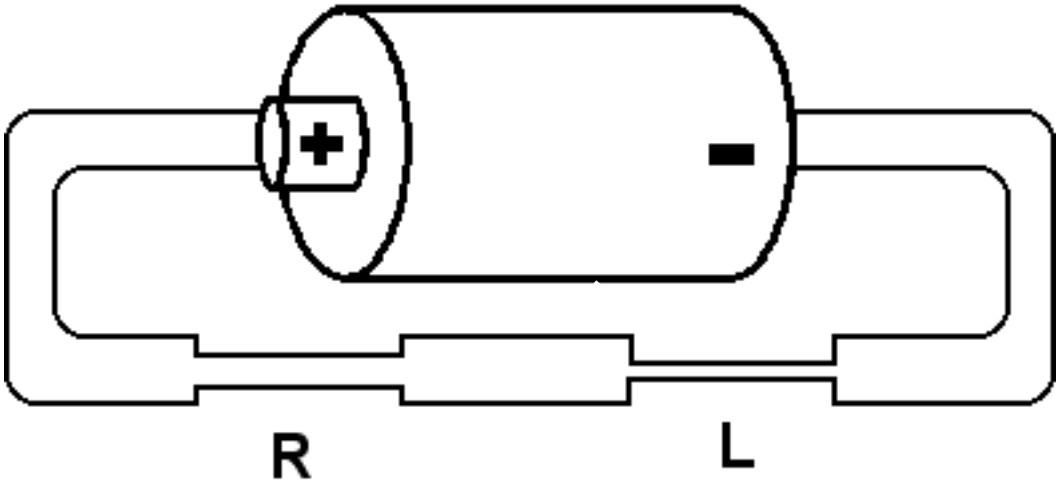
**Name**_____

**Date**_____**Pd**____

# E&M Unit 2 – Worksheet 1

1. Suppose a battery is connected in a circuit with both a round and a long bulb as shown in the diagram below.




   a. Draw a map of the charge distribution before and after each element in the circuit.

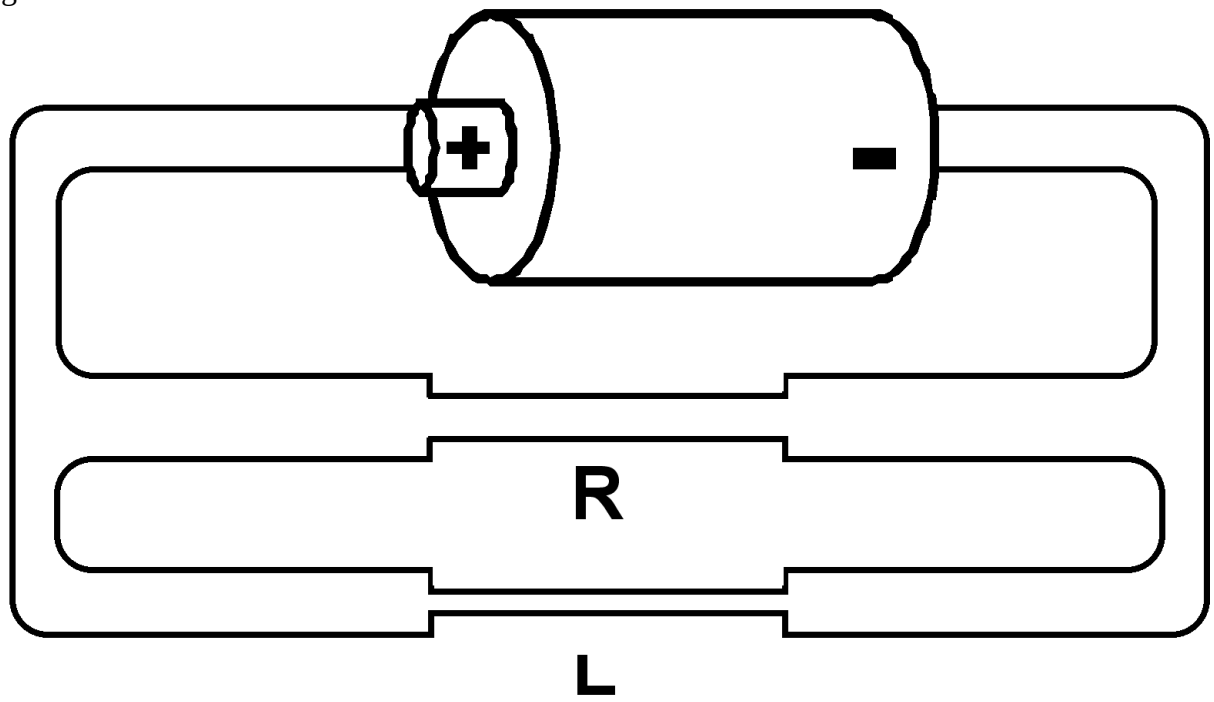
   b. Indicate the direction and relative strength of the electric field in the battery and the two bulbs.

   c. How does the flow rate of charge compare in the two bulbs? Explain.

   d. How does the potential difference across the two bulbs compare? Explain.

   e. Compare the brightness of the two bulbs. Use your answers to (c) and (d) to justify your answer.

2. Suppose a battery is connected in a circuit with both a round and a long bulb as shown in the diagram below.

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b. Indicate the direction and relative strength of the electric field in the battery and the two bulbs.

c. How does the flow rate of charge compare in the two bulbs? Explain.

d. How does the potential difference across the two bulbs compare? Explain.

e. Compare the brightness of the two bulbs. Use your answers to (c) and (d) to justify your answer..