PS Physics – Unit 1B

Newton’s Laws of Motion

Newton’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of Motion

* Law of \_\_\_\_\_\_\_\_\_\_\_\_
  + Inertia
    - Tendency of an object to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in its \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* State of an object does \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as long as the net force acting on it is \_\_\_\_\_\_\_
* An object at \_\_\_\_\_\_\_\_\_ stays at \_\_\_\_\_\_\_\_, an object in \_\_\_\_\_\_\_\_\_\_\_\_ stays in \_\_\_\_\_\_\_\_\_\_ at the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (until something acts on it)

Newton’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of Motion

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an object is \_\_\_\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_\_ acting on it divided by the objects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_ = Measure of \_\_\_\_\_\_\_\_\_\_\_\_ of an object and depends on the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the object contains
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an object is always in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the net force
  + BUT… when a net force acts in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an object’s motion…
    - That force produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and reduces \_\_\_\_\_\_\_\_\_\_\_\_\_
    - Ex. Seat belts

\*\*\* NOTE – Units for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_…

… N/kg=m/s2

Weight and Mass

* Weight & Mass are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - The force of \_\_\_\_\_\_\_\_\_\_\_\_\_ acting on an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Product of the \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Unit is Newtons (N)

Newton’s 3rd Law of Motion & Momentum

* 3rd Law – when an \_\_\_\_\_\_\_\_\_\_\_ exerts a \_\_\_\_\_\_\_\_\_\_ on a second \_\_\_\_\_\_\_\_\_\_\_\_, that object exerts an \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ force on the first object. This is called…
* … \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Product of an object’s \_\_\_\_\_\_\_\_\_\_\_\_ and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Objects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at rest is \_\_\_\_\_\_\_\_\_\_\_
  + Unit kg m/s

Law of Conservation of Momentum

* If no \_\_\_\_\_\_\_\_\_\_ acts on a system, then the total momentum of the system does \_\_\_\_\_\_\_\_\_\_
* In a closed system, loss of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one object equals the gain in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of another object