

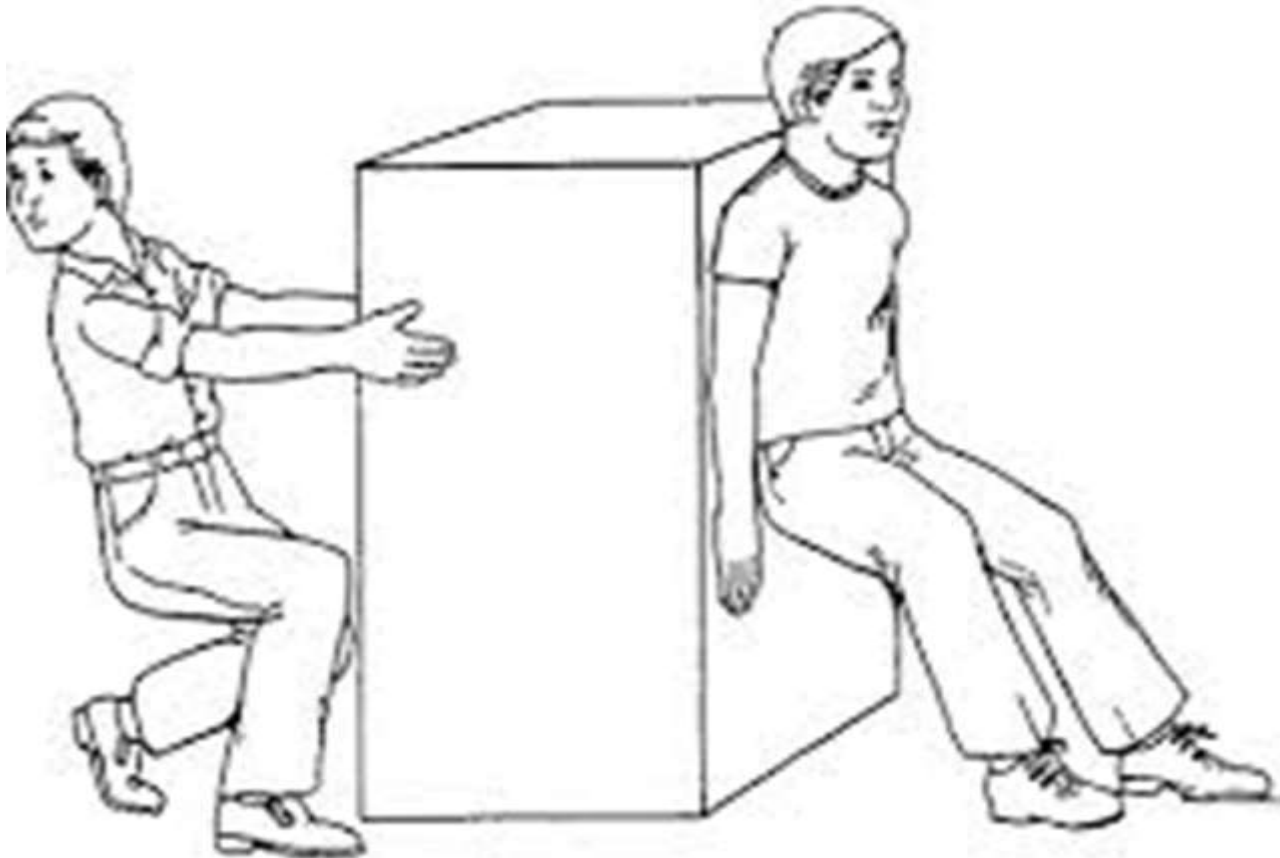
FORCE

Mr. Skirbst

What is force?

