

Weight

Weight is the force of gravity acting on an object. Because weight is a force, its scientific unit is the newton (N).

Newton's second law of motion tells us that force is equal to mass multiplied by acceleration, or $F = ma$. This means that we can calculate an object's weight in newtons by multiplying its mass by the acceleration due to gravity:

$$\text{weight} = mg$$

For example, if your body mass is 50 kg, your weight is $50 \times 9.81 = 491$ N.