

## Newton's Second Law

Newton's Second Law as stated below applies to a wide range of physical phenomena, but it is not a fundamental principle like the Conservation Laws. It is applicable only if the force is the net external force. It does not apply directly to situations where the mass is changing, either from loss or gain of material, or because the object is traveling close to the speed of light where relativistic effects must be included. It does not apply directly on the very small scale of the atom where quantum mechanics must be used.