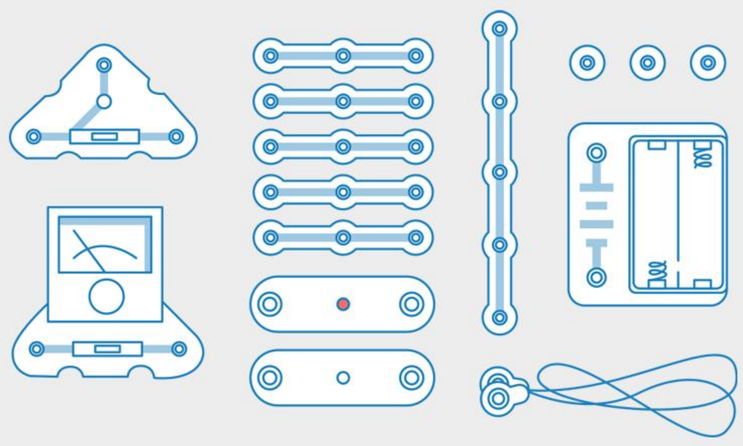
GRADE 7

Name _____ Date _____

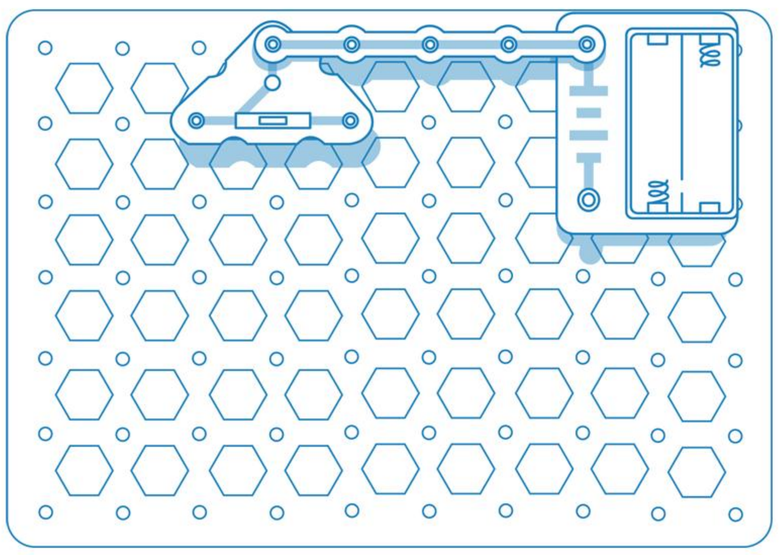
The smart grid.

Parts List

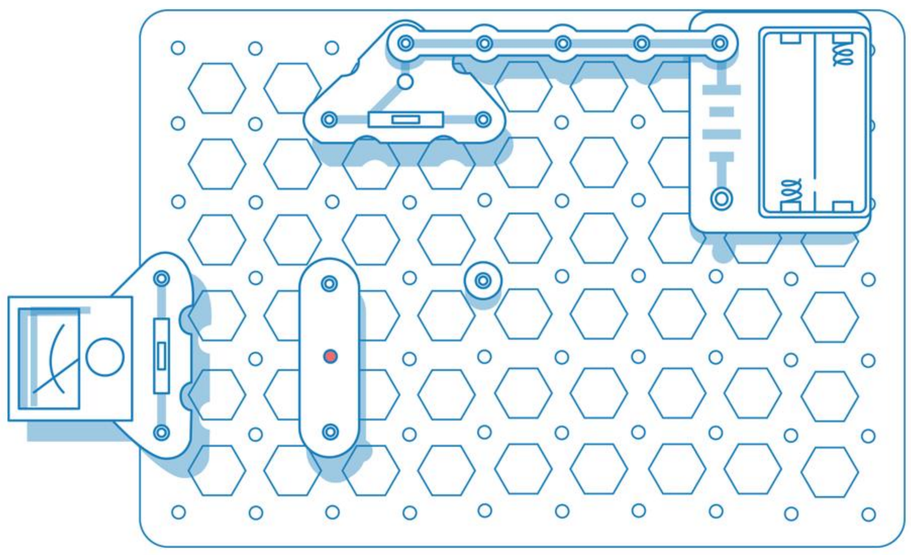
- Base Grid
- Battery (B1)
- Slide Switch (S5)
- Meter (M6)
- 5-Snap Wire x1
- 3-Snap Wire x5
- 1-Snap Wire x3
- Red LED (D1)
- White LED (D5)
- Black Jumper Wire



