

Generator Principle - Electromagnetic Induction

1831- Michael Faraday discovered that **current** and **voltage** could be **induced** when
a **conductor moves within a magnetic field.**

(Note: 3 dimensional view)

If this wire is moved _____ (**perpendicular to the field**), **maximum current**
will be generated. If it's moved _____ (**parallel to the field**), **no current**
will be generated.

Third Left Hand Rule

Step 1: Draw in the flux lines

Step 2: 4 fingers follow _____

Step 3: _____ follows movement of _____ (Given)

Step 4: _____ shows _____ on electrons - The current
direction

Example) If the wire in the picture above is moved upward, which way will the electrons flow?

Answer: Into the page OR Out of the page? (circle)

Calculating the voltage induced

(V) Induced voltage - also called _____ - Electromotive Force

$V =$

B - _____ Field Strength

l - _____ of conductor (in meters)

v - _____ of conductor moving through the field