



# Faraday's Law of Induction:

“induced EMF” = rate of change of magnetic flux

$$\varepsilon = -\frac{\Delta\Phi}{\Delta t} = -\frac{\Phi_f - \Phi_i}{t_f - t_i}$$

Since  $\Phi = B A \cos(\phi)$ , 3 things can change  $\Phi$

- ✓ 1. Area of loop
2. Magnetic field B
3. Angle  $\phi$  between normal and B