

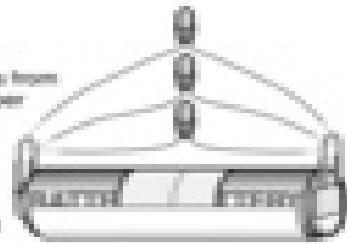
It's All in the Lineup!

Topic: Parallel and series circuits

Materials for each pair of students: 2 D batteries, 3 personal battery testers from "A Simple Circular Path", 2 large paper clips, masking tape, half of a toilet paper tube

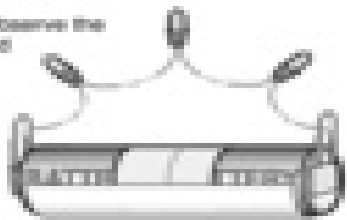
Steps:

1. Tape the batteries together, positive end to negative end. Then cradle them in the tube half as shown.
2. Tape a paper clip on the raised metal top of the top battery. Tape a second clip to the bottom battery as shown.
3. Connect the battery testers as directed below.



Parallel circuit—Connect each end of each tester to a different paper clip. Observe the lit bulb. Pull one bulb from its socket. What happens? Remove a second bulb. What happens?

Series circuit—Twist the wires of all three testers together end to end. Connect the unused ends of the first and third testers to the paper clips as shown. Observe the lit bulb. Then pull one bulb from its socket. What happens? Replace the bulb. Then remove the middle tester from the strand. What happens? Now connect the loose ends of the remaining two testers. What happens?



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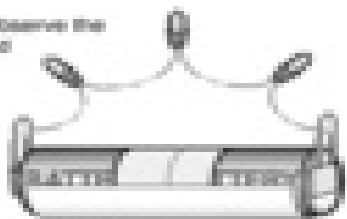
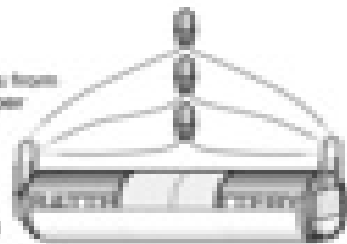
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