

What is FORCE?

TAKES WORK
USING WORK + ENERGY ON AN
OBJECT

AMOUNT OF EFFORT IN WORK

AMOUNT OF PRESSURE EXERTED
ON AN OBJECT

STRENGTH OR ENERGY AS AN ATTRIBUTE
TO PHYSICAL ACTION

SOMETHING THAT PUSHES OR PULLS

What weighs more
A Kg of feathers
OR
A Kg of gold?



FORCE IS AN INFLUENCE
That tends to Accelerate
an object.

Force is A PUSH OR PULL
ON AN OBJECT

UNITS of measure for FORCE
Is A Newton (N)

SYMBOL for FORCE is F

FORCE is A VECTOR

Weight
IS A FORCE
VECTOR
DIRECTION OF W
IS ALWAYS DOWN

Weight is a function
OF MASS AND
LOCATION

N = UNITS OF
weight

SYMBOL

W = weight

MASS
IS NOT A FORCE
SCALAR

—
—

MASS IS A FUNCTION
OF THE AMOUNT OF
MOLECULES IN THE
OBJECT.

Kg = UNITS OF
MASS

m = MASS

Weight DOES
Change with
LOCATION

MASS DOES NOT
Change with LOCATION

$$W = m g$$

$g = \underline{\text{acceleration}}$ Due to gravity
 m/s^2

gravity is NOT A FORCE

gravity is A vector will HAVE A
Direction - DOWN

$$m = 202 \text{ Lbs} \times \frac{1 \text{ kg}}{2.2 \text{ Lbs}} = 91.81 \text{ kg}$$

$$\textcircled{1} \quad g_{\text{earth}} = 9.8 \text{ m/s}^2$$

$$\textcircled{2} \quad W = mg$$

$$\textcircled{3} \quad = (91.81 \text{ kg})(9.8 \text{ m/s}^2)$$

$$\textcircled{4} \quad W = 899.74 \text{ N} \quad \downarrow \quad \text{DOWN}$$

$$1 \text{ N} = \frac{1 \text{ kg m}}{\text{s}^2}$$

① $m = 91.81 \text{ kg}$
 $g_{\text{moon}} = 1.6 \text{ m/s}^2$

② $W = m g$

③ $W = (91.81 \text{ kg})(1.6 \text{ m/s}^2)$

④⑤ $W_m = 146.90 \text{ N} \downarrow \text{ MOON}$

$W_e = 899.74 \text{ N} \downarrow \text{ earth}$

What is FORCE?

The push or pull ON AN OBJECT

The amount of PRESSURE APPLIED
TO ANOTHER object.

Tension, APPLIED, NORMAL, GRAVITATION

A movement CAUSED BY ANOTHER
SOURCE of ENERGY

