

NAME _____ DATE _____ PERIOD _____

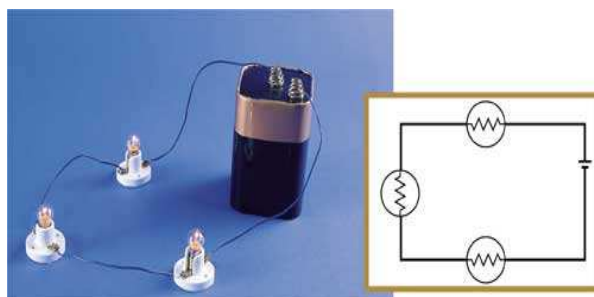
SERIES AND PARALLEL CIRCUITS

ELECTRIC CIRCUITS

- An electric circuit provides a complete, closed path for an electric current.
- Electricity can only flow through a closed circuit; it **cannot** flow through an open circuit.
- Every circuit MUST have the following parts:
 1. energy source: battery, electric generator, etc.
 2. load or resistance: device that uses the electric energy
 3. wires
 4. switch: opens and closes the circuit

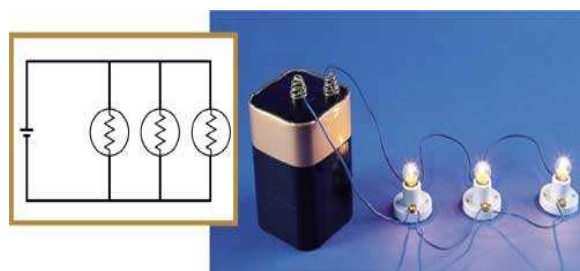
SERIES CIRCUIT

- All parts are connected one after another.
- **If one part fails to operate properly, the current can not flow to the other parts.**



PARALLEL CIRCUIT

- Different parts of circuit are on different branches.
- **If one part does not operate properly, current can still flow through the others.**

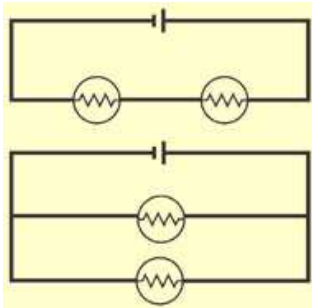


FILL IN THE CHART WITH THE PHRASES:

	SERIES CIRCUIT	PARALLEL CIRCUIT
Definition		
Paths		
Resistance		
Examples		

USE THESE TO FILL IN TABLE:

home circuits one path device and switch
 all parts connected in a row several paths decreased with added branches
 different paths on separate branches increases with added branches



1. What happened to the remaining light bulbs when you unscrewed the first bulb?

FOR A _____

FOR B _____

2. Explain WHY this happened. _____

3. Which circuit is a series circuit? (1 or 2) _____

4. Which circuit is a parallel circuit? (1 or 2) _____

How many paths can electricity take in Circuit 1? _____

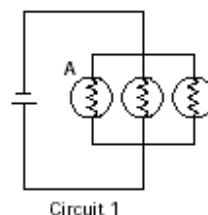
How many paths can electricity take in Circuit 2? _____

If bulb A burns out, what happens to the light in the other two bulbs in that circuit?

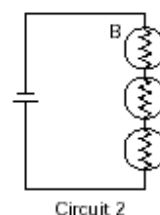
If bulb B burns out, what happens to the light in the other two bulbs in that circuit?

If a fourth bulb were added in a similar way to the three existing bulbs in Circuit 1, what would happen to the resistance in the circuit?

If a fourth bulb were added in a similar way to the three existing bulbs in Circuit 2, what would happen to the resistance in the circuit?



Circuit 1



Circuit 2

REVIEW OF VOLTAGE, CURRENT, AND RESISTANCE: Write **I** for current, **V** for voltage, and **R** for resistance.

11. _____ Measured in amperes

12. _____ Measured in ohms

13. _____ A flow of charge

14. _____ Depends on length and width of a wire

15. _____ The rate at which charge passes a given point

16. _____ Measured in volts

17. _____ Describes potential difference

18. _____ Opposition to the flow of electric charge.