

**PHYSICS****FORCES****FORCE**

Definition -

EFFECTS OF FORCES

- 1.
- 2.
- 3.
- 4.

DIFFERENT KINDS OF FORCES

The SI unit for force is the **NEWTON** (N)

The symbol for force is ***F***

**PHYSICS****FORCES****THE FORCE OF GRAVITY****Definition** -

- attractive force only
- weakest of all natural forces
- acts towards the center of the mass (Earth)
- varies directly with mass
(the greater the mass, the greater the gravity)
- varies indirectly with distance (the farther away you are from the Earth, the less its gravity affects you).
- Symbol F_g

FORMULA

$$F_g = mg$$

 F_g -

Ex: Calculate the force of gravity the Earth exerts on you.

**PHYSICS****FORCES****MASS vs. WEIGHT****MASS**

- The amount of matter in an object
- Depends on the number of atoms and the type of atoms
- Units -- Kg
- Measured using a bathroom scale

WEIGHT

- Is the force of gravity acting on a mass
- Depends on the mass of the planet
- Depends on the distance from the planets centre
- Depends on the mass of the object
- Units -- N
- Measured using a Newton Spring Scale

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**PHYSICS****FORCES**THE LAW OF GRAVITATION

Any two objects that have mass will exert a gravitational force on each other based on the following equation:

$$F = \frac{Gm_1m_2}{d^2}$$

F -

G -

m₁ -

m₂ -

d -

Ex: What is the gravitational force between an 80 kg person and a 60 kg person that are 1 m apart?



PHYSICS

FORCES

<http://www.youtube.com/watch?v=iyRIZB3cvkg>

<http://www.youtube.com/watch?v=SN77b9DqEbc>

<http://www.youtube.com/user/MercerReport#p/c/9B788DBA451C4EC0/172/-8JNvsivCHc>