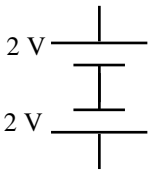
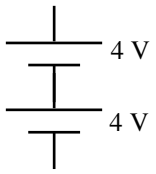
Due 3/30 no 2

Electricity 6

1. Which has more current a big river or small stream?
2. Which uses more current, a bright or dim light?
3. Which uses more current, a loud or soft radio?
4. Which gives more voltage a 1.5V or 9V battery?
5. Which gives more voltage a big or small water pump?
6. Which is like more voltage, water coming from the top of a mountain or coming from the top of a table?
7. Which will have less resistance: an insulator or a conductor?
8. Which is a better conductor: 200 Ω or 10 Ω.
9. From my water demo.
   A. Which hose had the most resistance: the big or small hose?
   B. Which hose had the most current flowing: big or small?
   C. When I lifted up the bucket, did the water flow more or less?
   D. When I lifted the bucket, it was an example of more voltage, current, or resistance?
   E. Which hose filled the beaker?
   F. The hose that gave more current filled the beaker faster or slower?
   (Note: current is the amount of water per second OR the amount of charge (electrons) per second.)
10. Find the total voltage of the following:
    A.



    B.

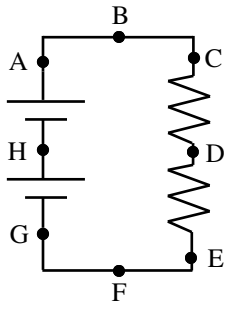


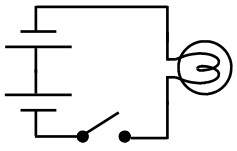
11. Do batteries use or create voltage?
12. Do resistors use or create voltage?
13. A 24 V battery pushes thru a 6 Ω resistor. Find the current.
    Variables Equation Solve

14. Use the light bulb to answer the following (we will assume it is in a closed circuit).
    (*Note: V_A means the voltage at point A, etc.) Hint: think of net force.*

    A. ____If V_A = 6 V and V_B = 0V will it light?
    B. ____If V_A = 50 V and V_B = 50V will it light?
    C. ____If V_A = 100 V and V_B = 200V will it light?
    D. ____If V_A = 1,000 V and V_B = 1,000V will it light?
    E. ____If V_A = 0 V and V_B = 12V will it light?

15. Mark each of the letters around the diagram at the right with High, Medium, or Low voltage.





16. This circuit at the left, will it turn on (and why or why not)?

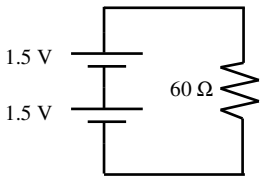
17. If water falls down from a water fall to the ground it loses what kind of energy?
18. What could be put into the water to use that energy?

19. Control, Experimental, or Responsive Variable?
    A. ____ What you are studying in the experiment.
    B. ____ There are many of these in a good experiment.
    C. ____ What happens in the experiment.
    D. ____ Only one of these in a good experiment.

20. If we are studying how voltage affected current:
    A. What is our experimental variable? .
    B. Give two control variables
    C. What will be our responsive variable?

21. When we were studying resistance:
    A. What is our experimental variable? .
    B. Give two control variables
    C. What will be our responsive variable?

22. Use the circuit at the right to do the following.



    A) Find the total voltage.

    B) Find the current in the circuit.

    C) Find the power used in the circuit.

    D) How many paths are there for the electricity to go thru?

    E) If the path is broken anywhere will electricity still flow?