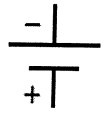
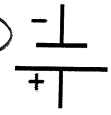
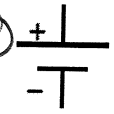
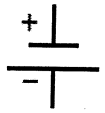
1. Open circuit C	A.	Slows down the flow of electricity.
2. Closed circuit E	B.	A short-hand way of drawing electrical circuits.
3. Circuit diagram B	C.	A circuit with a break in it; no electricity will flow.
4. Voltage D	D.	Pushes electricity through a circuit.
5. Current F	E.	Electricity can flow through this.
6. Resistance A	F.	The flow of electricity through a circuit.

Match the electrical component with the water component and diagram symbol

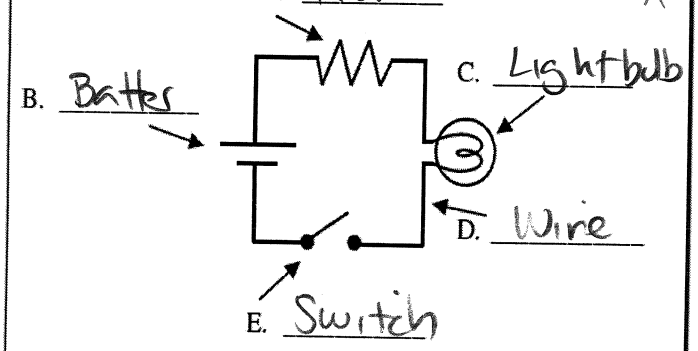
1. Valve C	A.	Resistor	a.
2. Pipes D	B.	Battery	b.
3. Water wheel E	C.	Switch	c.
4. Resists flow A	D.	Wire	d.
5. Pump B	E.	Light bulb	e.

Which of the following are correct?

A.  B.  C.  D. 

1. Wires D	A.	Used to create radiant energy.
2. Battery B	B.	Pushes electricity through the circuit.
3. Resistor E	C.	Can turn the electricity on and off.
4. Light bulb A	D.	Allows electricity to flow.
5. Switch C	E.	Slows down the flow of electricity.

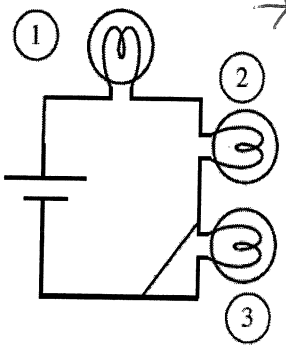
Label the diagram:



Do all of the light bulbs light up? no

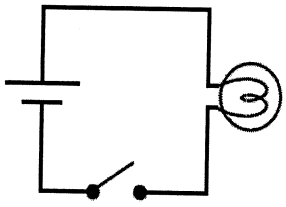
Why or why not?

#3 is short circuited



In the Lab

1) *Build the following circuit, being sure to connect all components (parts) with wires. Make sure it works.*



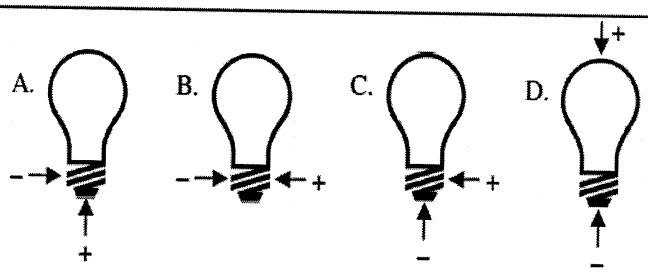
2) *Reverse the direction of the battery. Does the light still work?*

3) *Remove the switch. Touch the two wires between the light bulb and battery together to be sure the light still turns on.*

4) *Use these two wires as probes to test which of the following are conductors (C) or insulators (I).*

Paper _____	Plastic _____	Water _____
A Penny _____	Cloth _____	Salt Water _____
Paperclip _____	Wood _____	Sugar Water _____
Glass _____	A Dime _____	Rubber _____

Using only a battery, two wires, and a light bulb (no holder), make the light bulb light. Which of the following diagrams will light up the light bulb?



What two parts of a light bulb must be touched to make the light bulb light up?

When the light bulb lights up, is this a closed or open circuit?

What does this mean about the inside of the light bulb?

When the light bulb lights up, what types of energy are used and created?