

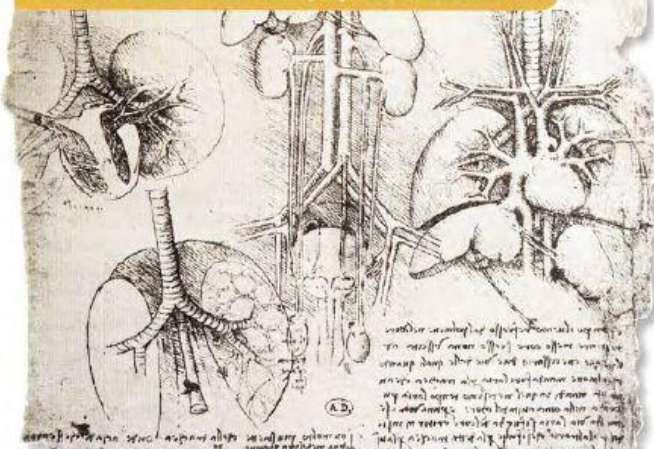
Understanding the Body

Doctors have to understand how the body works so that they can make people well. Understanding the body also helps doctors to cure more diseases.

Looking Inside the Body

Early doctors were not allowed to cut open dead people to look inside their body. An Ancient Roman doctor called Galen learned some things by dissecting animals, but he made mistakes. He thought a person's jaw had two bones, like a dog's jaw. From 1540, scientists started to dissect people's bodies. Leonardo da Vinci was a famous artist who dissected human bodies. He drew very clear pictures of what he saw.

A Picture of Inside the Body by Leonardo da Vinci



Helping Patients

Ambroise Paré was a surgeon in France about 450 years ago. At this time, many patients died after surgery because they lost a lot of blood. Ambroise Paré learned to tie blood vessels after he cut off a wounded hand, arm, or leg. This stopped patients bleeding too much and it stopped many of them dying.

Ambroise Paré also made the first artificial hands, arms, and legs for patients. He wrote books about his ideas. These books helped other surgeons to become better at their jobs.

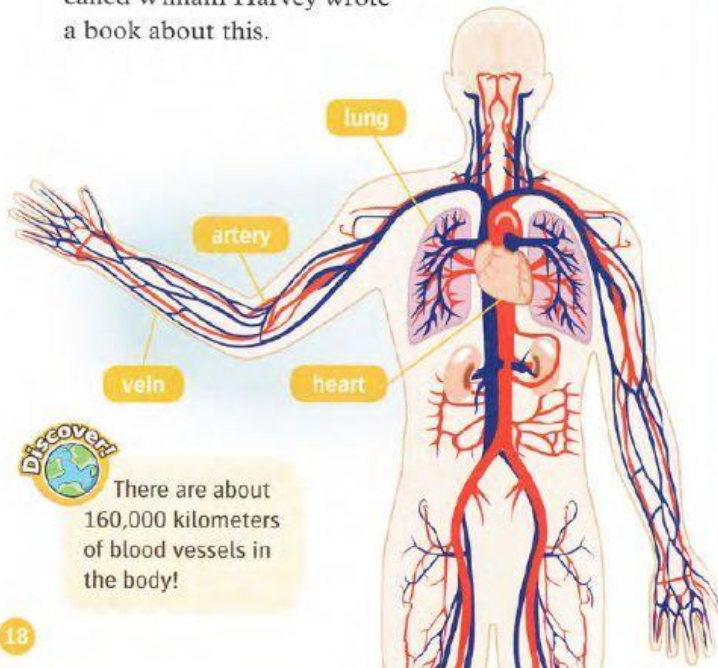


A Picture of an Artificial Hand by Ambroise Paré

How the Heart Works

In Egypt about 760 years ago, a famous doctor called Ibn Al-Nafis studied the heart. He discovered that it moves blood around the body. He also discovered that blood travels from one side of the heart to the other side by moving through the lungs. In the lungs, the blood mixes with air.

Blood leaves the heart through blood vessels called arteries and it travels back to the heart through blood vessels called veins. In 1628, a British scientist called William Harvey wrote a book about this.



There are about 160,000 kilometers of blood vessels in the body!

Microscopes

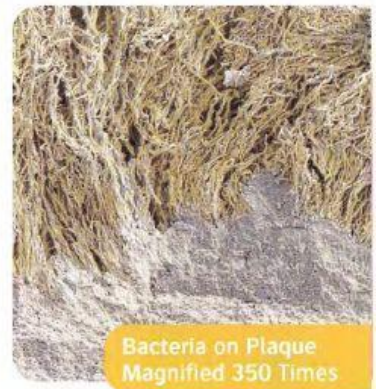
A microscope is a machine that magnifies very small things – it makes them look bigger, so that people can see them. In about 1640, scientists started to use microscopes to learn about the body.

A Dutch scientist called Anton van Leeuwenhoek saw capillaries through a microscope. Capillaries are tiny blood vessels that connect arteries and veins.

Anton van Leeuwenhoek also used his microscope to look at some plaque that he took from between his teeth. He was surprised to see tiny living things in it. These tiny living things were bacteria. Many years later, doctors understood that some bacteria could make people ill.



An Old Microscope



Bacteria on Plaque Magnified 350 Times

← Read pages 16–19.

1 Circle the correct words.

- 1 Understanding the body helps **artists** / **doctors** to cure more diseases.
- 2 Early doctors **were** / **were** not allowed to cut open dead people.
- 3 Galen thought a person's jaw had **two** / **ten** bones.
- 4 From 1540, scientists / **mechanics** started to dissect people's bodies.
- 5 Leonardo da Vinci dissected **human bodies** / **dogs**.

2 Order the words. Then write *true* or *false*.

- 1 was an artist / about 450 years ago. / Ambroise Paré

- 2 after surgery. / At this time, / died / few patients

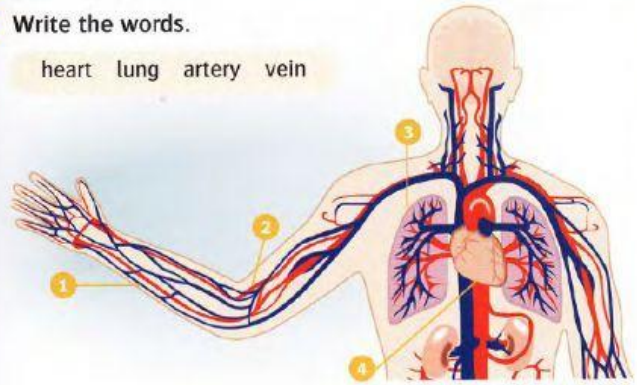
- 3 tied blood vessels / Ambroise Paré / part of the body. / after he cut off a

- 4 This stopped / dying. / many patients

- 5 made the first / Galen / arms, and legs. / artificial hands,

3 Write the words.

heart lung artery vein



- 1 _____ 3 _____
2 _____ 4 _____

4 Complete the sentences.

capillaries microscope plaque veins bacteria arteries

- 1 A _____ is a machine that makes very small things look bigger.
- 2 Anton van Leeuwenhoek saw _____ through a microscope.
- 3 Capillaries are tiny blood vessels that connect _____ and _____.
- 4 Anton van Leeuwenhoek used his microscope to look at some _____ from his teeth.
- 5 He saw tiny living things called _____ living in the plaque.