Health Science Worksheet   Ohm's Law   Please complete this while watching the Ohm's law lesson.

1.   Write down and memorize Ohm's Law:

2. Sketch the symbol for a battery:

3. Sketch the battery again and connect it to three resistors in parallel with each other.

4. Sketch a complete circuit that includes a 12 volt battery connected to three resistors in parallel with each other having values of 2 ohms, 3 ohms and 2 ohms. Connect the three parallel resistors to a 2.25 ohm resistor in series with the parallel resistors, add a switch and then complete the circuit back to the battery. Label the current.

5. Write down and memorize the fraction rule that is used to add resistors that are in parallel with one another.

6. Use the fraction rule to determine the total resistance of a 2 ohm, 3 ohm and 2 ohm resistor in parallel. Show all work, including determining the common denominator.

7. What is the decimal equivalent of 6/8 ? _____

8. The series equivalent of the parallel resistors is 0.75 ohms. That group of parallel resistors is in series with a 2.25 ohm resistor. What is the total resistance in the circuit? Show your work.

9. Use Ohm's law to determine the current in the main body of the circuit. _____

10. Determine the voltage drop across the 2.25 ohm resistor. _____

11. Determine the voltage drop across the 0.75 ohm group of parallel resistors. _____

12. Write down and memorize the definition of electrical current:

13. Write down and memorize the equation that allows us to calculate the power required by an electrical circuit. _____

14. How much power in watts, is required for a circuit that has 3 amps of current and a 12 volt power supply? _____