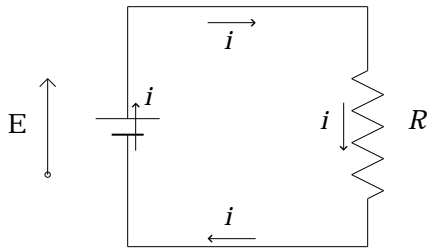


Analogy between electric and fluid circuits

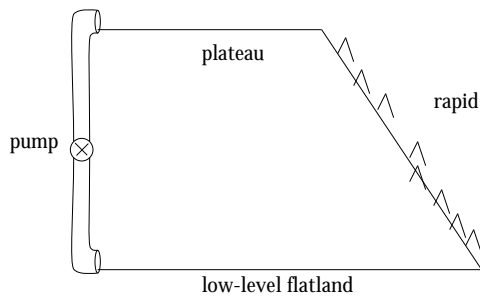
Dan Styer

A simple circuit

Electric circuit



Water flow circuit



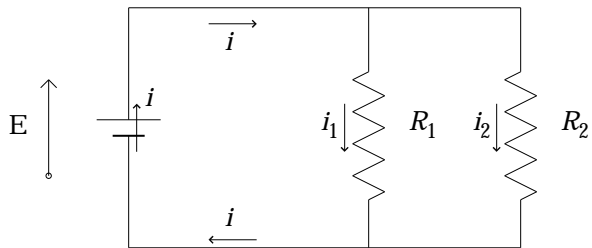
electric current (Coulombs/sec.)	↔	water current (gal./min.)
emf device	↔	pump
resistor	↔	rapid
electric force	↔	gravitational force
non-electric force of emf device	↔	force of pump blades
resistive collision forces	↔	forces of rock collisions
voltage (electric potential)	↔	height (gravitational potential)

Avoid misconceptions!

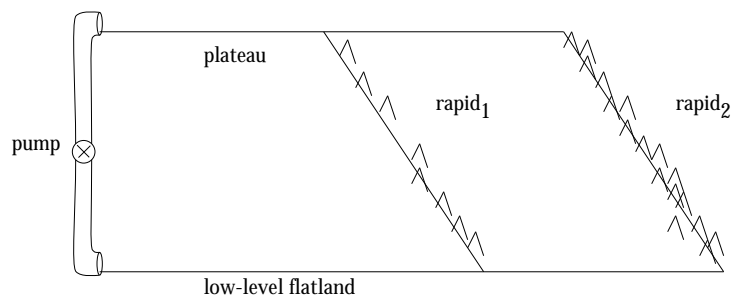
- Current is not speed of charge carriers. (Water flows slow and wide on the plateau, fast and narrow in the rapid.)
- Current is not “used up” as circuit is traversed.

A more complex circuit (two resistors in parallel)

Electric circuit



Water flow circuit



Two rapids between the plateau and low-level flatland, one with more boulders. More water takes the path with fewer boulders, but some water takes the path with more boulders.

Avoid misconceptions!

- Current does not “take the path of least resistance”.