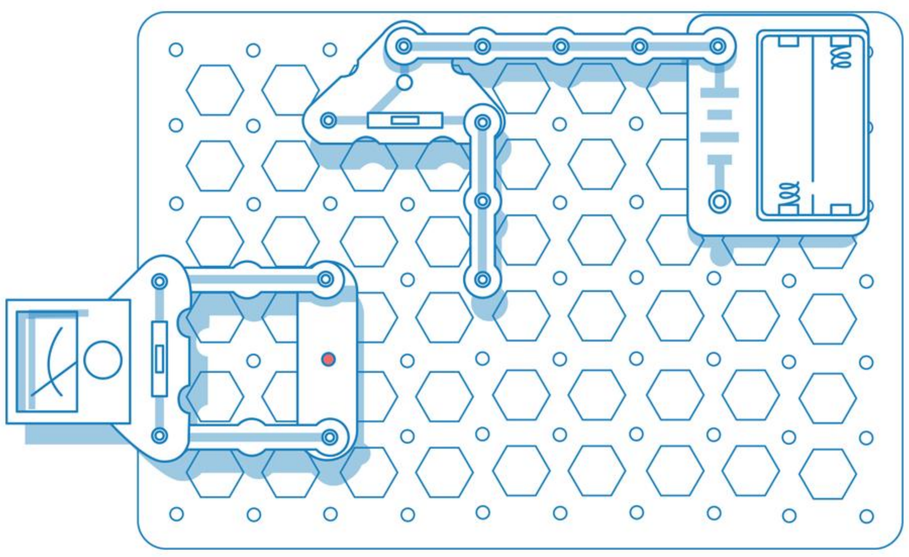
1 Connect the battery and the slide switch with the 5-snap wire as shown. Put switch in “C” position



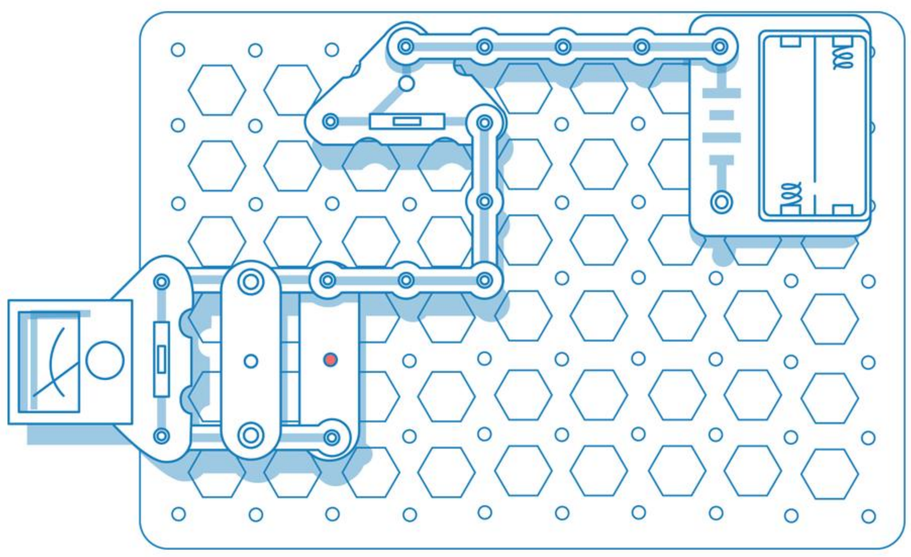
2 Snap the meter (M6), one of the LED lights, and one of the one-snap wires to the grid.



