

Origin of terms:

force < Latin *fortis* **strong**

strength < Old and Middle English *strang/strong* **strong**

Latin *potere, posse* **to be able, have power**, or from *potis* meaning **powerful**

Formulas:

$$F = m \times a$$

(a = the rate of change of velocity with respect to time)

$$a = \frac{v}{t}$$

$$\text{Velocity} = \frac{\text{Distance}}{\text{Time}}$$

Strength is the human ability to exert force, hence: strength (which is also *force* - F) = m x a
(Knuttgen & Kraemer: strength is the maximal **force** a muscle or muscle group can generate at a specified **velocity** (body is in motion).

$$P = \frac{W}{t}$$

$$W = \text{Force} \times \text{Distance}$$

$$> P = \frac{\text{Force} \times \text{Distance}}{\text{Time}} > \text{Power} = \text{Force} \times \text{Velocity} (P = F \times v)$$

Power, together with *muscular endurance* and *maximal strength*, is the manifestation of strength.