Force

- a push or a pull on an object

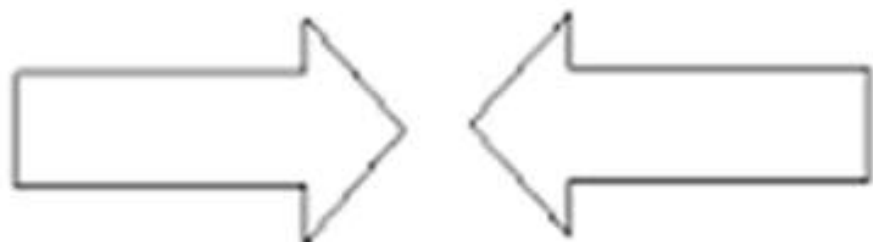


Force

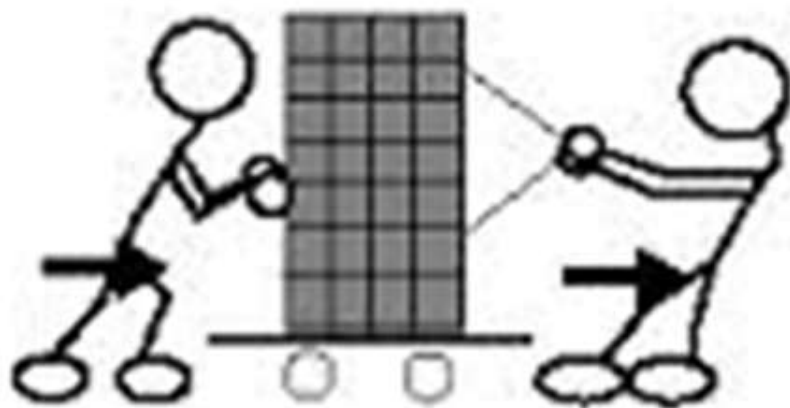
- a push or a pull on an object

- Forces can enhance/cancel each other





Push 1 + Pull 1 = Net Force 2 to the right

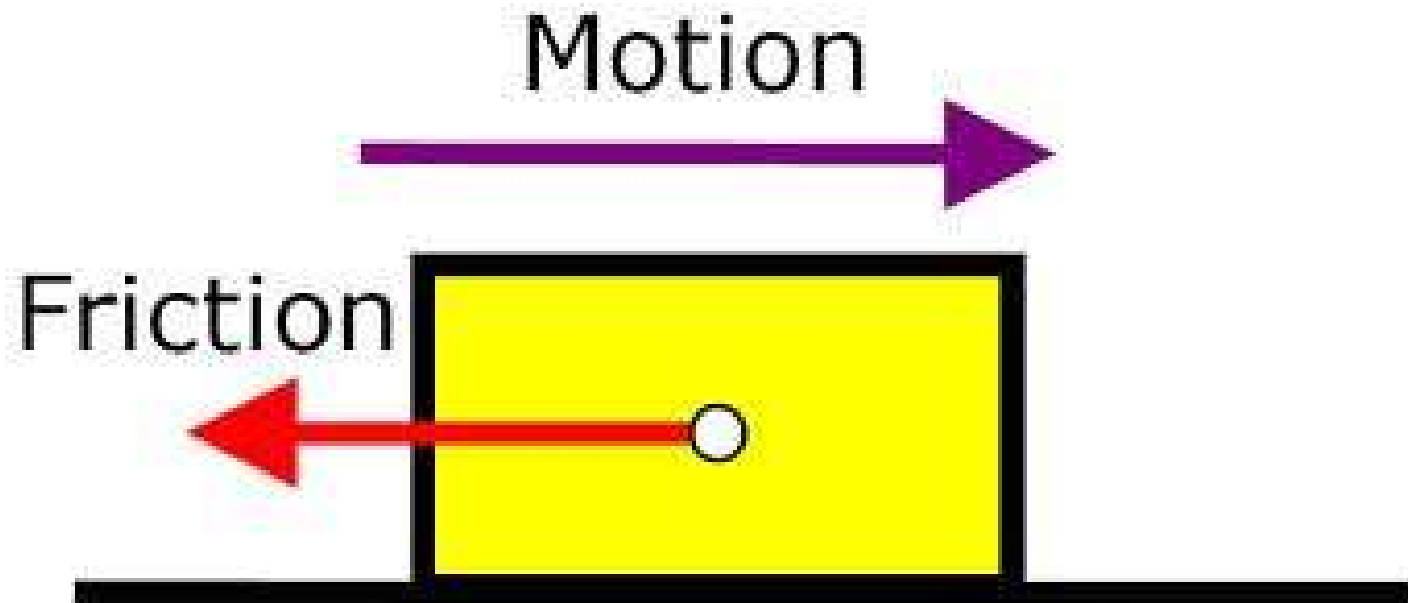


Force

- a push or a pull on an object
- Forces can enhance/cancel each other
- **Unbalanced forces = movement**

