

NAME _____

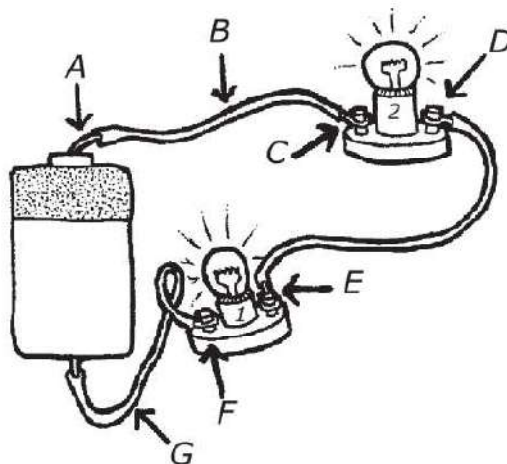
DATE _____

Scenario

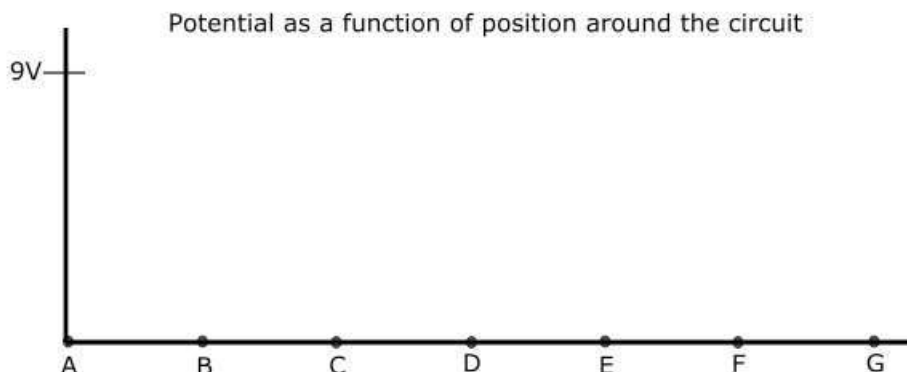
You have been given a 9V battery connected by wires to two identical light bulbs as shown.

Using Representations

PART A: Sketch a circuit diagram for the setup shown. Label positions A–G on your circuit diagram.



PART B: Sketch a qualitative electric potential vs. position graph.

**Qualitative Analysis**

PART C: If a wire is connected between points D and F, what happens to the brightness of the bulbs?

Bulb 1: _____ Increases in brightness _____ Decreases in brightness
 _____ Stays the same brightness

Bulb 2: _____ Increases in brightness _____ Decreases in brightness
 _____ Stays the same brightness

Justify your choices above in a few short sentences.

Data Analysis

PART D: The current delivered by the battery is shown at right as a function of time. How many coulombs of charge passed through the battery during the first 1,000 seconds?

