pHet simulation -- Circuit Construction Kit – DC only

This is a very easy lab. Although we will learn about conductors and insulators, it is also about reading and following instructions and learning how to use this pHet simulation. Please check off the skills as you master them. Do them in order.

✓	Skill	Instructions
	I can launch the pHet simulation	
☐	I can find the pHet website.	Google 'pHet'. Chose the first 'hit' that comes up. Choose the main page.
☐	I can find the simulations.	Choose 'play with sims' on the home page.
☐	I can find Electricity sims	Under 'simulations' on left, click on 'physics'. Then click on 'Electricity...''
☐	Launch the right sim	Choose 'Circuit Construction Kit (DC only). Choose 'run now'
	I can properly use the simulation	
☐	Lengthen/shorten wires	Click and drag a wire onto the 'table'. Click on a circle at the end and lengthen and shorten the wire. This helps when trying to connect them!
☐	Connect wires	Drag on another wire and overlap the ends. They should connect
☐	Disconnect wires	Click on the circle between 2 wires. Right click and 'split junction'
☐	Remove wire	Right click on a wire and choose 'remove wire'.
☐	Build a circuit (rectangular in shape)	Join 8 wires together and shape them into a rectangle. No wierd shapes!
☐	Add a switch	Drag in a switch and add to your circuit.
☐	Rotate a switch	Click on switch end and move to rotate the switch and change orientation.
☐	Turn switch on & off	Click on the moveable part of switch and learn to close it (turn on) and close it (turn off)
☐	Add a light bulb	Add a bulb to the circuit.
☐	Add a battery	Add a battery to the circuit. You should still have a large rectangle.

1. Hopefully by now you have a rectangular circuit which includes a battery, a switch and a lightbulb. Close the circuit and turn it on. You should see the blue balls move.
   Is the light bulb on or off when the blue balls move? _____
   What are these blue balls? _____
   What happens to the lightbulb when you open the switch (turn it off)? _____

2. Now open the circuit and create a gap. Open the Grab Bag (in upper right corner and hypothesize which of these items are conductors that will allow electrons to keep flowing. Now test!

Hypothesized conductors	Actual conductors

Did any of your results surprise you? Explain.