahead of schedule. Do not wait until the last minute.

**Textbook Reference** – Physics A First Course – CPO Science

### Textbook Homework

*UV-Understanding Vocabulary RC-Reviewing Concepts SP- Solving Problems AYK- Applying Your Knowledge*

Due Date	Read	Homework Assignments	Teacher Signature
March 12	16.1 p. 359-363	p. 376-377 <b>UV:</b> 1-3 <b>RC:</b> 1-3, 5-7, 9-12 <b>SP:</b> 1,2	
March 12	16.2 p. 364-368	p. 376-377 <b>UV:</b> 4-10 <b>RC:</b> 13, 16-18, 20, 24-26,30 <b>SP:</b> 4-6	
March 12	16.3 p. 369-373	p. 376-377 <b>UV:</b> 11-13 <b>RC:</b> 31, 33, 37, 39, 40	
March 13		<b>Define the following:</b> magnet, magnetism, magnetic poles, magnetic field, magnetic field lines, electromagnet, magnetic domain, dia, para, ferro – magnetic, gauss, electric motor, rotor, commutator, electromagnetic induction, Faraday's law of induction, generator, superconductor, transformers	
March 16	17.1 p. 379-383	p. 394-396 <b>UV:</b> 1,2 <b>RC:</b> 1-6 <b>SP:</b> 1,2, 4a-e	
March 16	17.2 p. 384-386	p. 394-396 <b>UV:</b> 3-6 <b>RC:</b> 10-14 <b>SP:</b> 6	
March 16	17.3 p. 387-391	p. 394-396 <b>UV:</b> 7-10 <b>RC:</b> 15-17, 20-22 <b>SP:</b> 8, 9	
<b>March 17</b>		<b>Chapter TEST</b>	
Total Homework Score			

**Check the class Website to get updates or to print out a new assignment sheet or other docs.**

[www.waltonhigh.org](http://www.waltonhigh.org) → Departments → Science → Honors Freshmen Physics → Spring Handouts → Current unit.