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The direction of the magnetic field caused by a current flowing through a direct conductor

It can use two laws to find the direction of the magnetic field caused by a current flowing through a direct conductor.

conductor.

- 1. Maxwell's cork screw rule
- 2. Right hand thumb rule





Below a diagram showing the direction of the magnetic field caused by a current flowing through a wire.
Use • and X to indicate the direction of the magnetic field.



***** When a conductor carrying a current is placed in a magnetic field, a force on it.

The following is the set up that shows the relevant activity.



Here, indicate the direction of current flow when switch is closed using the arrows.



✤ Name 3 devices that have been developed based on the above phenomenon.

Loudspeaker



Here, the magnet exerts a on the coil when it supplies alternating current. So, the coil and back according to that force and the cone is and sound waves are generated.

✤ Complete the way of flowing current in this setup.



- ✤ When the terminals of the cells are switched, the BC conductive wire moves into the
- When the poles of the magnet are switched, the direction of motion of the BC conductive wire moves in the to those observed above.
- ✤ The magnitude of the resulting force depends on three factors. Those are,
 - 1.
 - 2.
 - 3.

When all three factors increase, the force increases. When decrease, the force also decreases. That means, proportional to the above three factors.

Fleming's right hand law :-