

Fleming's left hand rule

- ALYA Hey! It's starting!!
- AIYSHA Why do they always do a light show? I just want to skip to the wrestling.
- ALYA Dunno. Generates excitement I guess?
- ADA In order to understand how a generator works, you must first understand induction.
- AIYSHA Perfect timing Ada. As usual.
- ADA You can generate an electric current with some copper wire, a magnet, and movement. If you move a magnet through a coil of copper wire, the movement, coupled with the magnetism interacting with the copper coil generates an electrical current. This is electromagnetic induction, or induction for short. Please note that induction does not occur if the magnet is stationary.
- AIYSHA Oh no, I forgot my notepad!
- ALYA But Ada did say "please note"! What on earth shall we do?
- ADA Sarcasm detected... ignoring.
- Induction also occurs if the magnet is stationary, but the coil is moving. The mains electrical grid is powered by generators. Generators use induction to generate electricity, which we all need and use from the mains electrical grid.
- AIYSHA Ada, the mains isn't powered by a guy on a bike...
- ADA But this way is more fun - isn't it Ricardo?
- RICARDO Si!

- ADA Using induction, a generator generates electricity via a magnet that is spinning inside coils of copper wire. However, the current is too high to be transferred across power lines. So, a transformer is used to decrease the current and increase the voltage. When alternating current flows through the first coil, it induces a changing magnetic field. This magnetic field travels through the iron core, and through the second coil. This creates a current in the second coil. And more coils means less current.
- ANNOUNCER Ladies and gentlemen, the fierce, **Luchador Del Fuego Muerto!** And his opponent, the deadly... Fla-mingggg-oooo!
- AIYSHA The deadly Flamingo?
- ALYA So what about the legendarily rare wrestling move – Flamingo's left hand?
- AIYSHA Flamingo's left hand. What's that?
- ADA You just can't get enough of induction can you?
- AIYSHA Ada!
- ALYA
- ADA No need to panic – it's simple. Fleming's left hand rule is a handy way of working out the direction the movement will be, or in which direction current will be induced in a generator. Place your first finger in the direction of the magnetic field. Your second finger goes in the direction of the current in the wire, and the thumb shows the direction of the movement of the wire. Change the direction of your hand for different scenarios.
- ALYA Well, thanks Ada, but I was talking about Flamingo's left hand so enough with the science, we wanna watch the match.
- ANNOUNCER **Increíble!** Flamingo has performed her legendary left hand move for the first time in ten years! And I doubt we'll ever see it again! **Dios mio!**