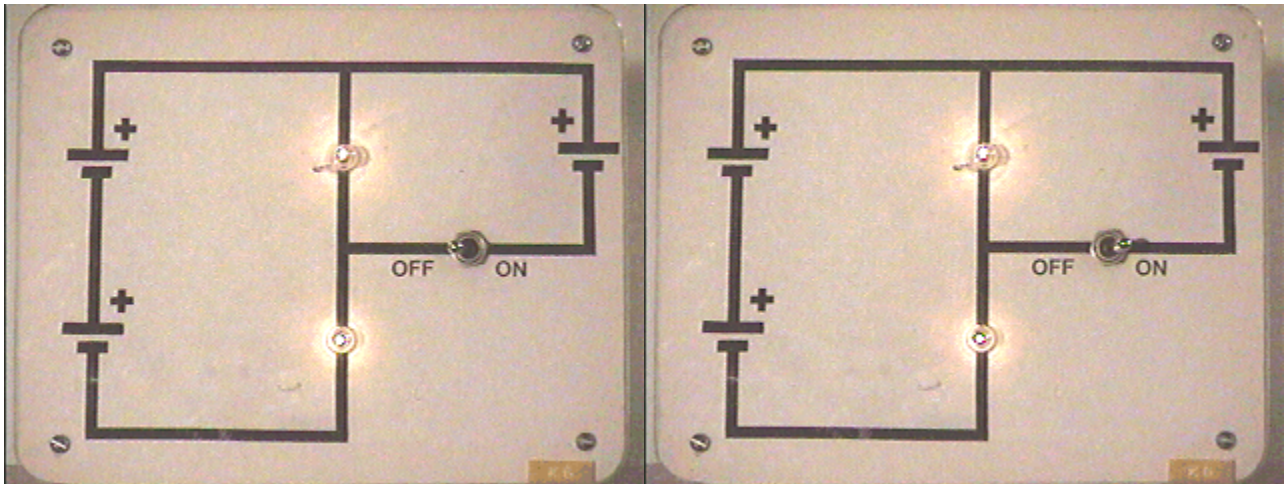
# Answer #22

The answer is (c): the bulbs remain at the same brightness, as can be seen by comparing the two photographs below.




Two important points are relevant to the explanation of this result. First, note that the potential at the point where the third battery joins the circuit of the other two remains the same when the switch is closed. This is so because all of the batteries are the identical, and the potential along the light bulb wire is divided equally between the bulbs because they are identical. Therefore, closing the switch does not do anything to the circuit.

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