## Why Do Magnets Attract Or Repel Each Other

It seems obvious that magnets are attracted towards each other when unlike poles are facing, repelling each other when like poles are facing, and attracted to iron, or iron to magnet, when either pole is facing iron.



The single magnet above sits in the centre of its magnetic field.

I see magnets in a different light. If a magnet's field is distorted by the presence of another magnet, or a piece of iron, the magnet will find itself positioned away from the centre of its field. It will immediately attempt to accelerate to the centre of its field.

Below are 2 permanent magnets pushed towards each other with like poles facing. The magnetic field of each has been distorted in a way which means the magnets are no longer in the centre of their field. If released, they will accelerate towards the centre of their field. Rather than being repelled from each other, they are being attracted towards the centre of their own field.



These 2 magnets above are attempting to accelerate to the centre of their unique or individual magnetic fields, therefore moving apart.

The 2 permanent magnets below have unlike poles facing. The fields remain unique to the magnet which has created it, but each field now becomes distorted, or focused, towards or around the other magnet, in the opposite direction to the previous example. These magnets will attempt to accelerate to the centre of their field. As they move closer, the distortion will become greater. When they meet they will be forced to stop, but they will continue to attempt to accelerate towards the centre of their field. This could perhaps be described as "Perpetual Non-Motion."



When the 2 magnets above meet they will attempt to accelerate through each other. They are attracted not to each other, but to the centre of their own distorted magnetic field.

Below a magnet is placed near a piece of iron, and each appears to be attracted to the other. The magnet induces the piece of iron to become a temporary magnet, complete with its own unique field. These fields now distort each other, in the same manner as the 2 magnets above. Both the magnet and the piece of iron will attempt to accelerate to the centre of their field.



In the example below, a piece of iron has been placed between 2 magnets with like poles facing, which were attempting to repel each other, or to accelerate in opposite directions. The direction of acceleration has now reversed. We appear to have induced 2 separate distorted magnetic fields into the pink/green piece of iron, which is now 2 magnets in one. The green magnet is created by the red magnet, and the magenta magnet is created by the blue magnet. The result is that the red and green magnets accelerate towards the centre of their fields, and the blue and magenta magnets accelerate towards the centre of their fields. All are held together in a state of permanent acceleration, or "Perpetual Non Motion"

