Electronics
Electrical Terminology

Terry Sturtevant

Wilfrid Laurier University

September 9, 2013

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- what **voltage, current, and resistance** mean

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- how to measure them

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  By convention, the direction of current flow in a circuit is opposite to the direction of electron flow *(Blame Benjamin Franklin.)*

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  kΩ (10^3 ohms) or MΩ (10^6 ohms) are common.

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- Potential *difference*
- Measured in volts using a voltmeter

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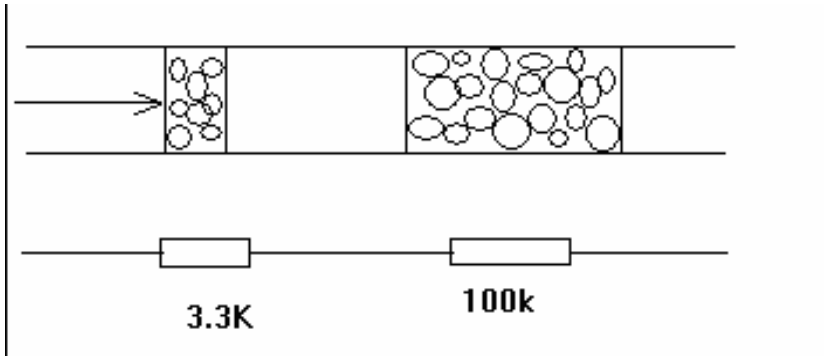
- if measured at a *point* in a circuit, that means it is measured between the point and *ground*

Water analogy

Water analogy



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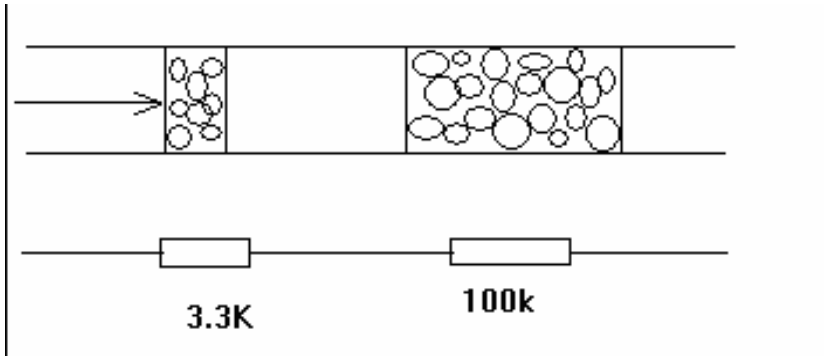

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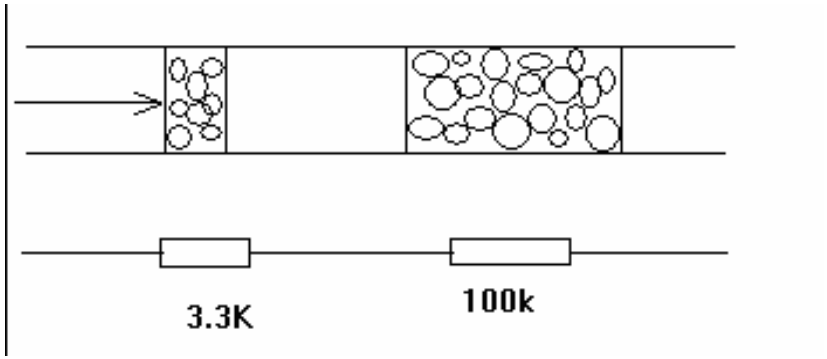

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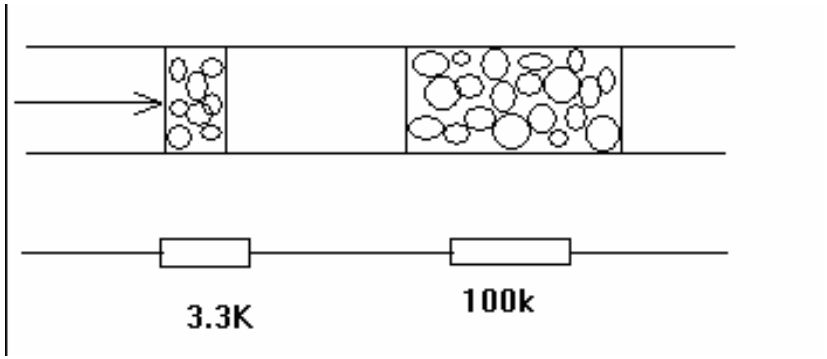

