

Name: _____

Period: _____ Date: _____

GIANCOLI READING ACTIVITY**Section 18-4**

1. Big Idea(s):
 - a. Objects and systems have properties such as mass and charge. Systems may have internal structure.
 - b. Interactions between systems can result in changes in those systems.
2. Enduring Understanding(s):
 - a. Materials have many macroscopic properties that result from the arrangement and interactions of the atoms and molecules that make up the material.
 - b. The electric and magnetic properties of a system can change in response to the presence of, or changes in, other objects or systems.
3. Essential Knowledge(s):
 - a. Matter has a property called resistivity.
 - i. The resistivity of a material depends on its molecular and atomic structure.
 - ii. The resistivity depends on the temperature of the material.
 - b. The resistance of a resistor, and the capacitance of a capacitor, can be understood from the basic properties of electric fields and forces, as well as the properties of materials and their geometry.
 - i. The resistance of a resistor is proportional to its length and inversely proportional to its cross-sectional area. The constant of proportionality is the resistivity of the material.
4. Learning Objective(s):
 - a. The student is able to choose and justify the selection of data needed to determine resistivity for a given material.
 - b. The student is able to make predictions about the properties of resistors and/or capacitors when placed in a simple circuit, based on the geometry of the circuit element and supported by scientific theories and mathematical relationships.
5. Read section 18-4 in your textbook.
6. Use the Cornell Notes system to take notes on the lesson material. You have the following options:
 - a. You can print multiple copies of one of the forms on the following pages of this document and handwrite your notes.
 - b. You can use the MS Word form supplied below and type your notes.
 - i. You can then print your work and submit a hardcopy, or
 - ii. You can upload your work to Focus. If you choose this option, you must use a filename in the format, "LastnameFirstinitialPerXAsgnmtName". For example, "SmithKPer4ReadActT9-3.doc"

- c. You can take notes on notebook paper using the Cornell Notes format and submit the hardcopy.
7. When using this form, remember the **Five R's of Notetaking**:
 - a. **Record** – the most important or emphasized information
 - b. **Reduce** – and synthesize information wherever possible, making it as concise as you can
 - c. **Recite** – read your notes out loud
 - d. **Reflect** – and consider how this information is connected to your personal experiences and what you already know
 - e. **Review** – look over your notes more than once
8. As a minimum, you must include notes on the following topics:
 - a. resistivity
 - b. temperature dependence of resistivity
 - c. why Mr. Smith would give you an assignment this easy and still give a full 3 points
9. Answers may be typed or neatly printed. You do not need to include this page of instructions with your assignment.
10. **Note: The following computer skills should be practiced:**
 - a. *Use Microsoft Equation to type any equations.*
 - b. *Drawings may be freehand, but try to make use of the 'Shapes', 'Insert Picture' or 'Insert Clipart' functions of MS Word.*
 - c. *A reading assignment may contain drawings that would be useful in your notes. If you have scanning capability, you should practice scanning pictures and inserting them into documents. As you prepare for college, you should consider investing in a desktop printer-scanner-copier.*
 - d. *Just remember that for formal reports you have to cite any images that you insert into your document. You don't have to cite scanned images for this exercise unless you use a source other than the textbook.*

CORNELL NOTES and the 5 R's

Record – the most important or emphasized information

Reduce – and synthesize information wherever possible, making it as concise as you can

Recite – read your notes out loud

Reflect – and consider how this information is connected to your personal experiences and what you already know

Review – look over your notes more than once

Name:
Date:
Topic:

Questions/Key Points	Notes
SUMMARY:	

