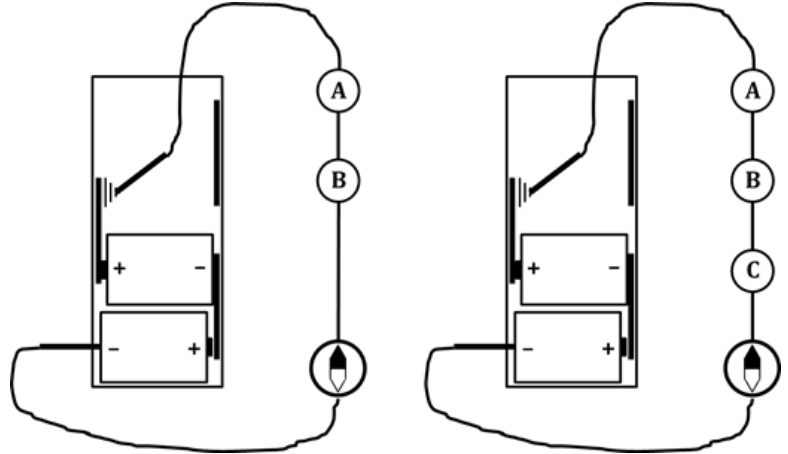


Homework Questions: Section 2

Name _____

1. In the circuits shown, all bulbs are identical.
 At the start, the circuit contains only bulbs A and B. At a later time, bulb C is added, as shown.



- a. Draw arrowtails and starbursts on the bulbs in both figures.
- b. When bulb C is added:
- i. Bulb A will... become brighter become dimmer stay the same brightness
 - ii. Bulb B will... become brighter become dimmer stay the same brightness
 - iii. the amount of compass deflection will be more than before less than before the same as before
 - iv. the direction of compass deflection will be opposite to before the same as before

2. Suppose you are given two new bulbs (Brand X), which are different from the round and long bulbs you have been using. You need to determine how the resistance of Brand X bulbs compares to that of both round and long bulbs. Describe an experiment you could conduct to solve this problem, AND state how the results of the experiment will provide you with the answer.

3. List the following materials, in order from lowest to highest resistance:

round bulbs
long bulbs
connecting wires

_____ < _____ < _____

LOWEST RESISTANCE < "MIDDLE" RESISTANCE < HIGHEST RESISTANCE

4. Describe one or more experimental observations that support your answer to Q3.

5. Refer to the circuit at right. Originally, it contained ONLY bulbs A and B. When bulb C is added:

a. the total resistance of the circuit

___ increases ___ decreases ___ stays the same

b. the flow rate of charge through the battery

___ increases ___ decreases ___ stays the same

c. the flow rate of charge through bulb A

___ increases ___ decreases ___ stays the same

d. the brightness of bulb A

___ increases ___ decreases ___ stays the same

e. the AMOUNT of compass needle deflection

___ increases ___ decreases ___ stays the same

f. the DIRECTION of compass needle deflection

___ changes ___ stays the same

