

*I would like your help in spreading the word about physics. It may be hard for you to realize how much better an understanding you have about the world around you than students who haven't taken physics, but you really do! **Any encouragement you could give to students to take physics is much appreciated!***

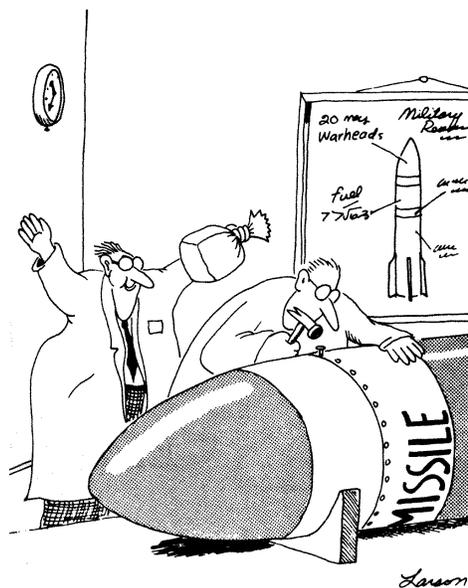
- Mon. 2/4
- 1) Check and go over both CH. 31 conceptual questions and Expert TA
 - 2) Hand back resistivity labs and discuss
 - 3) Sign up for Pathfinder groups
 - 4) HW: Read Ch. 32 for Friday for a reading quiz – this is a very important chapter, so please take good notes
- Tues. 2/5
- 1) Last day to work on Circuitry Lab #1 – lab will be due on Monday, 2/11
- Weds. 2/6
- Two hour delay schedule – scheduling fair day (no school for seniors)*
- 1) Practice Circuit – Complete Big Circuit Quiz (Version A) on back of handout from early January. Don't have it? It's also on the back of this syllabus.
- Thurs. 2/7
- Altered schedule – Black History Month program*
- 1) Kirchoff's Loop Rules and Junction rules with more than one power source
- Fri. 2/8
- 1) Ch. 32 reading quiz (The Magnetic Field) and discussion (including the Biot Savart law, Ampere's Law)
 - 2) HW: Ch. 32 conceptual questions (on sheet) due on Mon., 2/11 and Ch. 32 problems 5, 14, 21, 33, 34, 36, 50, and 60 {NOTE: For #60, you need to know a uniform (unchanging) electric field (E) has a strength that is Determined by the formula $E = \text{Force}/\text{charge}$ and also $E = \Delta\text{Voltage}/\text{distance}$ }. **Problems due Thurs. 2/14**
- Mon. 2/11
- 1) Collect Circuitry Lab 1
 - 2) Check/ go over / discuss Ch. 32 conceptual questions in class
 - 2) Begin Circuitry Lab 2 (think about grouping)
- Tues. 2/12
- Mr. Forrest is OUT with Team Physics at Tussing Elementary*
- 1) Work in class on Circuitry Lab 2
- Weds. 2/13
- 1) Discussion – Ampere's Law, solenoids, and the Hall Effect
 - 2) Work in class on Circuitry lab 2
- Thurs. 2/14
- 1) Check/ go over CH. 33 HW → This should be student led!
 - 2) Introduce Light Box (Mon. activity)
- Fri. 2/15
- 1) QUIZ – Kirchoff's Circuits, Big Circuit
 - 2) Preview for Ch. 33 (Electromagnetic induction) → Read Ch. 33 (Electromagnetic Induction) for Tuesday, 2/19. It will also be useful to look through pages 216-230 in your "5 Steps to a 5"
 - 3) Video – floating magnet in copper tube

A look ahead → finishing electromagnetism (1 hands on lab and some simulations included) and lots of demonstrations (Lenz's Law, Faraday's Law, electric motors and generators), AC/DC light bulb

