# Electromagnetic Induction Terms

Here are some mnemonics to help remember key concepts in **Electromagnetic Induction**:

1. **Faraday's Law of Induction**:
   - **Mnemonic**: "**Fast Flux Feeds EMF**"
   - **Explanation**: This reminds you that a **fast change** in **magnetic flux** induces **EMF** (Electromotive Force) in the circuit.
2. **Lenz's Law**:
   - **Mnemonic**: "**Lazy Lenz Loves Opposition**"
   - **Explanation**: This indicates that the induced current will always **oppose** the change in magnetic flux that caused it (Lenz's Law).
3. **Induced EMF**:
   - **Mnemonic**: "**Inducing Motion Yields Voltage**"
   - **Explanation**: When a conductor moves through a magnetic field, an **EMF** or **voltage** is induced in it.
4. **Magnetic Flux**:
   - **Mnemonic**: "**Field Lines Under Crossed Surfaces**"
   - **Explanation**: Magnetic flux is proportional to the number of **magnetic field lines crossing a surface area**.
5. **Self-Inductance**:
   - **Mnemonic**: "**Self Loops Slow Current Change**"
   - **Explanation**: A coil resists changes in current by generating an opposing EMF in itself (**self-inductance**).
6. **Mutual Inductance**:
   - **Mnemonic**: "**Mutual Friends Share EMFs**"
   - **Explanation**: Two nearby coils affect each other, with one coil inducing an EMF in the other coil (**mutual inductance**).
7. **Eddy Currents**:
   - **Mnemonic**: "**Eddy Eats Energy**"
   - **Explanation**: **Eddy currents** are circular currents that generate heat, leading to energy loss, much like **eddy currents** consuming energy.
8. **Motional EMF**:
   - **Mnemonic**: "**Move Metal for Motion Voltage**"
   - **Explanation**: **Moving a metal conductor** through a magnetic field induces a voltage (**motional EMF**).
9. **Fleming's Right-Hand Rule**:
   - **Mnemonic**: "**ThuMb = Motion, First Finger = Field, seCond Finger = Current**"
   - **Explanation**: The **thumb** points in the direction of the **motion**, the **first finger** points in the direction of the **magnetic field**, and the **second finger** shows the direction of the **induced current**.
10. **Transformer**:
    - **Mnemonic**: "**Transform Power, Not Voltage**"
    - **Explanation**: A **transformer** changes the voltage level between circuits but maintains the power (except for losses).

These mnemonics will help you quickly recall the core principles of electromagnetic induction!