

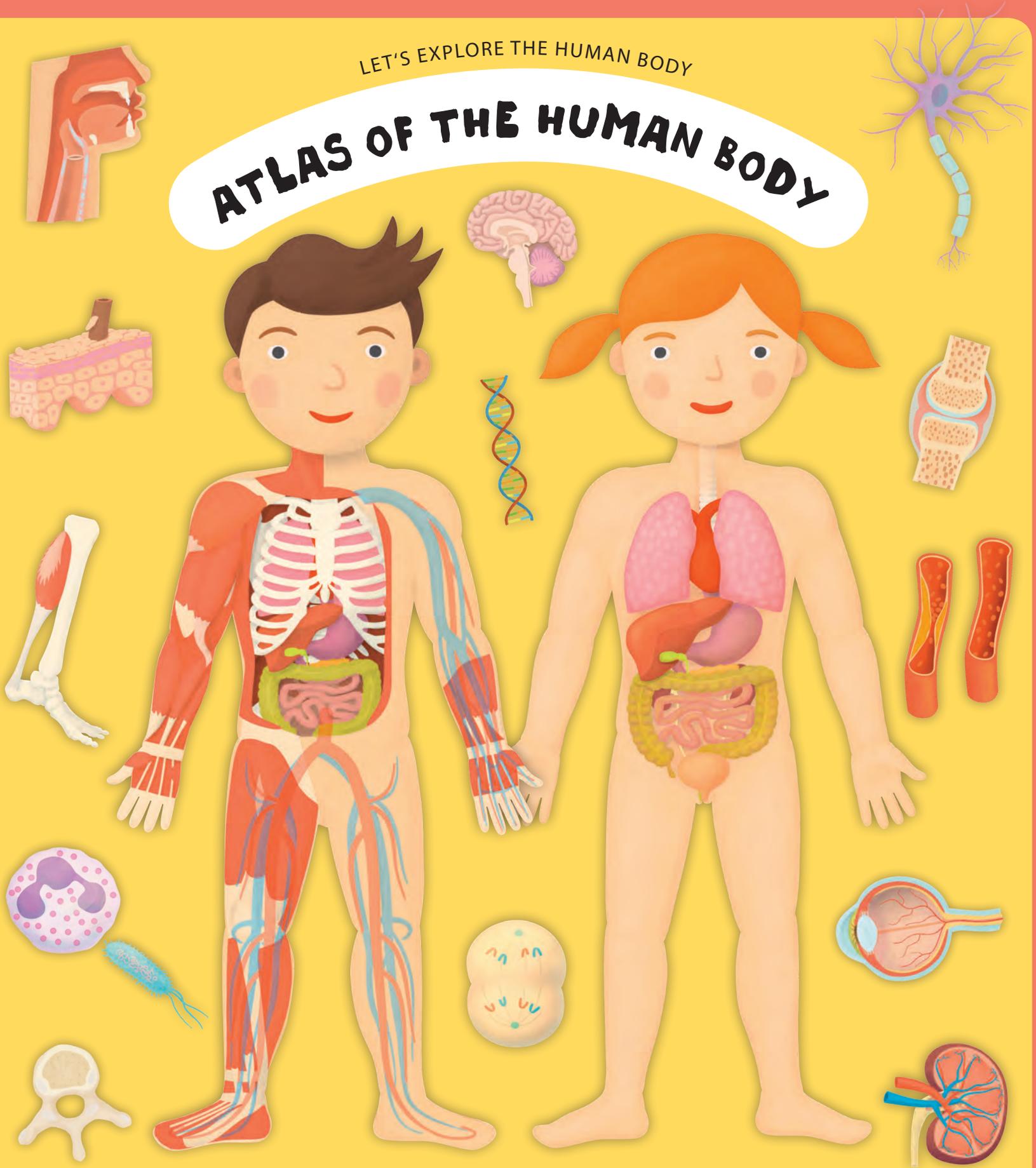


# ATLAS OF THE HUMAN BODY

FOR CHILDREN

LET'S EXPLORE THE HUMAN BODY

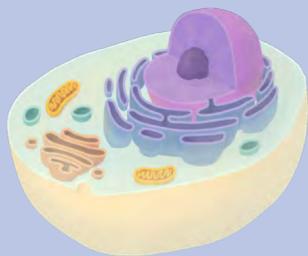
# ATLAS OF THE HUMAN BODY



# BASIC BODY PARTS

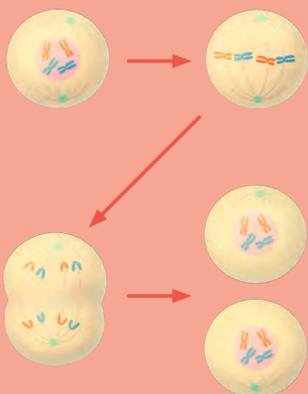
## CELL

These small particles making up living organisms are called cells. The human body has about 50 trillion of them. A cell is very small; the smallest one is only a several thousandths of a millimetre large. Cells are covered in a membrane and their centre contains genes.