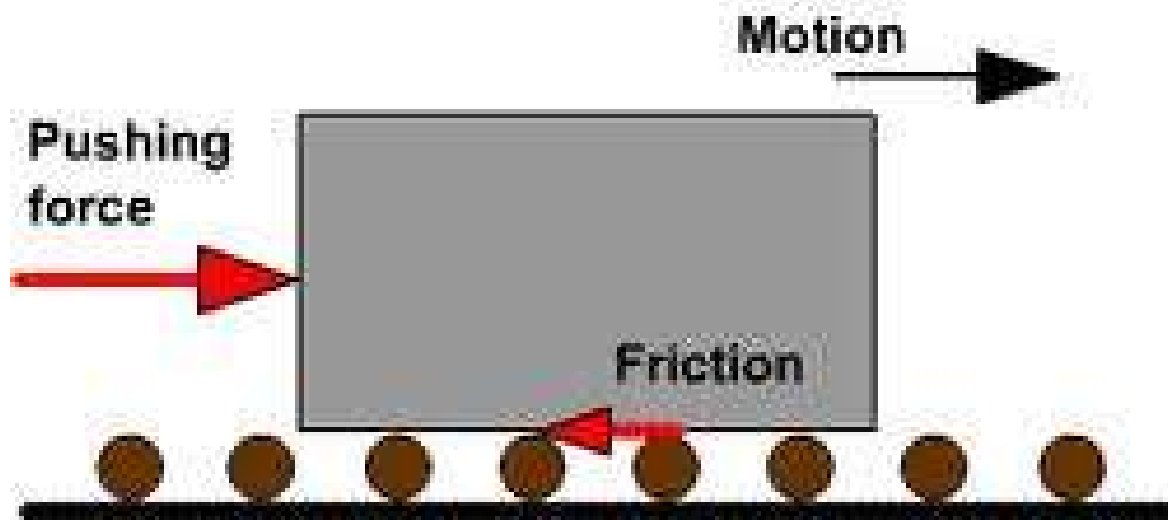


What is friction?



Friction

- a force acting in the opposite direction of a moving object



NEWTON's 3 LAWS of MOTION

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1. INERTIA (Latin for "lazy")



NEWTON'S 3 LAWS of MOTION

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- objects at rest (or in motion) remain that way until acted upon by a force

