**Stopping Voltage and the Photoelectric Effect**

Read pages 715 – 719 in your textbook.

1. Explain how electrons can be reversed in a cathode ray tube after being ejected.
2. Copy down the highlighted equation on page 716.
3. Answer the Practice Problems on page 716 (Answers are on the next page).
4. Complete the problem below:

A Physicist measures the stopping Voltage of electrons and wants to use this to experimentally determine the value of Planck’s constant. He gathers the following data:

|  |  |  |
| --- | --- | --- |
| Trial | Stopping Voltage (V) | Frequency (x 1016 Hz) |
| 1 | 250 | 6.00 |
| 2 | 259 | 6.67 |
| 3 | 310 | 7.50 |
| 4 | 355 | 8.57 |
| 5 | 410 | 10.0 |

Use this data to determine the work function, threshold frequency and the experimental value of Planck’s constant.

*Hint: Recall the equation Ek = Ephoton – Wo and what each variable becomes in a linear line y =mx+b. Remember that Ekmax = qVstopping.*