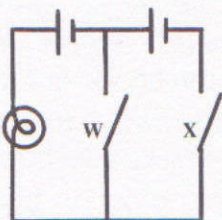


SERIES OR PARALLEL?

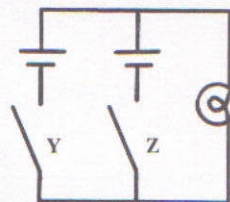


Electricity ()

1. Build the circuit on the left. Rate the bulb's brightness (on a scale of 1 to 5) in the table. Then do the same for the circuit on the right.



closed switches	bulb brightness
w only	2
x only	
y only	
z only	
y and z	



2. Why is it a bad idea to close switch w and x at the same time?

3a. Which arrangement produced more current — 2 cells wired in series or in parallel? Refer to the results in your table to support your answer.

3b. Is this increase caused by more voltage or less resistance? Explain.

4a. Does the voltage increase significantly as you add cells in parallel? Refer to the results in your table to support your answer.

4b. What do you gain by wiring cells in parallel?

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DOUBLE-THROW SWITCH



Electricity ()

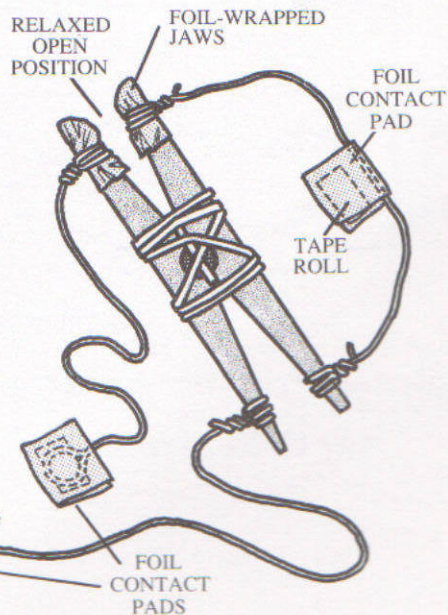
1. Write your name on a clothespin, then take it apart. Build a single-throw switch as in activity 10.

2. Neatly wrap the "jaws" in 5 cm squares of foil. Notice that the contact points are not touching at either end of the clothespin when it is relaxed.

3. Wire the wing to the foil on one side only. Wrap a third 30 cm wire around the other foil jaw.

4. Tape 3 foil contact pads where shown.

5. Wire this double throw switch into a circuit with 2 cells in series and 2 bulbs so they can be alternately turned on and off. Diagram how you did this.



DOUBLE-THROW SWITCH

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