

**Je mehr, desto mehr? AB 43**

Elektrischer Widerstand, Spannung, Stromstärke

1. Trage deine Messwerte aus dem Experiment in die Tabellen ein.

**Messwerte an der Soffittenlampe**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Einstellung am Netzgerät** | **2 V** | **4 V** | **6 V** | **8 V** | **10 V** | **12 V** |

Gemessene Spannung

Gemessene Stromstärke

Berechneter Widerstand (Aufgabe 3)

**Messwerte am Konstantandraht**

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| --- | --- | --- | --- | --- | --- | --- |
| **Einstellung am Netzgerät** | **2 V** | **4 V** | **6 V** | **8 V** | **10 V** | **12 V** |

Gemessene Spannung

Gemessene Stromstärke

Berechneter Widerstand (Aufgabe 3)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Lampe** | | | | | | |  |  |  |  |  |  |  |  |  | **Konstantan** | | | | | | |  |  |  |  |  |  |  |  |  |
| Stromstärke I [Ampere] | | | | | | |  |  |  |  |  |  |  |  |  | Stromstärke I [Ampere] | | | | | | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1,2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0,25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0,2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0,15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0,1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0,05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 0 | | | |  |  |  | 5 | |  |  |  | 10 Spannung U [Volt] | | | | 0 | | | |  |  |  | 5 | |  |  |  | 10 Spannung U [Volt] | | | |

2. Beschreibe die beiden Graphen mit je einem Satz.

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Elektrischer Widerstand, Spannung, Stromstärke

1. Berechne den elektrischen Widerstand bei jeder Messung mithilfe des Ohm’schen Gesetzes. (Hinweis für Tüftler: Vergleiche deine Berechnungen auch mit den beiden Graphen)

a. Wie verändert sich der elektrische Widerstand bei zunehmender Stromstärke beim Konstantandraht? Halte deine Antworten mit 2–3 Sätzen fest.

b. Wie verändert sich der elektrische Widerstand bei zunehmender Stromstärke bei der Soffittenlampe? Halte deine Antworten mit 2–3 Sätzen fest.

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