## CELL DIVISION

Some cells in the human body are almost as old as the body itself, for example nerve cells. Other ones, like white blood cells, live only a couple of days. If a cell dies, the body must replace it with a new one. New cells are created when the original ones split in two.



## CHEMICAL PROCESSES

A human being is sort of a walking chemical laboratory where complex chemical processes are constantly underway. For example, after you enjoy a nice lunch, a process of digestion, i.e. food processing, begins. This is nothing more than a chemical reaction.



## GENES

The smallest part of the human body, called genes, can be found in cells. Genes keep the cells going and organize their mutual cooperation which makes a person stay alive. Humans receive their genes from their parents. This is called heredity.



## FOETAL DEVELOPMENT

During the forty weeks after the egg's fertilization, the human foetus develops quickly. It has a brain and a heart the size of a pin head as early as in the 6th week. In the 8th week, the foetus is about 2 cm big. In the 10th week, it already looks like a child and has internal organs. In the middle of the pregnancy, i.e. approximately in the 20th week, the foetus is about 18 cm tall. In the 30th week, it's about 25 cm tall and weighs over one kilogram. In the 36th week, it starts to frown, smile, and grow hair. In the 39th week, it weighs 2.5 kilograms at least, and the process of birth awaits it.

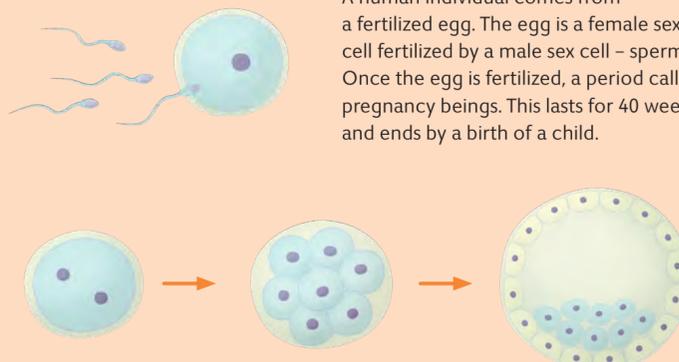


CURING  
ILLNESSES OF THE  
HUMAN BODY



## EGG FERTILIZATION

A human individual comes from a fertilized egg. The egg is a female sex cell fertilized by a male sex cell – sperm. Once the egg is fertilized, a period called pregnancy begins. This lasts for 40 weeks and ends by a birth of a child.



HEALTHY  
LIFESTYLE

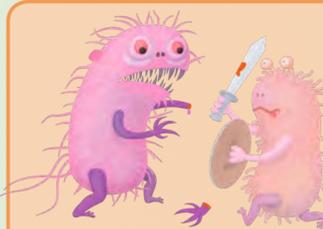
## THE MAKE-UP OF THE HUMAN BODY

The body of an adult human being weighs about seventy-five kilograms. It contains 20 kg of oxygen, 16 kg of carbon, more than six kilograms of hydrogen, 2 kg of nitrogen, and about one kilogram of calcium. Other elements are usually counted in grams, but they too are important to keep the body functioning.



## VITAMINS

These materials are indispensable to our life. However, the human body can't produce them on its own which is why it must get them from food. There are thirteen basic kinds of vitamins, and each one of them is important for humans in a different way. For example, the vitamin C, which makes the body resilient against infections, can be received from citrus fruits.



## BACTERIA

These are very small organisms, invisible to the human eye and present all around us, even in the human body. Some of them are beneficial to the human body because they create a so-called microflora which protects us from those kinds of bacteria that are more malicious and can cause various illnesses.

## PAPILLARY RIDGES

These are structures related to the humans' sense of touch, and can be found on palms, fingers, or feet. Each person has their own unique papillary ridges. This means there are no two people in the world who have the same two sets. That's why papillary ridges, such as the well-known fingerprints, are used in criminology.



# THE HUMAN BODY

The human body is a complex machine. Each second, it processes a huge amount of information and manages many important procedures. Inside, there are many organs, muscles, and bones. Kilometres of blood vessels run the brain which is more efficient than even the most powerful computer in the world. Thanks to the brain, all body parts cooperate perfectly and keep the body healthy as well as alive. More than a half of the human body is made up from water. Imagine a forty-litre container; the body of an adult human being contains the same amount of water. Out of all chemical elements that are known today, most of them can be found in the human body. A body has over 200 bones, more than 600 muscles, about 6 litres of blood, and 75 kilometres of nerves. Let's learn something about this ingeniously harmonized machine and the millions of its functions.

