

Newton's 3rd Law of Motion - The Law of Action = Reaction

|Law 3> To every Action there is always an opposite and equal Reaction; in other words the actions of two bodies upon each other are always equal, and always opposite in direction.

There is no such thing as an Isolated Force.

Forces result from the Mutual Interaction of Two bodies:

If Body #1 exerts a Force on Body #2 ($=\mathbf{F}_{21}$)
 Then Body #2 exerts a Force on Body #1 ($=\mathbf{F}_{12}$),
 which is
 Equal in magnitude & Opposite in Direction

Repulsive
 $\mathbf{F}_{12} < \text{-----} (1) (2) \text{-----} > \mathbf{F}_{21}$

(1) $\text{-----} > \mathbf{F}_{12}$ $\mathbf{F}_{21} < \text{-----} (2)$
 Attractive

In Both Cases: $\mathbf{F}_{12} = -\mathbf{F}_{21}$

