**Ohm’s Law Math Practice Name*:***
Physical Science

The speed or velocity of a wave can be found using the following equation:

$$I=\frac{V}{R}$$

I is the current, measured in amps (A)

*V* is the voltage, measured in volts (V)

R is the resistance, measured in ohms (Ω)

**Problems:** Work through the following problems. First write the appropriate equation with variables, and then fill in the numbers and solve. Make sure your answer has the correct units. The first one has been done as an example.

1. A copper wire is connected to a dry cell battery with a voltage difference of 1.5V. The current flowing through the wire is 1.2 A. What is the resistance of the wire?
2. A copper wire is connected to a 1.5 V dry cell battery. The current flowing through the wire is 1.4 A. What is the resistance of the wire?
3. A copper wire is connected to a dry cell battery with a voltage difference of 6V. The current flowing through the wire is 1.2 A. What is the resistance of the wire?
4. A copper wire is connected to a dry cell battery with a voltage difference of 6V. The current flowing through the wire is 12 A. What is the resistance of the wire?
5. A bulb with a resistance of 60 Ohms is in a circuit with a 12V battery. What is the current through this circuit?
	1. What is the current if you add one more bulb? (***hint:*** think about what the new resistance will be)
	2. What is the current if you add two more bulbs to the original circuit? (***hint:*** you now have a total of 3 bulbs)
6. A wire has a current of 6 A and a resistance of 2 Ohms, what is the voltage of the battery it is connected to in the circuit?
7. Calculate the voltage difference across a 25 Ohm resistor if a 0.3 A current is flowing through it.