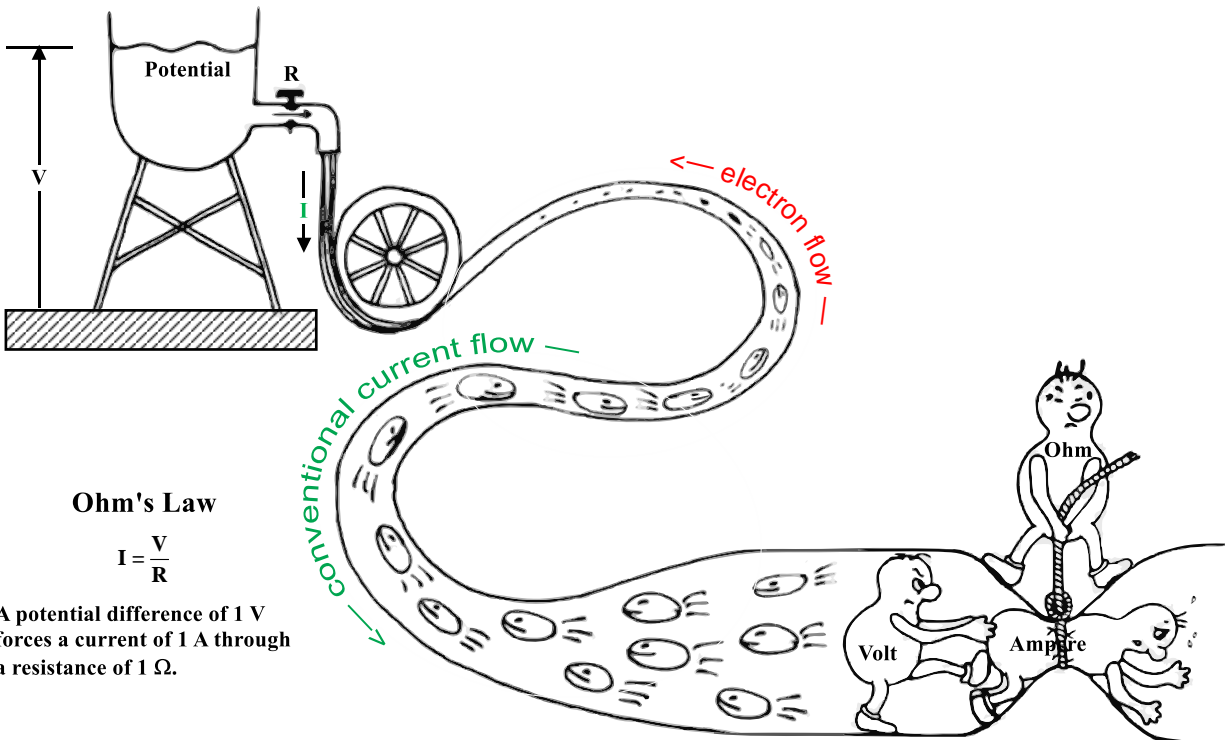# Water Analogy

If we compare electric current with water flowing through a pipe, then:

> Voltage ↔ Water Pressure / Force / Potential
> Current ↔ Water Flow
> Resistance ↔ Valve / Opposition to Flow

Ohm's Law

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

A potential difference of 1 V forces a current of 1 A through a resistance of 1 Ω.

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1 ampere is defined as a flow of 1 coulomb (or $\approx 6.241 \times 10^{18} = 6,241,000,000,000,000,000$ electrons) per second past a fixed point.