



Radioactive Me

Radioactivity is a part of the natural world – humans have always been exposed to natural radiation.

My muscles, bones and tissues contain radioactive elements because these are naturally present in my environment. They're in the earth's crust, in the floors and walls of my home and school, in the air I breathe and in the food I eat and drink!



²²²Rn

Radon-222

Where does it come from?

Radon is a radioactive gas found naturally in the environment. The gas is formed by the breakdown of uranium in soil, rock and water. Radon is colourless, odourless and tasteless but can be detected with special instruments.

How does it become a part of me?

We breathe small traces of radon each and every day. When radon is released from the ground outside, it does not pose a health risk.

Fast Fact!

If a home is built over soil that contains high quantities of uranium, radon gas can enter it through cracks in the foundation and accumulate. You can test your home to see if the radon levels are safe.

³H

Hydrogen-3

Where does it come from?

The radioactive form of hydrogen known as "tritium" is naturally present in water and our environment. It is produced from cosmic rays interacting with gases in our atmosphere. It is colourless and odourless.

How does it become a part of me?

We take in tiny amounts of tritium with the water we drink and eliminate it like normal water after a few days.

Fast Fact!

Tritium is also produced in nuclear reactors. To protect our environment, nuclear power plants have strict rules on how to dispose of tritium generated in their reactors.



²³⁸U



Uranium-238

Where does it come from?

Uranium is a hard, silvery, radioactive metal naturally found in the earth's crust. It is very dense and heavy and all forms of it are radioactive. Uranium is mined from the ground, just like coal or copper.

How does it become a part of me?

Because uranium is present in soil and rock, small amounts are absorbed by plants, some of which we eat. So, all of us have small amounts of uranium in our bodies. These amounts are not a risk to us.

Fast Fact!

The main use for uranium today is to fuel nuclear reactors. Mined uranium is formed into pellets that are put inside a nuclear reactor to make electricity.

⁴⁰K



Potassium-40

Where does it come from?

Radioactive potassium-40 is only a tiny fraction of all the potassium present in nature but because potassium is one of the ten most abundant elements on Earth, it is the largest source of natural radioactivity in humans and animals.

How does it become a part of me?

We regularly eat potassium-rich foods as a necessary part of our diet. These include bananas, avocados, nuts, chocolate, parsley and potatoes.

Fast Fact!

Potassium plays an important role in the daily functions of our body like regulating blood pressure, muscle function and heart rhythm.

¹⁴C



Carbon-14

Where does it come from?

Most of the earth's atmosphere is made up of a gas called nitrogen. When radiation from the sun hits these nitrogen atoms, a small percentage of them change into carbon-14, a radioactive form of carbon.

How does it become a part of me?

Because plants absorb carbon dioxide, they also absorb small amounts of carbon-14, which humans and animals eat. Don't worry, there is so little that it is harmless for humans and animals.

Fast Fact!

When humans and animals die, the amount of carbon-14 in their body starts to go down. So when an archaeologist finds an object like a bone, they can use a method called "carbon dating" to find out how old it is.

The total protons and neutrons in the atom!

The element's symbol on the Periodic Table of Elements