Walking on all fours is no fun anymore.



## HUMAN DEVELOPMENT

Just like other animals living on Earth, humans and their bodies have been evolving for many millions of years. Our ancestors were the first primates and great apes from which the modern human evolved.

## ARCHEOLOGY

Many of the things we know about our ancestors are known to us thanks to the science called archaeology. Due to discoveries of skeletal remains, it was possible to reconstruct the appearance of our human ancestors.



## WATER CONSTITUTES MORE THAN HALF OF THE WEIGHT OF THE HUMAN BODY

### CHIMPANZEE SKULL

The chimpanzee you know from zoo is a close relative of humans. The difference between the skull of humans and that of a chimpanzee lies mainly in the human's large, developed cranial cavity, i.e. the space in the skull where the brain is located.



Help, a skeleton is approaching!



## ADAPTATION

The human body has a great ability to adapt itself to surrounding circumstances. It can adapt to sunlight; people from the Earth's northern regions have a fairer skin while those who live closer to the equator have a darker skin tone. Your body can adapt to the sport you do. For example, a Sumo fighter needs a robust heavy body to engage in this particular activity.

## THE HUMAN BODY WORKS LIKE A WELL-OILED MACHINE



## X-RAY

Doctors have many tools which allow them to examine the human body by looking under its surface. One of these tools is called the X-ray; it can show you the bones in your body. You may not own such a machine yourself, but this book will give you a look at the places in your body which are usually known only to doctors.

## SKELETON

Bones and muscles allow the human body to move. Just like the entire body, a person's skeleton had to evolve as well. Among other things, humans differ from their ancestors in the way they walk on two legs.



## ENERGY

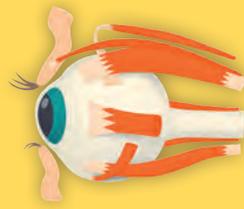
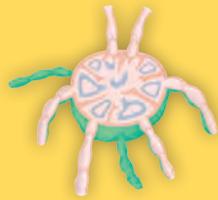
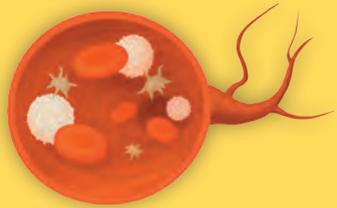
Since the body exerts energy, it must receive it back in the form of food. Oxygen helps the body with converting the food into necessary nutrients. If the body is engaged in simple activities, it needs less energy. If it does sports or is under physical strain, there's more energy required.



## WHAT'S INSIDE?

The human body consists of many parts. Every one of them has its specific location and function. It doesn't matter whether we focus on the surface of the body – formed by skin – or on your internal organs; discovering the individual parts of humans is a great adventure full of unexpected surprises. Let's start by a basic division.





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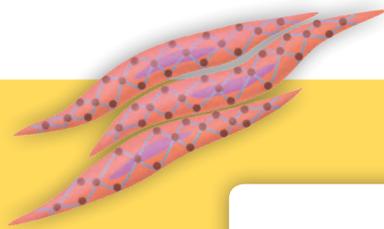
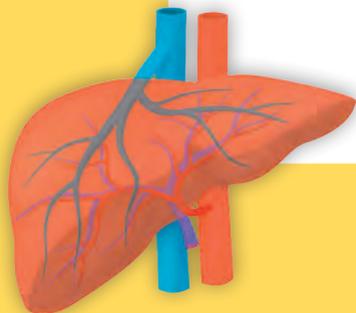
Written by Oldřich Růžička, Tomáš Tůma

Illustrated by Tomáš Tůma

These six large folding maps will introduce child readers aged six and up to the human body, including all of its organs and functions. The large clear illustrations will show you the basic parts of the human body, the circulatory system, nervous system, internal organs, and skeleton. Each chapter is enhanced by enclosed booklets which include basic information about illnesses of individual body parts and about the ways to cure them; on a healthy diet and lifestyle; or how to best provide first aid when somebody gets injured. The Atlas will show you how the human body functions, how to take care of it as best as possible, and what you need to do when you suffer from a health problem.

## In the Atlas, you will find and learn about:

- the human body as depicted in six large folding maps
- many colourful and entertaining illustrations
- clear texts and information about the human body, understandable to children aged six and up
- descriptions of the functions of individual body parts
- healthy lifestyle, illnesses and how to prevent them



over 250  
full-colour  
illustrations



big  
folding  
maps

booklets  
with more  
information

EAN

**⚠ WARNING: CHOKING HAZARD**  
Small parts. Not suitable for children  
under 36 months.