NEWTON'S 3 LAWS of MOTION

2. $F = (m)(a)$



NEWTON'S 3 LAWS of MOTION

2. $F = (m) (a)$

- **force = mass x acceleration**

NEWTON'S 3 LAWS of MOTION

2. $F = (m) (a)$

- force = mass x acceleration

- **“The harder you push, the faster you go”**

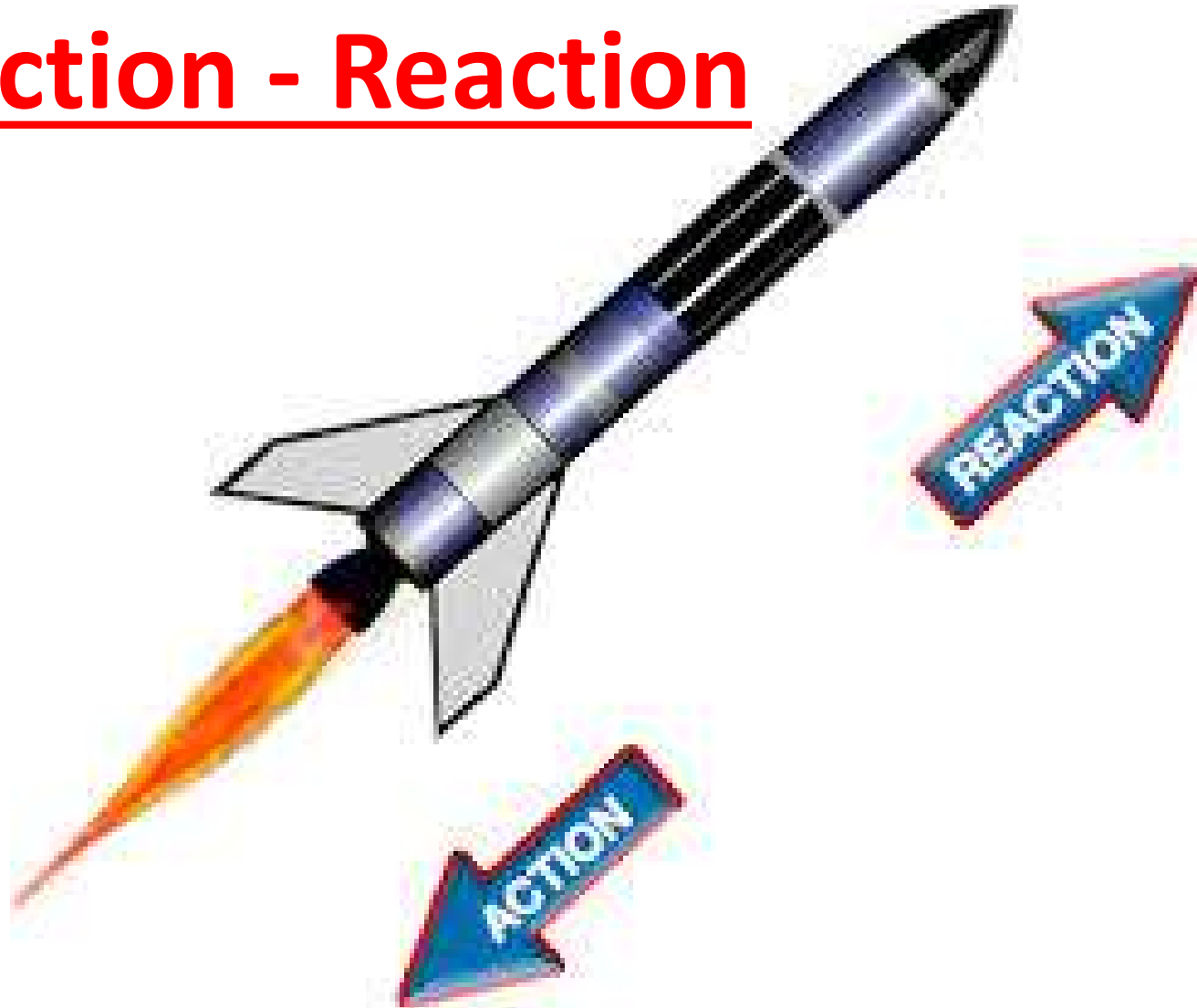
NEWTON'S 3 LAWS of MOTION

2. $F = (m) (a)$

- force = mass x acceleration
- “The harder you push, the faster you go”
- **“The bigger they are, the harder they fall.”**

