**Resistance Worksheet Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Simulation: <https://phet.colorado.edu/sims/html/resistance-in-a-wire/latest/resistance-in-a-wire_en.html>

1. Draw an example of a resistor with a resistance of 1.00 ohms. Label the resistivity, the length, and the area. Show mathematically that your resistor would have a resistance of 1.00 ohms.
2. What do black dots within the cork represent?

1. Develop a method to test how the resistance of a resistor changes as the length changes. Describe how you would complete this in a lab. Collect data for at least five trials. Graph your data and briefly explain the results in 1-3 sentences.

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| **Method** | | | |  |
|
| **Resistance** | **Resistivity** | **Area** | **Length** |
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1. Develop a method to test how the resistance of a resistor changes as the resistivity changes. Describe how you would complete this in a lab. Collect data for at least five trials. Graph your data and briefly explain the results in 1-3 sentences.

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| **Method** | | | |  |
|
| **Resistance** | **Resistivity** | **Area** | **Length** |
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1. Develop a method to test how the resistance of a resistor changes as the area changes. Describe how you would complete this in a lab. Collect data for at least five trials. Graph your data and briefly explain the results in 1-3 sentences.

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| **Method** | | | |  |
|
| **Resistance** | **Resistivity** | **Area** | **Length** |
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1. Is it possible to decrease the resistance of the wire without changing the material it is made of? Justify your answer.