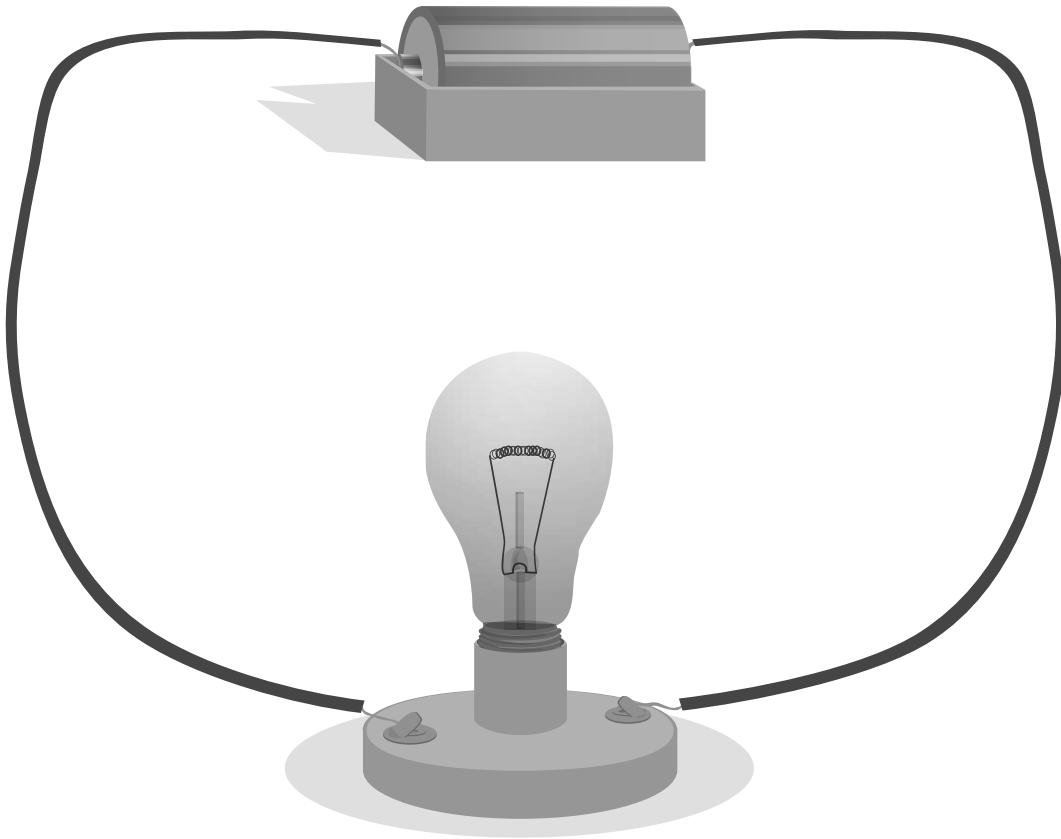


## Simple circuit

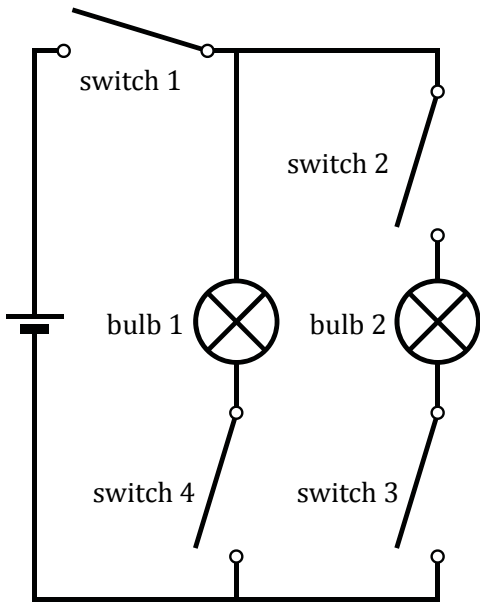


This is a very simple electric circuit.

1. Explain in as much detail as you can (thinking about both battery and bulb) why you think the bulb lights up.
2. How could you change the circuit to make the bulb brighter?
3. Explain why this would work.
4. If the circuit is left, why will the battery go flat eventually?

# Switches

In this circuit all the switches are open and both bulbs are off.



1) Emma wants to make bulb 1 light (and bulb 2 stay off). Which switches does she need to close?

- Switch 1 only
- Switch 3 only
- Switches 1 and 4
- Switches 1, 2 and 4

2) James wants to make bulb 2 light (and bulb 1 stay off). Which switches does he need to close?

- Switch 4 only
- Switch 1 and 2
- Switches 2 and 4
- Switches 1, 2 and 3

# Conductors and insulators

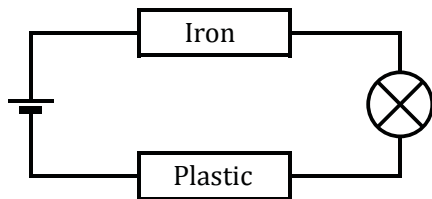
A pupil has two pieces of material. One is a conductor and the other is an insulator:

Conductor	Insulator
Iron	Plastic

He uses these to make several electric circuits.

For each circuit, say whether the bulb is on or off, and explain why you think so.

1)



The bulb is \_\_\_\_\_

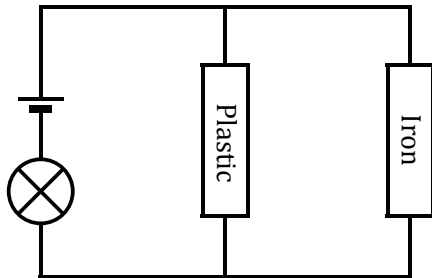
Explain your answer:

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2)



The bulb is \_\_\_\_\_

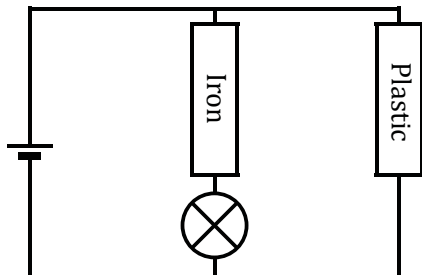
Explain your answer:

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3)



The bulb is \_\_\_\_\_

Explain your answer:

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