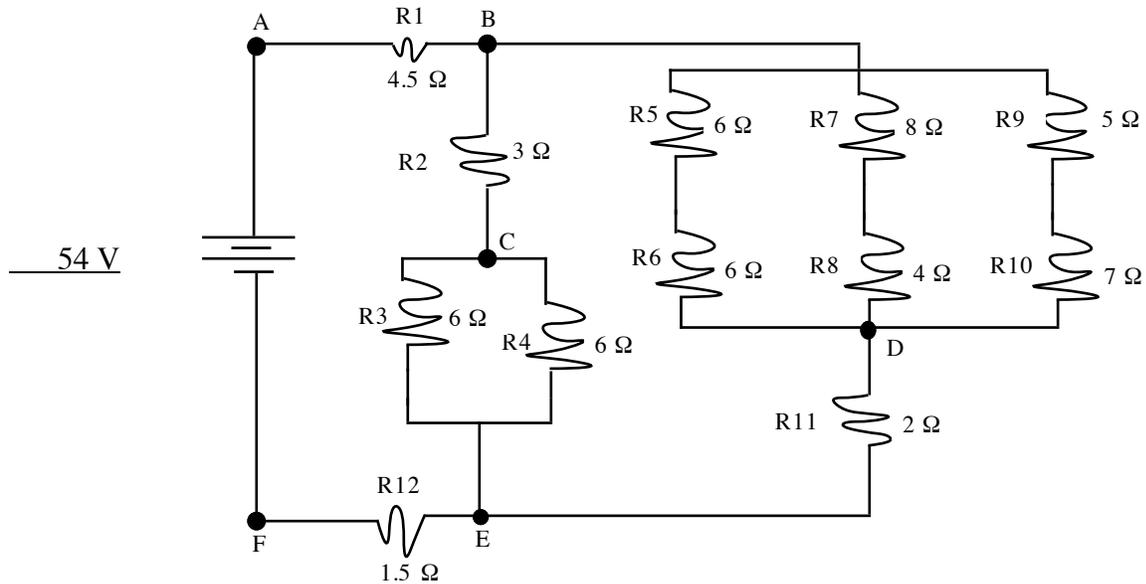
There will NOT be outside of class homework due the week of February 25, which is when your Pathfinders are due. On the next syllabus, I'll let you know when to expect my availability for testing that week. Please remember part of your score is DOCUMENTATION! That should be an ongoing process for each person.

My goal is to be complete with the CONTENT for Ch. 33 (and a part of 34) by the end of February. We probably won't be done with all the simulations and lab work though.

NOT how to test your Pathfinder! →



Circuit Quiz (BIG) - VERSION A [SAMPLE!!]



Directions: Place the answers (with units) to the following problems, which refer to the circuit above, in the spaces provided at the right. Do the computations mentally if you can, but compute if needed - with your work near the appropriate blank. If you get an answer wrong and do not show work, you cannot earn partial credit. If answers need to be rounded, please no more than 3 digits!

- | | |
|---|-----------|
| 1. What is the equivalent resistance of R3 and R4? | 1. _____ |
| 2. What is the combined resistance of R2, R3 and R4? | 2. _____ |
| 3. What is the combined resistance of R5 and R6? | 3. _____ |
| 4. What resistance would a multimeter measure from B to D? | 4. _____ |
| 5. What is the equivalent resistance of R5, R6, R7, R8, R9 and R10? | 5. _____ |
| 6. What resistance would a multimeter measure if placed across B and E?
<i>Think carefully about this one!</i> | 6. _____ |
| 7. What is the total resistance of the circuit (from A to F)? | 7. _____ |
| 8. What is the total current in the circuit? | 8. _____ |
| 9. What is the potential (voltage) drop across R1? | 9. _____ |
| 10. What is the potential drop from B to E? | 10. _____ |
| 11. How much current passes through R2? | 11. _____ |
| 12. What is the potential drop across R3? | 12. _____ |
| 13. What is the current in R4? | 13. _____ |
| 14. How much current passes through R11? | 14. _____ |
| 15. What is the voltage drop from B to D? | 15. _____ |
| 16. What is the voltage drop across R11? | 16. _____ |
| 17. What is the current in <i>each branch</i> of the circuit from B to D? | 17. _____ |
| 18. What is the sum of potential drops across R9 and R10? | 18. _____ |
| 19. What is the potential drop across R7? | 19. _____ |
| 20. Find the sum of the potential drops from A to B, B to E, and E to F. | 20. _____ |
| 21. What is the sum of all currents flowing from B to E? | 21. _____ |