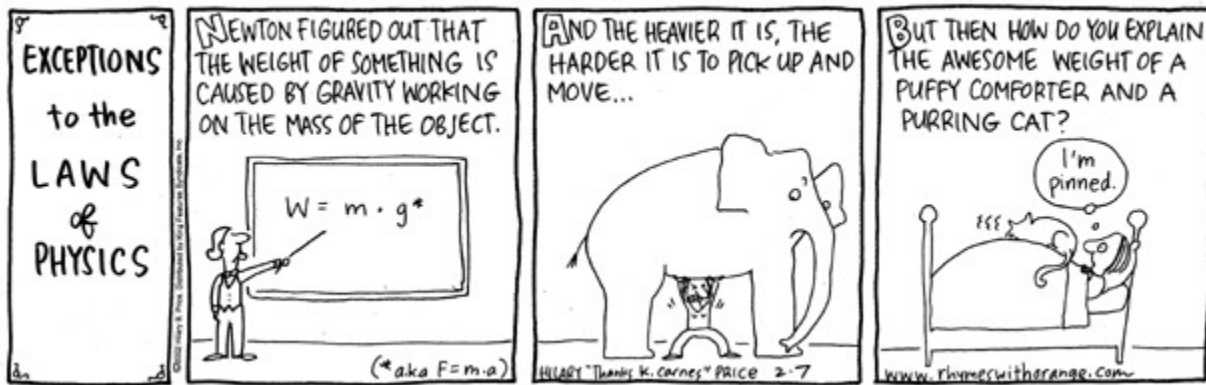# Newton's 2nd Law of Motion and Weight
SPH4C

If the net force on an object is not zero, the object will be _____ in the

_____ of the _____:

i.e. the more massive the object, the _____ it is to change its motion

(the higher its _____).

This equation can be rearranged:

The formula *F = ma* can also be used to calculate the **weight** _____ of an object,

the magnitude of the force of _____ acting on it, if the acceleration *a* is the

_____:

Weight is therefore measured in _____.

<u>Example</u>: What is the weight of a 140 kg person?

More Practice

The **weight** of an object $F_g = mg$ where g is the magnitude of the acceleration due to gravity. Calculate the weight of the objects of given mass below.

    (a) oxygen gas molecule: 5.356×10^{-26} kg

    (b) penny: 0.00235 kg

    (c) tennis ball: 0.057 kg

    (d) Ms. Rosebery: 61 kg

    (e) newborn elephant: 105 kg