GRADE 8

1. Describe what "electricity" is, in your own words.

2. Explain what the electrical terms voltage, current, and resistance mean, using your own words.

3. What units of measurement are used to express quantities of voltage, current, and resistance?

4. What is the difference between DC and AC electricity?

5. Draw a circuit diagram using a bulb, connecting wires, switch and an ammeter.

6. Draw a circuit diagram using a bulb, connecting wires, switch and a voltmeter.

7. Is it possible to have a condition where an electrical voltage exists, but no electric current exists?

Conversely, is it possible to have a condition where an electric current exists without an accompany in Voltage? Explain your answers, and give practical examples where the stated conditions are indeed possible.

6. Given two lengths of metal wire, which one will have the least electrical resistance: one that is short, or one that is long? Assume all other factors are equal (same metal type, same wire diameter, etc.).

7. Given two lengths of solid metal wire with round cross-sections, which one will have the least electrical resistance: one that is small-diameter, or one that is large-diameter? Assume all other factors are equal (same metal type, same wire length, etc.).

8. What is the relation between V, I and R. Write in the equation form.

9. State Ohm’s law.