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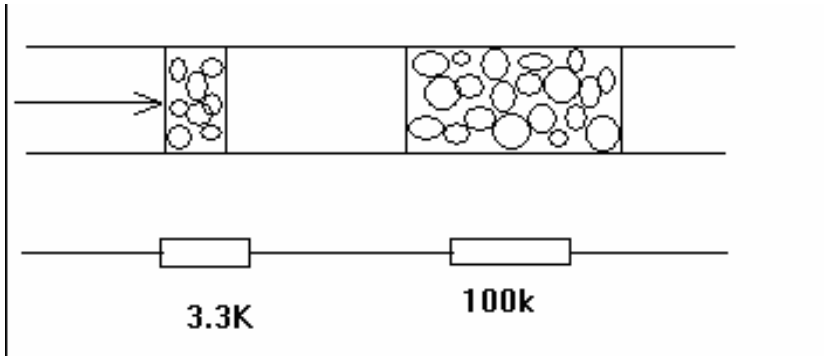

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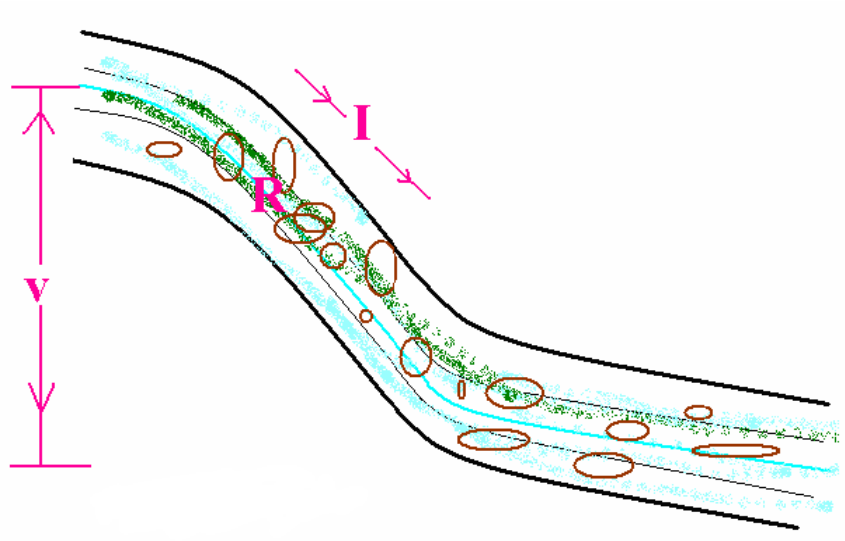
- resistors $\rightarrow$ narrow or obstructed pipes which limit current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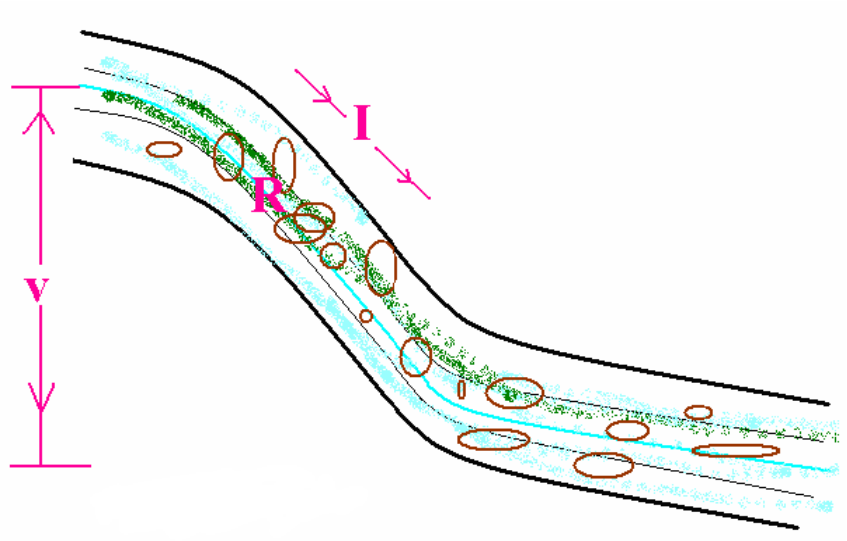

