

Electricity TEST- March, 6th

The goals of this unit will allow each student to:

- a. gain a better understanding of **properties of electricity**.
- 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 Performance Objectives

SPS10. Students will investigate the properties of electricity.

a. Investigate static electricity in terms of

- friction
- induction
- conduction

b. Explain the flow of electrons in terms of:

- alternating and direct current.
- the relationship among voltage, resistance and current.
- simple series and parallel circuits.

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

- a. Describe the transformation of mechanical energy into electrical energy and the transmission of electrical energy.
- b. Determine the relationship among potential difference, current, and resistance in a direct current circuit.
- c. Determine equivalent resistances in series and parallel circuits.
- d. Determine the relationship between moving electric charges and magnetic fields.

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

1. identify SI units of electric charge, resistance, current, potential difference, and power
2. explain the base unit meanings of the SI units of electricity
3. describe the effects of static electricity on matter
4. describe charging by friction, conduction, and induction/polarizing
5. describe the behavior of an electroscope in the presence of differing electric charges and fields
6. describe and sketch electric fields surrounding single charged particles as well as multiple charged particles
7. distinguish between conductors and insulators
8. distinguish between dry and wet cells and briefly explain how each produces electricity describe how the potential energy of an electron changes as it moves through a simple circuit
9. describe the flow of electric current and electrons through a circuit
10. conceptually relate potential difference, resistance, and current using Ohm's law
11. perform calculations using proper problem solving techniques using Coulomb's Law, Ohm's Law, and electrical power
12. differentiate between series and parallel circuits and list their applications
13. identify characteristics of series and parallel circuits
14. construct and sketch simple electric circuits using proper circuit symbols
15. recognize the function of fuses and circuit breakers
16. describe electrical power and energy usage
17. distinguish between AC and DC electricity
18. explain how transformers change the voltage of alternating current

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Name: _____ Period: _____

This sheet will be used to keep track of reading, homework assignments due dates and scoring. Each individual homework assignment must be turned in on the **DUE DATE**. This sheet must be kept and turned in on the TEST DATE for the unit. Late homework will not be accepted.

In order to receive FULL CREDIT for a homework assignment, your work must reflect **quality***. All assignments must be labeled and out on your desk at the start of the class period along with this sheet.

***Quality Work** is having the answer reflect the question. On **UV** assignments, the terms and definitions are written out. (Answering with the "term" only is not quality.) Each assignment turned in must be labeled with the following in the right-hand corner of the paper. Your Name, Date, Period, Homework # , Unit Name

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 1 - 4	Teacher Signature
Feb. 24	p. 340-349	p. 356 UV: 1-10 RC: 1-4, 8-10, 12-15, 17-21	
Feb. 25	p. 298-301	p. 314-316 UV: 1-6 RC: 1, 2, 4a-d, 4,7,8 SP: 1	
Feb. 26	p. 302-305	p. 314-316 UV: 7-10 RC: 9, 10, 11, 12 SP: 2,3, 4	
Feb. 27	p. 306-311	p. 314-316 UV: 11-15 RC: 11-21, 24, 26 SP: 5-11	
March 2	p. 318-322	p. 336-338 UV: 1-3 RC: 1-6 SP: 1, 3, 5, 7	
March 3	p.323-326	p. 336-338 UV: 4-6 RC: 7,8,10, 11, 13,14 SP: 8-10	
March 4	p. 327-333	p. 336-338 UV: 7-13 RC: 17, 19, 20, 22, 23 SP: 13 &14 a-b	
March 6		Chapter TEST	
Total Homework Score			
Points Added to Test			

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

www.waltonhigh.org → Departments→ Science →Honors Freshmen Physics → Spring Handouts → Current unit.

Lingo to be learned - circuit, conduction, conductor, current, dry cell, electric field, electrical power, electroscope, induction, insulator, Ohm's law, parallel circuit, potential difference, resistance, series circuit, static electricity, wet cell, alternating current, ammeter, direct current, coulomb, ampere, volt, ohm