

Newton's Laws of Motion (3)

N5

Newton's 3rd law of Motion

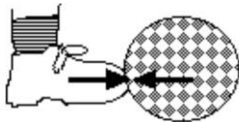
Newton noticed that forces occur in pairs. He called one force the **action** and the other the **reaction**. These two forces are always equal in size, but opposite in direction. They do not both act on the same object (do not confuse this with balanced forces).

Newton's Third Law can be stated as:

If an object A exerts a force (the action) on object B, then object B will exert an equal, but opposite force (the reaction) on object A.

For example:

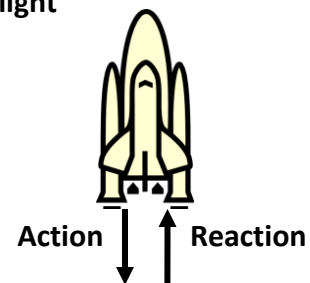
a) Kicking a ball



Action: The foot exerts a force on the ball to the right

Reaction: The ball exerts an equal force on the left to the foot

b) Rocket flight



Action: The rocket pushes gases out the back

Reaction: The gases push the rocket in the opposite direction.