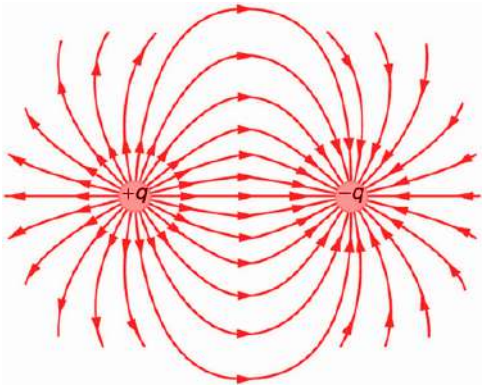
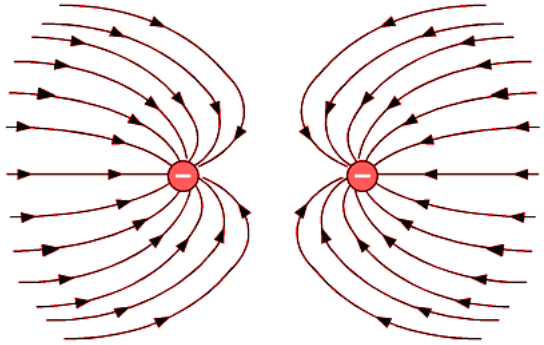
Electric Fields Flipped Lesson



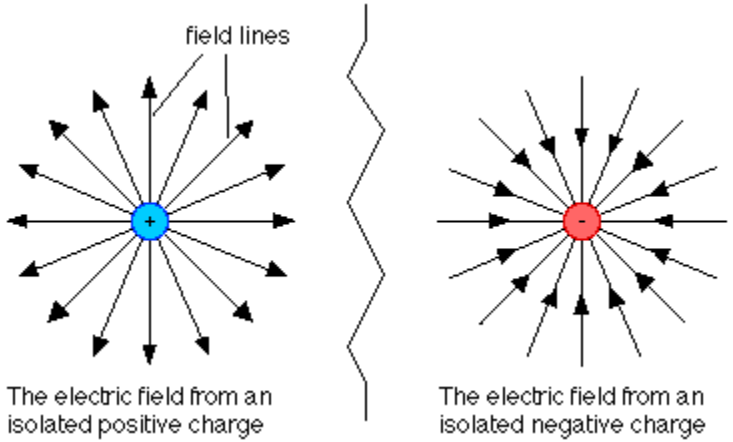


Does the electric field even exist?

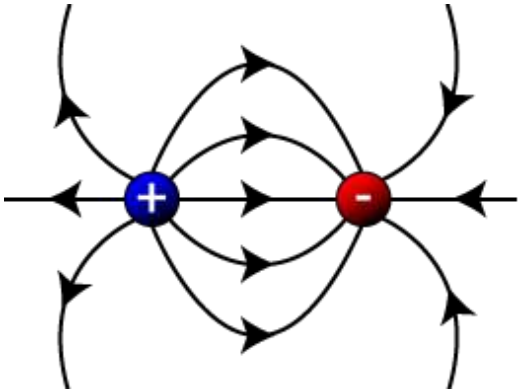
Can we see an electric field?
How can a force be exerted over empty space?

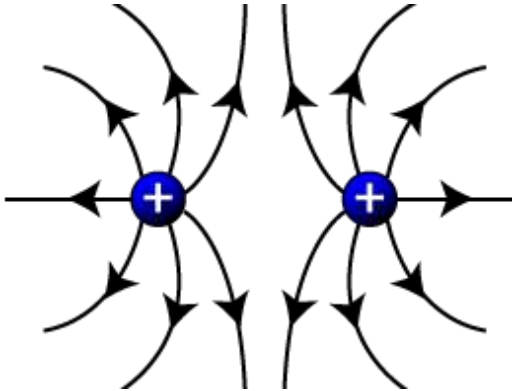
Electric field

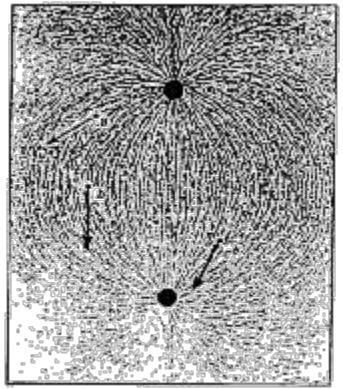
Any charged particle will create an electric field. Another charged particle placed in the electric field will feel a force.



