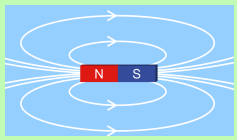
PhET Tips for Teachers

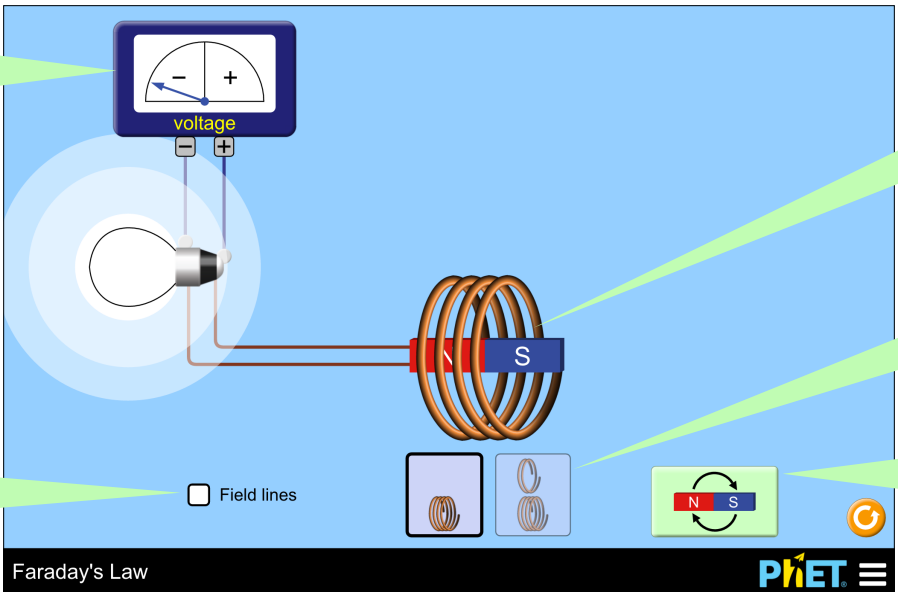
Faraday's Law

In ***Faraday's Law***, students can investigate how a changing magnetic flux can produce a flow of electricity.

OBSERVE the magnitude and polarity of the induced emf

VIEW the magnetic field lines





MOVE the magnet through the coil

COMPARE two different coils simultaneously

FLIP the polarity of the magnet

Suggestions for Use

Challenge Prompts

- How many ways can you cause induction? Explain your method(s) citing evidence from the simulation.
- Sketch two different situations in which the light bulb lights up. Indicate the N/S poles of the magnet and the direction of its motion. What is the direction of the induced current in each case?
- Predict what happens to the brightness of the bulb when the number of turns in the coil is reduced by half, but the speed of the magnet remains the same.
- How does the speed of the magnet affect the brightness of the bulb?

See all published activities for Faraday's Law here.
For more tips on using PhET sims with your students, see Tips for Using PhET.

Rouinfar, February 2016