

# WOW sheet

## What is mass?

Here is what 'mass' means in physical science:

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Mass is the amount of matter there is in something.

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**Matter** is anything you can physically touch. So mass is how much physical 'stuff' a thing has.

### Mass is NOT the same as weight

A lot of the time, the more mass an object has, the more it weighs. However, mass and weight are not the same thing. Mass is the amount of matter an object has. That amount of matter will be the same wherever in the universe the object is.

#### Here's an example

The pull of gravity isn't as strong on the moon as compared to Earth. That's why the same person can jump a lot higher if they are on the moon compared to how high they can jump on Earth. They would also weigh less on the moon compared to what they weigh on earth, but their mass would be the same.

Have you ever seen a video of astronauts floating in space? You may have heard that floating described as being 'weightless'. With only very little gravity, the astronauts can float because they have virtually no weight. But they still have mass!

## Mass is a measure of inertia

In physical science mass is also used as a measure of **inertia**.

**Inertia** is the property of matter which causes matter to resist change in motion. In other words, inertia makes things want to keep doing what they are already doing.

The more matter something has, the more inertia that object has. And since mass is a measure of how much matter an object has, mass is also a measure of how much inertia the object has.

The more mass something has, the more inertia it has. You can also say that the more inertia something has, the more mass it has. It works both ways!

## Unit of measure

The international unit of measure for mass (m) is the kilogram (kg).

