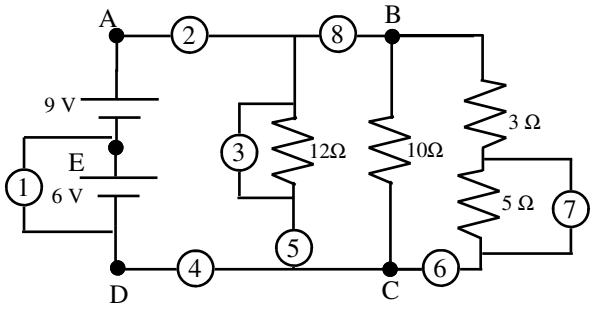
A-day: Due Fri., 4/13 (Assig: 4/11)
B-day: Due Mon, 4/16 (Assig: 4/12)

Electricity Review 2

1. Draw the electric field lines that will occur between the two charges
(*Remember electric field lines show the way a positive charge would move.*
To draw the field, put your pencil somewhere and move it as if it were a + charge.
Do this all around the charges.)

2. Identify the meters in Circuit A (either A or V): 1: ____; 2: ____; 3: ____; 4:____; 5: ____; 6: ____; 7: ____
3. Find the total voltage.

Circuit A



4. Find the total resistance of the circuit.

5. Find the total current of the circuit.

6. Find the current running through meter 5.

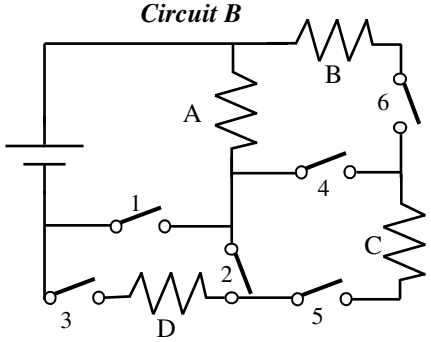
7. A. What does meter 4 read? B. What does meter 1 read?
C. What does meter 2 read? D. What does meter 6 read? E. What does meter 8 read?

F. What does meter 3 read? G. What does meter 7 read?

G. What's the voltage from B to C? H. What's the voltage from A to B?
I. What's the voltage at B? J. What's the voltage at D?
K. How much power does the whole circuit dissipate (use)?

L. How much power does the 5 Ω resistor use?

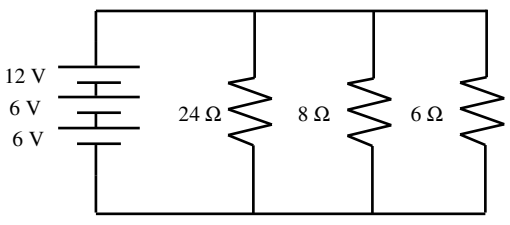
Circuit B



8. Decide which switches in Circuit B need to close to allow the following:
(*Remember: It could be "Not possible".)*
A. Only resistor B on:
B. Only resistors B and D on:
C. Only resistors A and C on:
D. Only resistors A, B, and D on:

12. In Circuit C, how much charge goes through the 6 Ω resistor in 20 seconds?

Circuit C



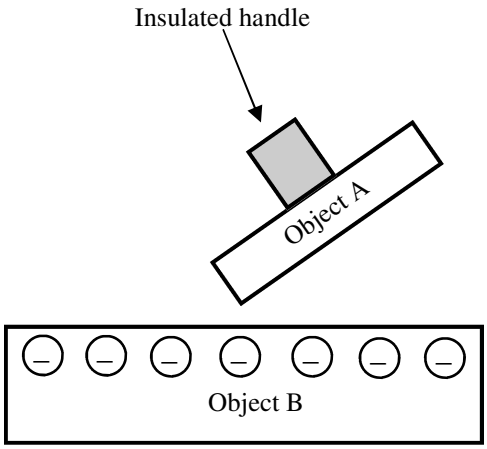
13. If your electric company's power rate is $.05 per kWhr, how much will it costs to run a 600 w toaster oven for 20 minutes?

17. Protons are _____; Neutrons are _____; Electrons are _____.
18. Protons put together attract or repel each other?
19. Protons are found in the _____ of atoms?
20. Why are protons able to remain together?

21. Using the diagram at the right, answer the following.
    A. Since object B can hold a charge is it an insulator or conductor?
    B. If object A is a conductor, where draw where the negatives go.

    C. If you touch object A while it is close to object B, where will the negatives go?

    D. So, if you touch Object A, while it is close to Object B then move object A away from object B, object A will be positive or negative?



22. Two 9-volt batteries. In series: total voltage = _____. In parallel: total voltage = _____.

TAKS stuff—see notes.

23. Given: AUCUACG.
    A. What molecule do you know this isn't?
    B. How do you know that?
    C. If this came from the nucleus, what molecule is this?
    D. What do we call the process that made it?
    E. Where is it going next?
    F. In the next process (called _____) it will make _____.
    G. Give the nitrogen base sequence that it came from.

    H. Which one (DNA, mRNA, or tRNA) moves within the cell (between organelles)?

24. ConDuction, ConVection, or Radiation? (*We did this in January—read your notes or the book.)*
    A. ___You pick up a hot piece of metal and get burned.
    B. ___You put your hand above a pan of hot water.
    C. ___You feel the heat from a brick wall when you put you hand next to the wall, but not touching it.
    D. ___Why the upstairs of a house is warmer.
    E. ___How the water in the bottom of a pan heats up.

25. Which way will the heat move on the graphic at the right.

30^oC	35^oC

26. After a while the two objects will be at t_____ e_____.
27. Does heat rise? (*Explain*.)

30. Herbivore	A. Eats herbs - plants: a cow, gazelle, etc.
31. Carnivore	B. Carne – meat; meat eaters; lions, tigers
32. Omnivore	C. Eats plants and meat: bears, raccoons.
33. Producer	D. Produces food for the world - plants
34. Consumer	E. Eats producers – animals
35. Decomposer	F. Recyclers of the ecosystem; eat dead organisms: mushrooms, fungi.
36. Predation	A. Both are helped: dogs and humans.
37. Commensalism	B. Any two organisms living together.
38. Mutualism	C. One is helped, the other is neither helped nor harmed: bird lives in a tree.
39. Symbiosis	D. One lives of other, but doesn't kill it: vampire bats and cows.
40. Parasitism	E. One eats the other: Lions and gazelles.