PreAP: due Wed., Jan 11 (Assigned: Mon., Jan 9)
Reg: due Thurs., Jan 12 (Assigned: Tues., Jan 10)

Electricity 3

1. Put an arrow below each pair of objects to show the direction of electron flow.

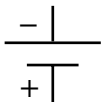
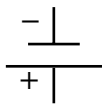
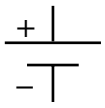
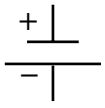
A.			B.			C.			D.		
	+3C	-2.3C		+3C	0 C		0 C	-2.3C		-2.3C	-2.3C

2. Give the three parts of a circuit:

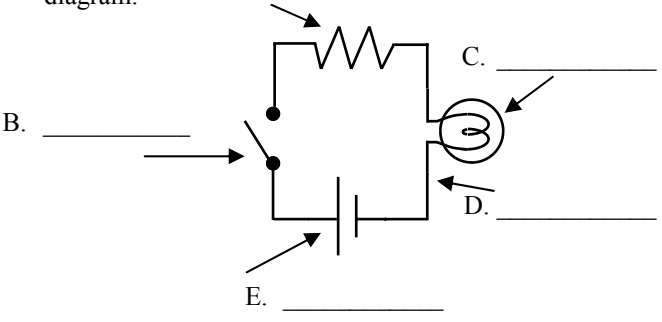
3. The Van de Graff is what part of the circuit (from above)?
4. How is a Van de Graff like a battery?
5. How is a Van de Graff not like a battery?
6. In the circuit demo we called the electric bell an _____. What did it _____?
7. When the bell ran did we have a closed or open circuit?
8. What do we know about the plumbing of the school (pipes) if the bell ran when we touched to pipes?
9. Which of the three parts of a circuit is a battery?
10. When we made the Circuit Quiz Boards, what carries the current between the two sides?
11. Why did we need to put tape over the aluminum foil on the back?
12. On the Quiz board what acted like the bell in the Making Circuits Demo?
13. When DNA is changed from DNA to RNA in the nucleus, this process is called:
14. What part of the cell contains the genetic code (called _____) of an organism?
15. In what organelle are proteins manufactured?
16. These proteins are manufactured from what building blocks?
17. What molecule tells this organelle which building block to make?
18. This process is called:

19. Open circuit	A. Slows down the flow of electricity.
20. Closed circuit	B. A short-hand way of drawing electrical circuits.
21. Circuit diagram	C. A circuit with a break in it; no electricity will flow.
22. Voltage	D. Pushes electricity through a circuit.
23. Current	E. Electricity can flow through this.
24. Resistance	F. The flow of electricity through a circuit.

25. Which of the following are correct?

A.  B.  C.  D. 

26. Label the diagram:



Match the electrical component with the water component and diagram symbol

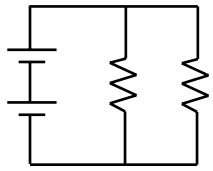
27. Valve	A. Resistor	a.  b. 
28. Pipes	B. Battery	
29. No equivalent	C. Switch	c. 
30. Resists flow	D. Wire	
31. Pump	E. Light bulb	d.  e. 

32. Wires	A. Used to create radiant energy.
33. Battery	B. Pushes electricity through the circuit.
34. Resistor	C. Can turn the electricity on and off.
35. Light bulb	D. Allows electricity to flow.
36. Switch	E. Slows down the flow of electricity.

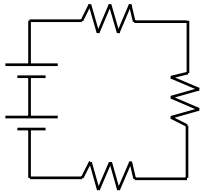
37. Draw a circuit diagram (starting on the left) with a battery, a resistor, a lightbulb, and a switch. Make sure it is a closed circuit, connected with wires.

1. I = _____	4 newtons
2. V = _____	4 amps
3. R = _____	4 joules
4. E = _____	4 watts
5. P = _____	4 ohms (Ω)
6. F = _____	4 volts

Label the diagrams as parallel or series circuits.



A. _____ B. _____



The units for current is _____; the abbreviation is _____.

The units of voltage is _____; the abbreviation is _____.

The units of resistance is _____; the abbreviation is _____.

If you increase voltage, the current will increases or decreases?

If you decrease resistance, the current will increase or decrease?

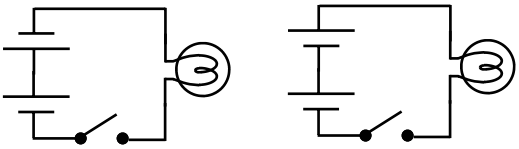
If the current increases, the resistance increased or decreased?

If voltage is decreased, the current will increase or decrease?

If the current decreases, the voltage increased or decreased?

If there is more current will a light bulb be brighter or dimmer?

Will the lights turn on or not? And why?



Series or Parallel Circuits?

___ Only one path for the electricity.

___ Dependent paths.

___ How your house is wired.

___ Independent current paths.

___ Can turn off one light without others turning off.

___ If you turn off one light, all the lights turn off.

___ More than one path for the electricity to flow.

How much current goes through a circuit with a 12 v battery and a 3 Ω resistor?

Find the current in circuit with 6 v battery and 2 resistor:

How much voltage gives 5 amps of current through a 3 Ω light bulb?