Science 9 Physics Notes Lesson 5 Name:

*Measuring Voltage & Current*

Objectives: By the end of the lesson you should be able to:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Ammeters and Voltmeters:**

* Ammeters are put into circuits in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Voltmeters are put into circuits in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conversions: Amps and Milliamps**

* Amps (\_\_\_\_\_) are too big for more appliances so we use a smaller unit called millAamps (\_\_\_\_)
* There are \_\_\_\_\_\_\_\_\_\_\_ mA in every A
* So 3.5 A = \_\_\_\_\_\_\_\_\_\_\_\_\_ mA (we moved the decimal 3 times to the right)

**Practice Conversions:**

1. 17.25 A =
2. 0.61 A =
3. 0.000011 A =
4. 1419 mA =
5. 37805 mA =
6. 6 mA =

**Circuit Calculations:**

1. Parallel 2 paths: IT = 300 mA and I1 = 150 mA, what is I2?
2. Parallel 3 paths: each path has a current of 150 mA, what is IT?
3. Parallel 4 paths: I1 = 1.5 A, I2 = 0.35 A, I3 = 650 mA and I4 = 5 mA, what is IT?

**Conversions: Volts and milliVolts**

* Exactly the same as Amps and milliAmps!
* There are­­­­ \_\_\_\_\_\_\_\_\_mV in every V
* So 7.5 V = \_\_\_\_\_\_\_\_\_\_\_\_mV (we moved the decimal 3 times to the \_\_\_\_\_\_\_\_\_\_\_\_\_)
* EX: 450 mV = \_\_\_\_\_\_\_ V

825 V = \_\_\_\_\_\_\_\_ mV

**Conversions: Ohms and kiloOhms**

* ***We will learn more about Ohms and resistance next class but…***
* **Ohms** (\_\_\_\_\_\_) are too small for many appliances so we use a \_\_\_\_\_\_\_\_\_\_\_\_ unit called **kiloOhm** (\_\_\_\_\_\_)
* There are \_\_\_\_\_\_\_\_\_ Ω in every kΩ
* So 150 Ω = \_\_\_\_\_\_\_\_ kΩ (we moved the decimal 3 times to the \_\_\_\_\_\_\_\_\_\_)

**Practice Conversions**

1. 4670 Ω =
2. 900 Ω =
3. 56 500 Ω =
4. 8.5 kΩ =
5. 0.9 kΩ =
6. 24.8 kΩ =