

WHAT IS IT ALL MADE OF?

Before you read

- 1 Look quickly at the text and find where the text talks about the human body.


What is it all made of?

- At first, after the 'big bang', there was only hydrogen. The hydrogen burned in a fusion reaction and made helium. In stars, hydrogen and helium burn, and when a star is old it starts to make other elements.



- More than 90% of the atoms in the universe are still hydrogen atoms. In the solar system, however, where 99% of all the atoms are in the sun, helium is the most common element.

The Earth's atmosphere is made up of 78.1% nitrogen, 20.9% oxygen, 0.9% argon, about 0.035% carbon dioxide, and a small amount of water vapour and other gases such as neon.



The Earth's crust, however, contains far more oxygen – nearly 47%; 28% is silicon and the rest is mostly aluminium, iron, calcium, sodium, potassium and magnesium.

On average, nearly two thirds of the human body is water. Our cells are made from complex organic molecules such as proteins and lipids, but if we look only at the atoms, they are present in these proportions:

- hydrogen 63.00%
- oxygen 25.50%
- carbon 9.50%
- nitrogen 1.40%
- calcium 0.31%
- phosphorus 0.22%

There are also smaller amounts of many other elements.



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While you read

2 What is the most common element in:

- a the solar system?
- b the Earth's atmosphere?
- c your body?

After you read

3 What do these percentages represent?

- 0.31% *The proportion of calcium atoms in the human body*
- a 0.9%
- b 99%
- c nearly 47%
- d 0.035%
- e 63%

4 True or false?

- a Hydrogen and helium burn in stars.
- b Helium is the most common element in the solar system.
- c On average, nearly half of the human body is water.
- d There is more oxygen in the atmosphere than in the Earth's crust.
- e Most of the atoms in the universe are hydrogen atoms.