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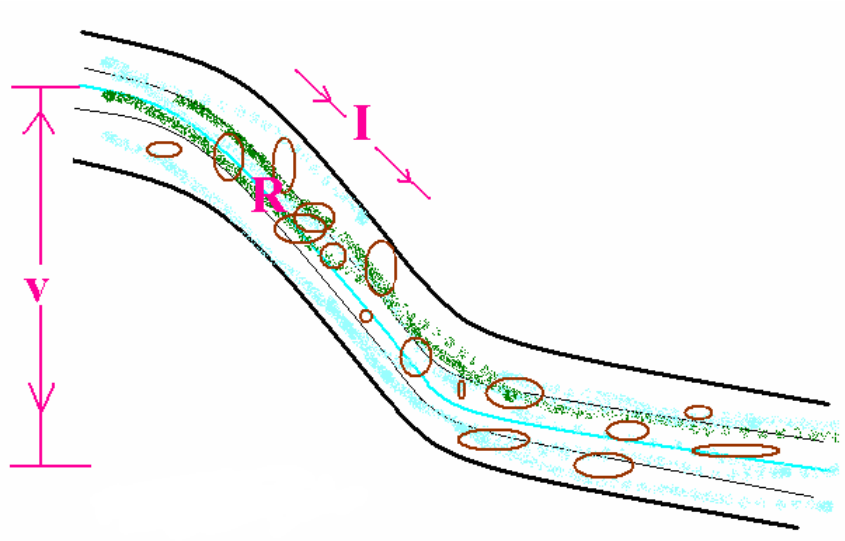

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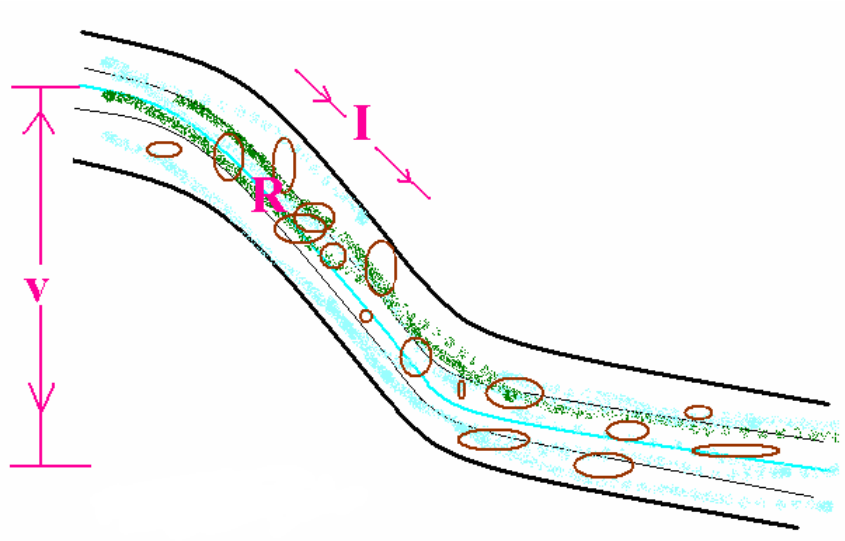

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- increase the water pressure
- use less rocks or widen the pipe

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- lower the resistance

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Power is meaured in Watts, (W), although sometimes you may see VA; why?

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6. $P = I \times V = I^2 R = \frac{V^2}{R}$