

Science 9
Unit D: Electrical Principles and Technologies
Lesson 8
Practice Worksheet 43: Ohm's Law

Complete the following questions as you use two online simulations. Open the simulations using the links in the online course.

Question 1

Refer to the Ohm's Law simulation.

- a) Identify what each variable represents. Identify the unit that each variable is measured with. Write your answers in the table below.

Variable	Meaning	Unit of Measurement
V		
I		
R		

- b) Manipulate the buttons on the simulation. What conditions produce the greatest current?
- c) Manipulate the buttons on the simulation. What conditions produce the least current?

Question 2

Refer to the Resistance in a Wire simulation.

Answer the questions below with the simulation and with your knowledge from earlier sections. (Hint: How does the resistance change? How does the resistance affect Ohm's Law?)

- a) Predict what will happen to the current in a circuit if the voltage is kept constant but the wire diameter is increased.

- b) Predict what will happen to the current in a circuit if the voltage is kept constant but the wire length is increased.

- c) Predict what will happen to the current if the resistance is unchanged but
 - i) the voltage is increased

 - ii) the voltage is decreased

- d) Predict what will happen to the resistance if you change from a copper wire, which is a good conductor, to an iron wire, which does not conduct as well.

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.

