**Lesson 4: What affects current?**

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**TASK 1: CURRENT IS AFFECTED BY POTENTIAL DIFFERENCE AND RESISTANCE**

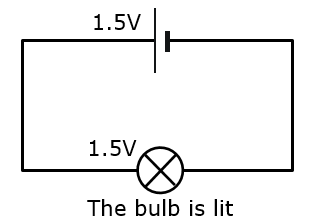
1. Fill the table to explain how the rope model shows the effect of potential difference and resistance on current.

|  |  |  |  |
| --- | --- | --- | --- |
| **What we did (rope model)** | **What it represents** | **Effect on current** | **What would we see?** |
| **Teacher pushes harder** |  |  |  |
| **Extra student holds rope** |  |  |  |

**TASK 2: WHAT WILL HAPPEN TO THE CURRENT?**

1. This circuit is set up.

Components are added to the circuit to see what happens.



Join the boxes to explain what happens when components are added.

Draw one line from the added **component(s)** to **what happens**. Draw another line to **the reason**.

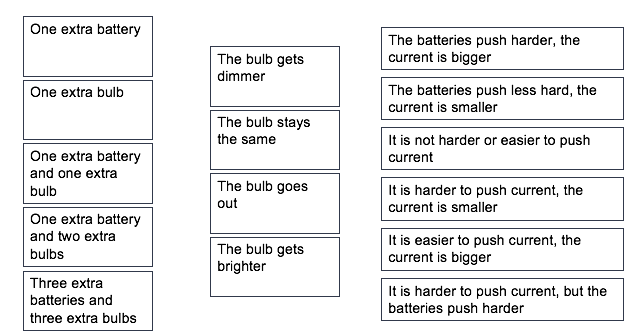


The resistance increases, so the current is smaller

It is not harder or easier to push current, so the current is the same

The batteries push less hard, so the current is smaller

The batteries push harder, so the current is bigger

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The resistance decreases, so it is the current is bigger

The resistance decreases, so the current is smaller

The resistance increases, but the batteries push harder so the current is the same

The resistance increases, so it is the current is bigger

**TASK 3: CURRENT OR POTENTIAL DIFFERENCE?**

1. **Current or potential difference?**

|  |  |
| --- | --- |
| **1.5**  **+** | **1.5**  **+** |
| Circuit with one bulb | Circuit with two bulbs |

Fill in the gaps to describe what happens in these circuits.

You should only use the terms **current** and **potential difference**.

1. **Circuit with one bulb**

The battery has a ………………………………………….. marked on it. This tells me how hard the battery can push ………………………………………….. around the circuit.

To make the bulb brighter I can use a battery with a bigger ………………………………………….. . This will push more ………………………………………….. through the bulb.

1. **Circuit with two bulbs**

If I add another bulb, it will make the ………………………………………….. smaller. This is because it is harder to push ………………………………………….. through two bulbs than one.

To make two bulbs as bright as one bulb was, I will need to use a bigger …………………………………………. .