

Faraday's Law:

$$emf = \oint \vec{E} \cdot d\vec{\ell} = -\frac{d\Phi_B}{dt}$$

where

$$\Phi_B \equiv \int \vec{B} \cdot d\vec{A}$$

In Practical Words:

1) When the flux  $\Phi_B$  through a loop changes, an *emf* is induced in the loop.

