Weightron FAQs

What is the difference between mass and weight? Do we weigh less on the moon?

This can be very confusing and the situation is not helped by terminology used!
Mass is a measure of the amount of material in an object, **weight** is the gravitational force acting on a body (although for trading purposes it is taken to mean the same as mass). Most modern weighing equipment measures weight not mass.

Mass

Mass is a measure of the amount of material in an object, being directly related to the number and type of atoms present in the object. Mass does not change with a body's position, movement or alteration of its shape unless material is added or removed. The unit of mass in the SI system is the kilogram (abbreviation kg) which is defined to be equal to the mass of the international prototype of the kilogram held at the Bureau International des Poids et Mesures (BIPM) near Paris. Mass can also be defined as the inertial resistance to acceleration.

Weight

In general weighing parlance, weight is taken to mean the same as mass, and is measured in kilograms. Scientifically, however, it is normal to state that the weight of a body is the gravitational force acting on it and hence it should be measured in newtons (abbreviation N), and that this force depends on the local acceleration due to gravity. To add to the confusion, a weight (or weightpiece) is a calibrated mass normally made from a dense metal!

So technically should we really talk about 'massing' ourselves instead of weighing ourselves? Unfortunately there is no verb 'to mass'.
Therefore, unfortunately, weight has three meanings and care should always be taken to appreciate which one is meant in a particular context.

Weighing on the moon.

It is well known that the gravitational pull on the moon's surface is significantly lower than on earth which is why astronauts appear to be lighter. If in-deed a scale calibrated on earth was taken to the moon, astronauts would weigh less. (Unless some type of mass comparator such as an even arm balance were used.) However, if that same scale were to be calibrated on the moon using calibrated masses, (remember mass does not change) then astronauts would appear to weigh the same as they do on earth (ignoring any buoyancy effects).

Have some fun by seeing what you would weigh on different planets by clicking here at the exploritorium

WEIGHTRON BILANCIAI
INDUSTRIAL WEIGHING SPECIALISTS
BILANCIAI GROUP