

Let's Learn

What Is the Difference Between Mass and Weight?

In Chapter 5, we have learnt that all substances are made up of matter. Mass is a measure of how much matter an object is made up of. The more matter an object has, the greater its mass. Mass is measured in units such as **kilograms (kg)** and **grams (g)**.

Weight is different from mass. The **weight** of an object is a measure of the effect of gravity on the object. It is measured in the unit **newtons (N)**. The unit is named after the famous scientist, Sir Isaac Newton.

Over 300 years ago, Newton came up with the idea of gravity after watching an apple fall. He asked why the apple fell straight down, and not upwards or sideways. Now we know that gravity is the force that pulls objects. The gravity of Earth pulls objects towards its centre. This is why all objects fall onto the ground when they are released from a height or thrown up.



The gravity of Earth is 9.8 newtons per kilogram. This means that a mass of 1 kilogram has a weight of 9.8 newtons on Earth. If a car has a mass of 1000 kilograms, it will weigh 9800 newtons on Earth.

Do Weight and Mass Change When Gravity Changes?

Weight will change if the gravity changes. The gravity of the Moon is less than the gravity of Earth. Therefore, an object has a smaller weight on the Moon than on Earth.

Mass does not depend on gravity. It does not change when the amount of gravity changes.

