

Mass, Volume & Density

Matter makes up everything you can see, feel and touch,
There's three properties of matter we can measure up.
Mass, volume and density's what I'm thinking of,
So let's get started with a cube and water in a cup.
First is mass, **mass** will tell us exactly how much
Matter is in these objects, it's the amount of stuff.
It's not quite like weight, mass doesn't change with **gravity**,
That's why it stays the same on every planet actually.
And when it comes to measuring mass, it should be no challenge,
Place the cube or cup of water on a scale or **balance**.
The result will be in grams, that's the metric system,
The cube is 67 grams, but the liquid's different.
Since the glass has mass, subtract that from the total count,
240 grams is really the correct amount.
Ay, I think you got it, I applaud you,
Let's hit the chorus, then come back to volume.

*I know the mass and volume, but how 'bout density?
Divide the mass by volume, it's the outcome that you see.
The formula is D equals M over V,
If one value changes, another will too, you see?
(x2)*

Volume measures how much space an object takes up,
The **formula** will change depending on the state of
The object—solid volume comes in meters cubed,
Liquids are measured in liters, I'll show you what to do.
Fill a container with some water you already measured,
Drop the cube in, and check out the difference in the level
Of the water—that there is the volume of the cube,
That's called **displacement**, now the only thing that's left to do
Is count it up: 20 milliliters, that's a liquid measure,
Let's switch to centimeters cubed, that fits a solid better.
One centimeter cubed equals one milliliter,
So it's still 20, it turns out that number was a keeper.
As for the water, finding volume is much simpler,
Just pour that liquid in a **graduated cylinder**.
And check the number, this time it's 240 milliliters,
Glad we got that sorted, let's go back and do the chorus.

I know the mass and volume, but how 'bout density?

Mass, Volume & Density

Divide the mass by volume, it's the outcome that you see.

The formula is D equals M over V,

If one value changes, another will too, you see?

(x2)

You might be asking, what's this density he's mentioning?

It measures just how tightly packed particles are together in

An object—as a general rule a solid is the densest,

Liquid comes in second, air is last, you guessed it.

And the formula, I think you've heard before,

Divide the mass by volume, density is what we call it.

Or more simply D equals M over V, it's plain to see,

Grams per centimeters cubed is the

Unit of measure, you can swap in milliliters, too.

So now let's find the density of our old friend the cube:

67 grams in mass, 20 cm cubed in volume,

Divide the two to find the density, and you

Get 3.35 grams per centimeters cubed,

And don't forget the water, think we ought to find that answer, too.

240 grams, 240 ml,

The density is one 'cause we divide 240 by itself.

Yo, these properties are so related,

When you switch one of the three, another one is always changing.

Let's say that the cube's mass was 100 grams, volume the same,

The density would be 5 grams per cm cubed, I'm saying.

There's more particles packed in

The same space, and if anybody's asking

For help calculating density from mass and volume,

I'd imagine that's a problem you can solve.

I know the mass and volume, but how 'bout density?

Divide the mass by volume, it's the outcome that you see.

The formula is D equals M over V,

If one value changes, another will too, you see?

(x2)