3 Place three of the 3-snap wires and one 1-snap wire as shown below.



4 Place another 1-snap wire on top of the one already on the switch. Place a 3-snap wire and the other LED.



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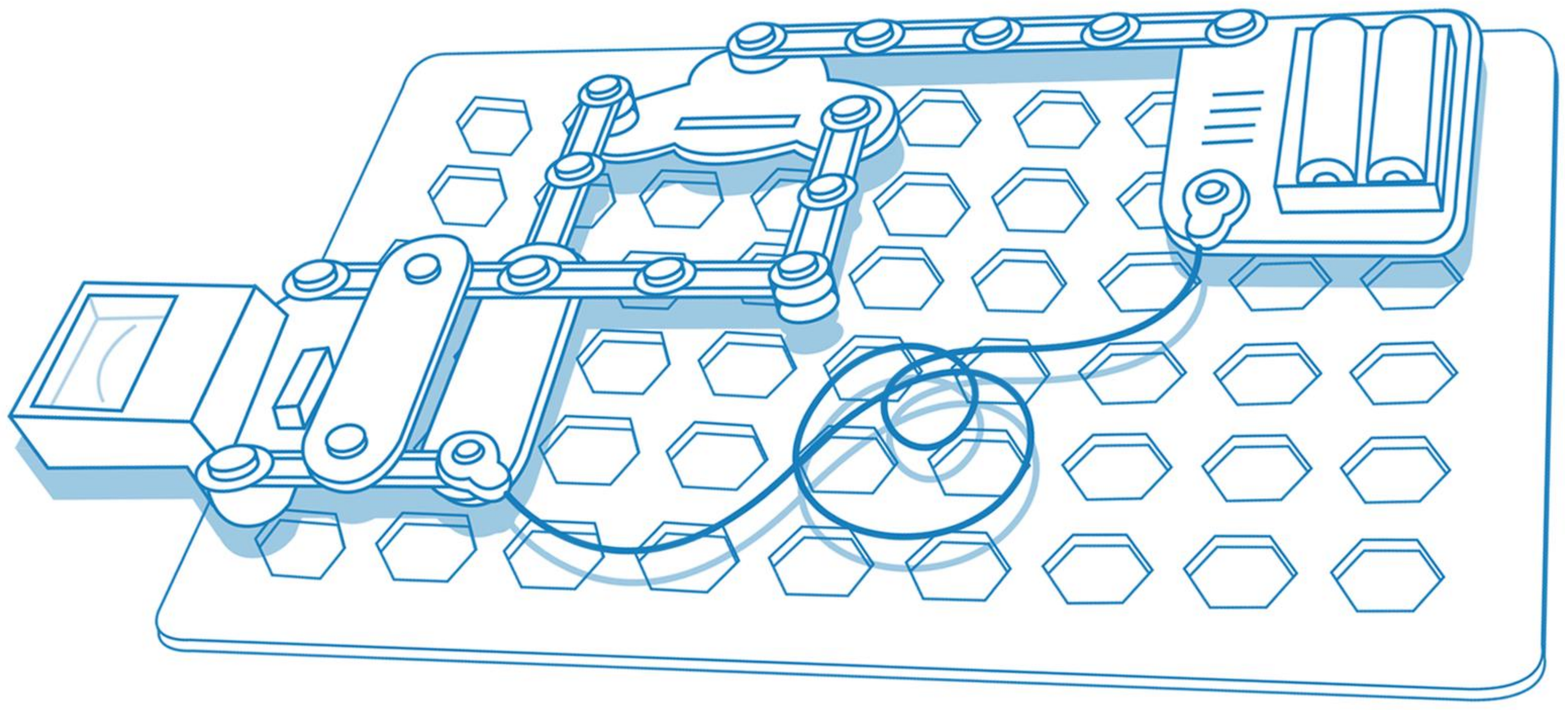
5 Place the final 3-snap wire to connect the switch and the LED. Use the black jumper wire to complete the circuit with the battery as shown. When the circuit is complete, the LEDs will light up and the meter will show a reading.

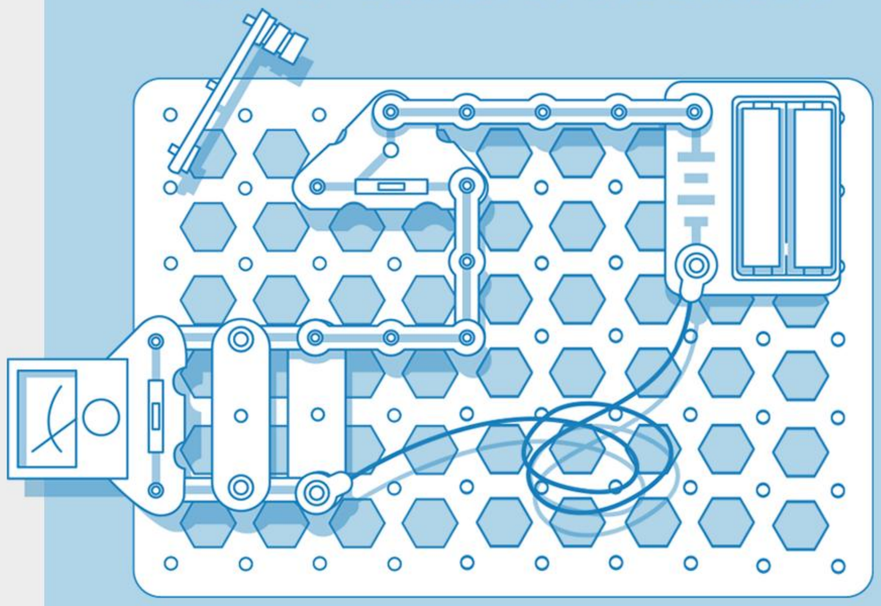


If they don't light up, make sure the LEDs are facing the correct direction. Look at the picture and make sure the arrows on your LEDs point in the same direction. These represent a neighborhood of homes.

Oh no! A storm knocked a tree into the line!

The houses have lost power! The Smart Grid detects the outage and sends a signal to the switch. We only have a manual switch in the model, but imagine how it could be done automatically instead of by hand. Flip the switch to the "B" side to reroute the electricity around the problem area. The houses will now have power again!

Pull the 3-snap wire from the "C" corner of the switch



It's OK if the 1-snaps come off!

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