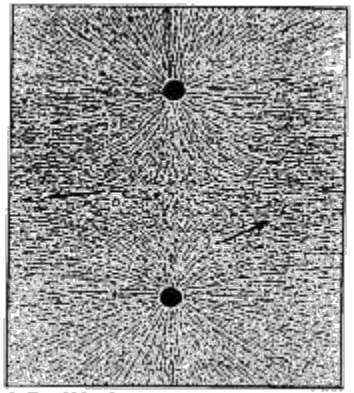
Putting particles together





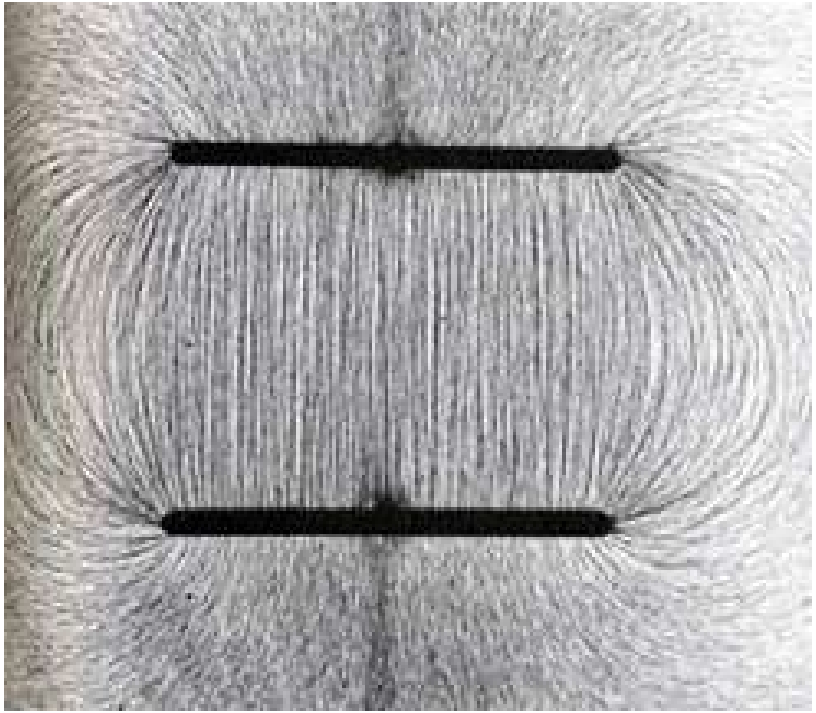


a. Equal and opposite charges

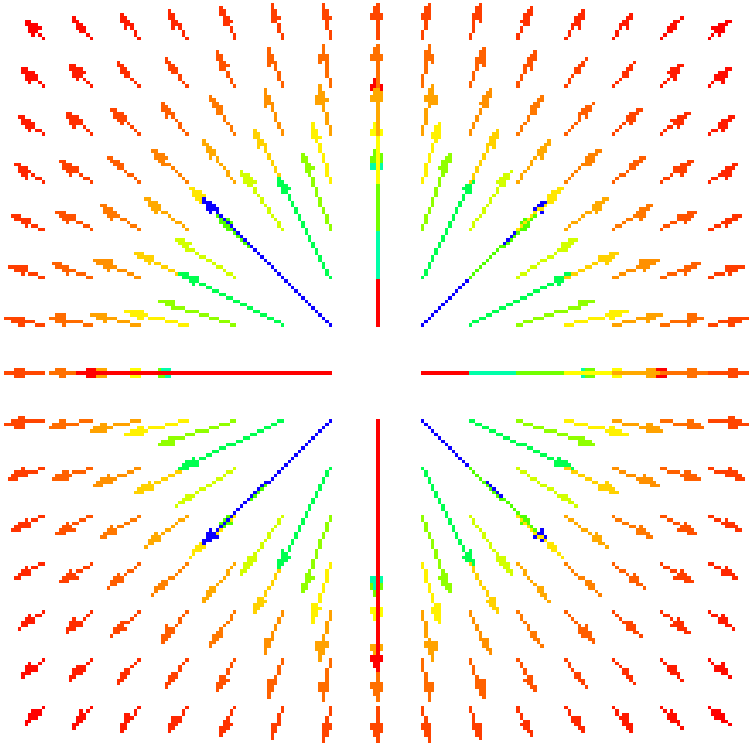


b. Equal like charges

Two charged plates



Electric field strength



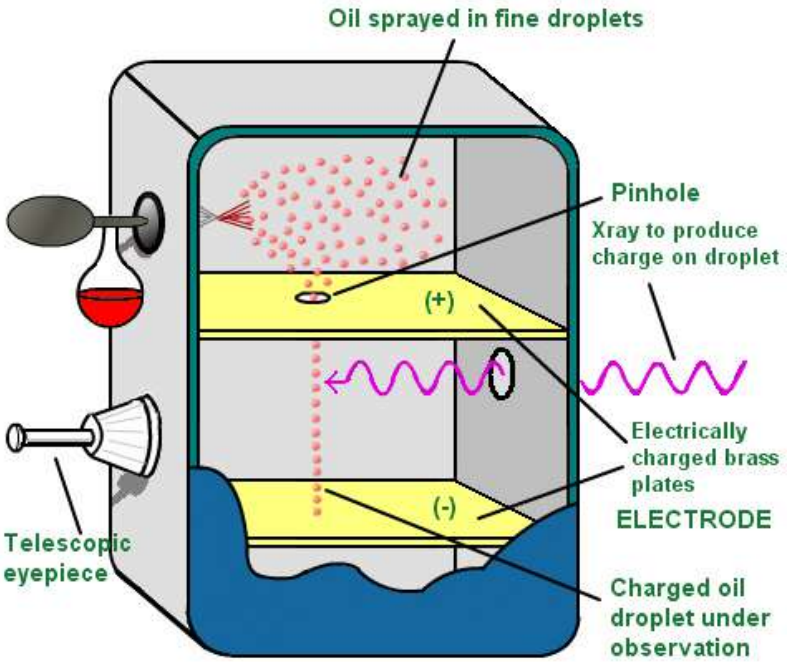
Electric field strength equation

F = force (N)
q = charge (C)
E = electric field (N/C)

Example problem

A positive charge of magnitude 2.4E-8 C experiences a force of 1.5E-3 N. What is the strength of the electric field at that position?

Millikan's Oil Drop Experiment



Freebody Diagram of Experiment

Practice Problem

A balloon with a charge of q = 4.8E-7 C is suspended in an electric field with a strength of 400 N/C. What is the mass of the balloon?