NEWTON'S 3 LAWS of MOTION

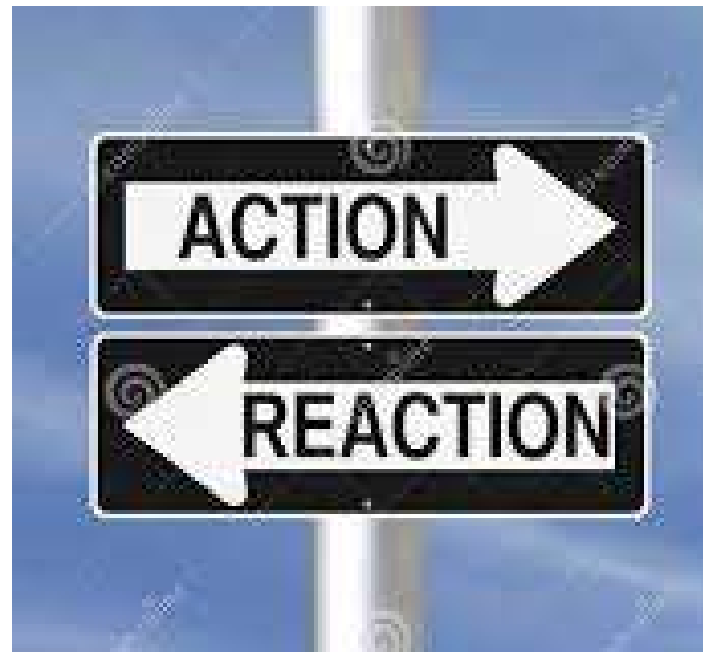
3. Action - Reaction



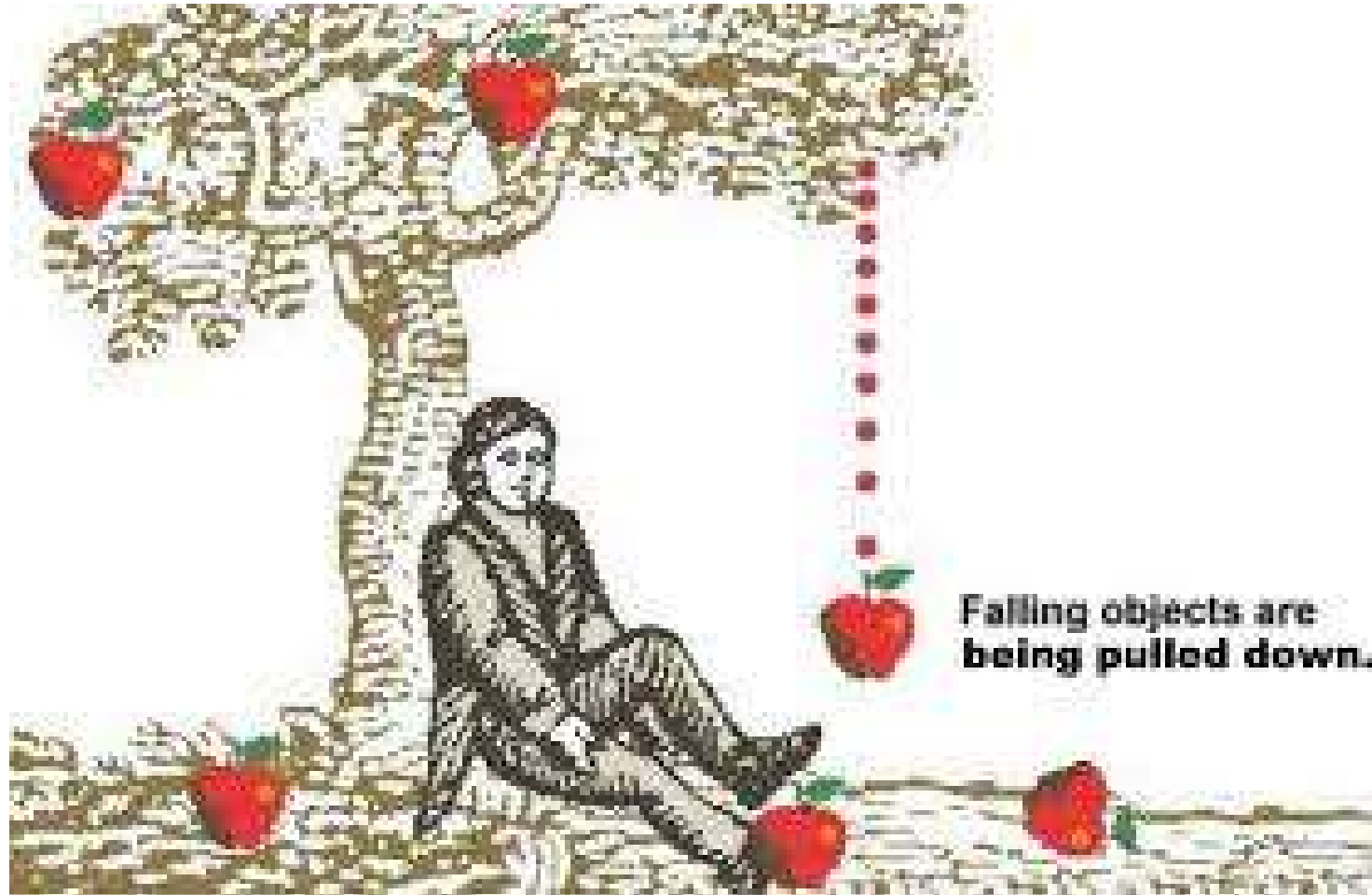
NEWTON'S 3 LAWS of MOTION

3. Action - Reaction

- for every action, there is an equal and opposite reaction

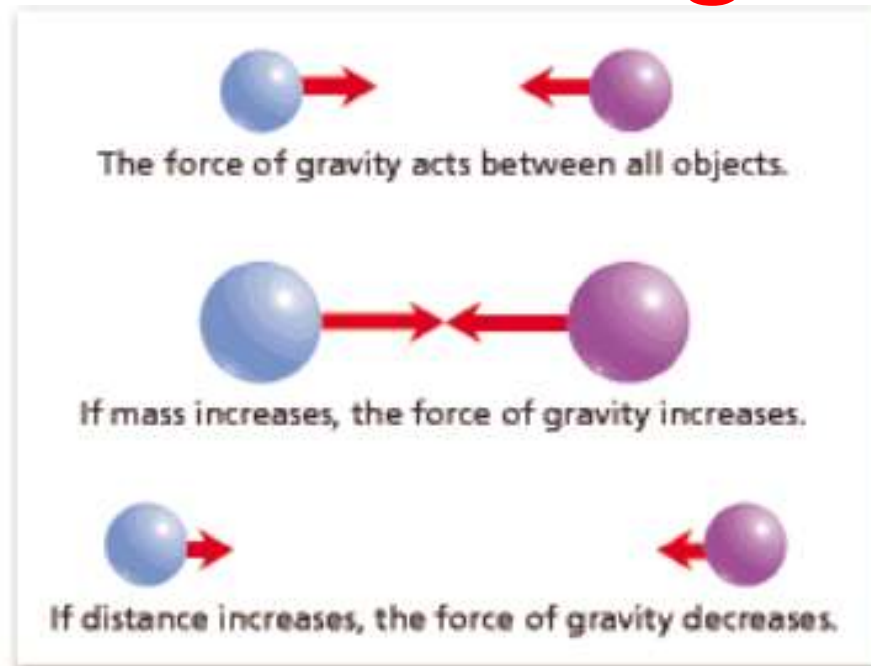


NEWTON'S LAW of UNIVERSAL GRAVITATION



NEWTON'S LAW of UNIVERSAL GRAVITATION

- ALL objects attract each other by the force of gravity



NEWTON'S LAW of UNIVERSAL GRAVITATION

- ALL objects attract each other
by the force of gravity
- **GRAVITY – force of attraction
between objects with mass**

