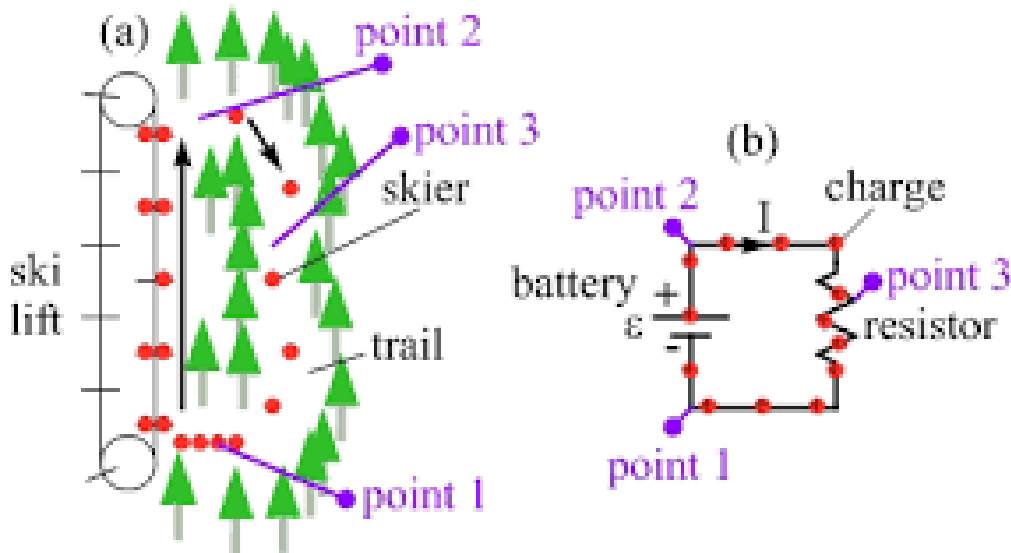


Electrostatics

- **Electric charges** (normally denoted with letter Q), can be positive or negative.
- Opposite charges attract, same-sign charges repel.
- Unit of charge is called Coulomb (C).
- **Voltage V** is an electric potential energy per charge. It tells you how much work the charge of 1 Coulomb can do in an electric circuit. One typically measures a **Voltage difference** between two points in a circuit. It is similar to measuring height on a ski slope. As the name suggests, it is measured in Volts (V), $1\text{ Volt} = 1\text{ Joule/Coulomb}$.



$$V = \frac{E_{\text{potential}}}{\Delta Q}$$

Homework

Problem 1

In several recent scientific papers, it was demonstrated that insects (e.g. bees), as well as spiders, use electrostatics to function (mostly to eat). Use Internet to find out more on any of those stories, sketch a picture and explain the science in a couple of sentences.

Problem 2

1.5 Volt battery has pumped 3 Coulomb of electric charge through it. What is the maximum amount of work that this charge can do in the electric circuit?