BBC BITESIZE

Atomic number and mass number

Big Manny: Alright, Cool.

What can a periodic table tell you about an atom's structure?

The numbers on the periodic table don't just tell you which element you're looking at.

They tell you about its structure as well.

Each element has two key numbers, the atomic number and the mass number.

The smaller number is the atomic number.

It tells you how many protons are in the atom.

In a neutral atom, the number of protons is equal to the number of electrons.

Electrons are negative and protons are positive.

So their charges balanced out to make the atom neutral overall.

Now the mass number is the larger number.

It shows the total number of protons and neutrons in the atom.

The number of neutrons can be the same or different from the number of protons.

To find the number of neutrons, you need to remember this key equation.

Neutrons equals mass number minus atomic number.

Let's take a look at lithium.

It's atomic number is three and its mass number is seven.

That means it has three protons and three electrons.

To find the number of neutrons, we use the mass number of seven minus the atomic number of three,
which gives four neutrons.

Now this method can help you find the structure of any atom.

Now it's time to put this into practise.

It's over to you.

Potassium has an atomic number of 19 and a mass number of 39.

Can you work out the number of protons, neutrons, and electrons it has?

You can pause the video here to have a little think.

Let me give you the answer.

Potassium has 19 electrons, 19 protons and 20 neutrons.

Big up you, if you got it right.

Don't forget an elements atomic number tells you the number of protons and electrons.

The mass number is the total number of protons plus neutrons.

And the number of neutrons equals the mass number minus the atomic number.

So now you know innit.

Those two numbers on the periodic table tell you everything you need to know about an atom structure.

You dun know.