NEWTON's LAW of UNIVERSAL GRAVITATION

- WEIGHT – measures force of gravity on an object**

NEWTON'S LAW of UNIVERSAL GRAVITATION

- WEIGHT – measures force of gravity on an object

equation: $w = (m)(g)$

NEWTON'S LAW of UNIVERSAL GRAVITATION

- WEIGHT – measures force of gravity on an object

$$\text{equation: } w = (m)(g)$$

g = acceleration due to gravity,

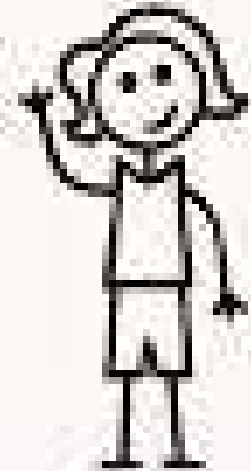
m = mass, w = weight



My **WEIGHT** on
Earth is around
 560N

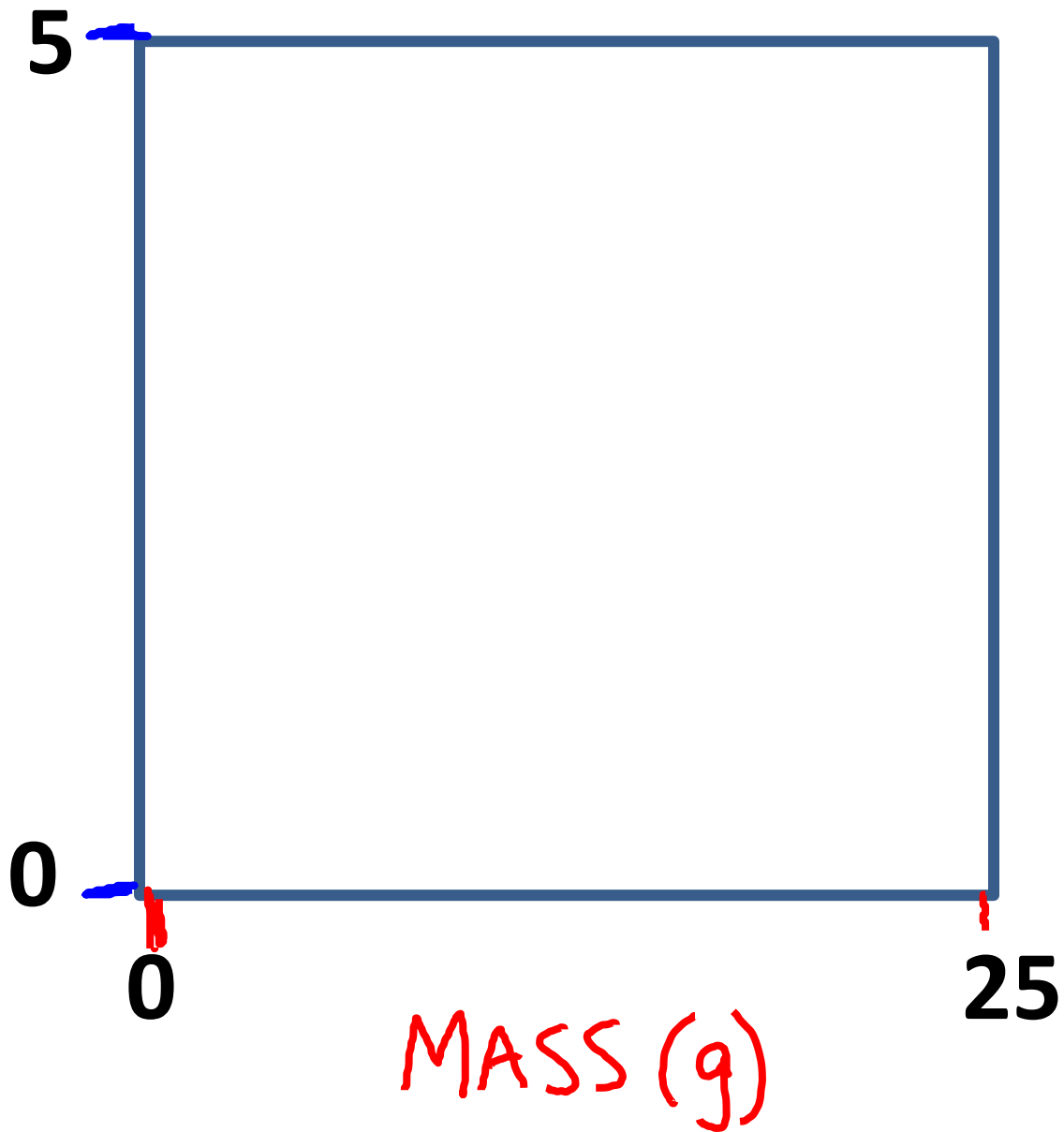


My **WEIGHT**
on the moon
is around
 90N

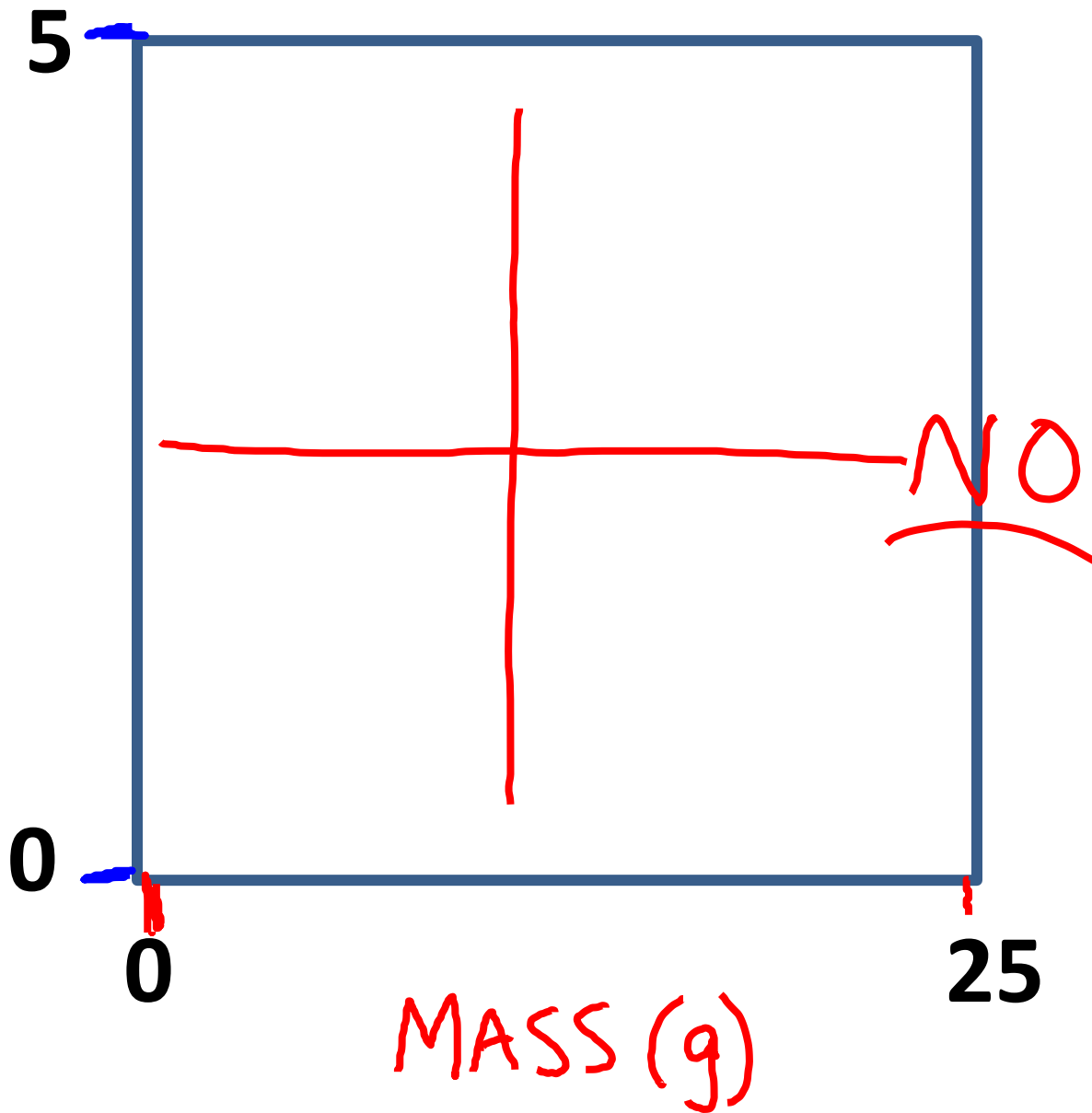


My **MASS** is
always 56kg !!

RATE OF FALL
(m/s)



RATE OF FALL
(m/s)



RATE OF FALL
(m/s)

