

Newton's 3rd Law

Newton's 3rd Law states that for every force, there is an equal and opposite force. One force is called the action force and the other is called the reaction force.

$$F_{1,2} = - F_{2,1}$$

Forces always come in pairs.

Although the forces are equal and opposite, they can cause acceleration because the forces act on two different objects.

ex. foot kicking a wall

action force – force of the foot on the wall

reaction force – force of the wall back on the foot

ex. catching a football

action – force of hands on the football

reaction force – force of the football back on the hands