
Question 2

In the simulator, build a circuit with two light bulbs, one battery, and wires. Build the circuit so that if you break the connection at one bulb, both light bulbs go out.

To break a circuit connection, right-click at the bulb and select "split junction".

- a) Take a computer screenshot of your new circuit and insert an image of it below.

- b) Why does the other bulb go out if you break the connection at one bulb?

- c) This circuit is called a **series circuit** because the bulbs are hooked up in one long series or line. Name somewhere you have seen a string of lights that are also a series circuit.

Question 3

In the simulator, build a circuit with two light bulbs, one battery, and wires. Build the circuit so that if you break the connection at either light bulb, the other bulb stays lit.

- a) Take a computer screenshot of your new circuit and insert an image of it below.

- b) Why do the other bulbs stay if you break the connection at one bulb?

- c) This circuit is called a **parallel circuit**, which has two or more single loops connected to the same voltage source (battery). When one bulb goes out in these circuits, the other lights stay on! Name somewhere you have seen many bulbs hooked up to one power source, but one bulb can go out without affecting the others.

Question 4

You design toys for a toy company. Your boss wants you to hook up the lights in the toy car you are working on in the cheapest way possible without consideration for the quality of the toy. Which circuit should you use if you want to save money by using fewer parts? Why would this circuit be cheaper?

Question 5

You are an electrician working on a house. What type of circuits should you use for the house so that the owners do not call to complain about their wiring? Why use this circuit?

Question 6

Experiment with the simulator and see what you can make it do!

- a) What can you do to make the light bulbs glow brighter?
- b) What can you do to make the light bulb glow dimmer?
- c) How can you cause a fire in the simulator circuit?

Congratulations! You have completed this practice worksheet.

Now it's time to carefully compare your answers to the suggested answers in the online course. When comparing, you should feel free to make changes to your answers or make extra notes.

Keep this practice worksheet for study purposes. Using practice worksheets as a study tool to review for exams is a great idea.

If you unsure about any of the questions or answers, or you just want more feedback, share this practice worksheet with your teacher and ask for assistance. You can do that by emailing the teacher, or by submitting it in the Course Questions Forum in the online course. If you are using this practice worksheet in Google Drive, don't forget to change the sharing settings so that anyone can view it before sending the link to your teacher.
