

| 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.

Forces result from the Mutual Interaction of Two bodies:

Repulsive

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

Attractive

A diagram showing two spheres, labeled 1 and 2, in contact. Sphere 1 is smaller and on the left, while sphere 2 is larger and on the right. A dashed line represents the line of centers, passing through the point of contact. At this point, two normal force vectors are shown: \vec{N}_{12} pointing away from sphere 1 and \vec{N}_{21} pointing away from sphere 2. Two friction force vectors are also shown: \vec{f}_{12} pointing downwards along the dashed line and \vec{f}_{21} pointing upwards along the dashed line. A solid line, representing the direction of relative motion, passes through the point of contact and is perpendicular to the dashed line. Two velocity vectors are shown along this solid line: \vec{v}_{12} pointing to the left and \vec{v}_{21} pointing to the right.