

Distinguish, differentiate, compare and explain what is the difference and similarities between Bar Magnet and Electromagnet. Similarity, Comparison and Differences.

## Differences between Bar Magnet and Electromagnet

S.No.	Bar Magnet	Electromagnet
1	It is a permanent magnet and produces a permanent magnetic field.	It is a temporary magnet and produces a temporary magnetic field.
2	It is made of carbon and steel.	It is made of soft iron.
3	Strength of magnetic field cannot be changed.	Strength of magnetic field can be changed.
4	Poles cannot be reversed.	Poles can be reversed.
5	Does not need electric current to act as a magnet.	Requires electric current to act as an electromagnet.

## Similarities between Electromagnet and Bar Magnet

1. Both have the magnetic properties.
2. Both have similar magnetic field line patterns.
3. Both have North and South poles.
4. Both attract metals.