

Horizons

Health
Grade 6


Student Book





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Your Environment

The story of who you are and how you develop is more complicated than that. Chromosomes, DNA, and genes are only part of the story. What does this fable tell you about being you?

The Bad Kangaroo

There was a small Kangaroo who was bad in school. He put thumbtacks on the teacher's chair. He threw spitballs across the classroom. He set off firecrackers in the lavatory and spread glue on the doorknobs.

"Your behavior is impossible!" said the principal. "I am going to see your parents. I will tell them what a problem you are!"

The principal went to visit Mr. and Mrs. Kangaroo. He sat down in a living-room chair.

"Ouch!" cried the principal. "There is a thumbtack in this chair!"

"Yes, I know," said Mr. Kangaroo. "I enjoy putting thumbtacks in chairs."

A spitball hit the principal on his nose.

"Forgive me," said Mrs. Kangaroo, "but I can never resist throwing those things."

There was a loud booming sound from the bathroom.

"Keep calm," said Mr. Kangaroo to the principal. "The firecrackers that we keep in the medicine chest have just exploded. We love the noise."

The principal rushed for the front door. In an instant he was stuck to the doorknob.

"Pull hard," said Mrs. Kangaroo. "There are little globs of glue on all of our doorknobs."

The principal pulled himself free. He dashed out of the house and ran off down the street.

"Such a nice person," said Mr. Kangaroo. "I wonder why he left so quickly."



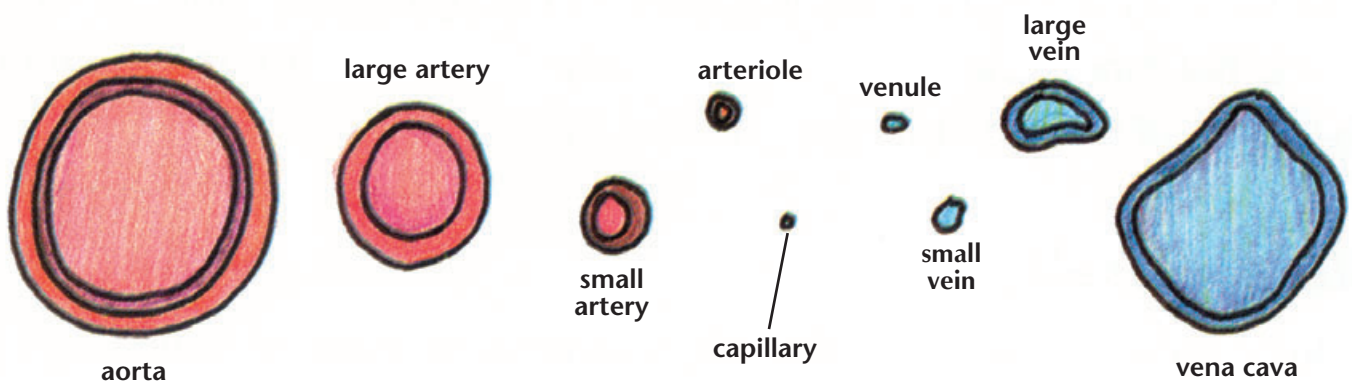
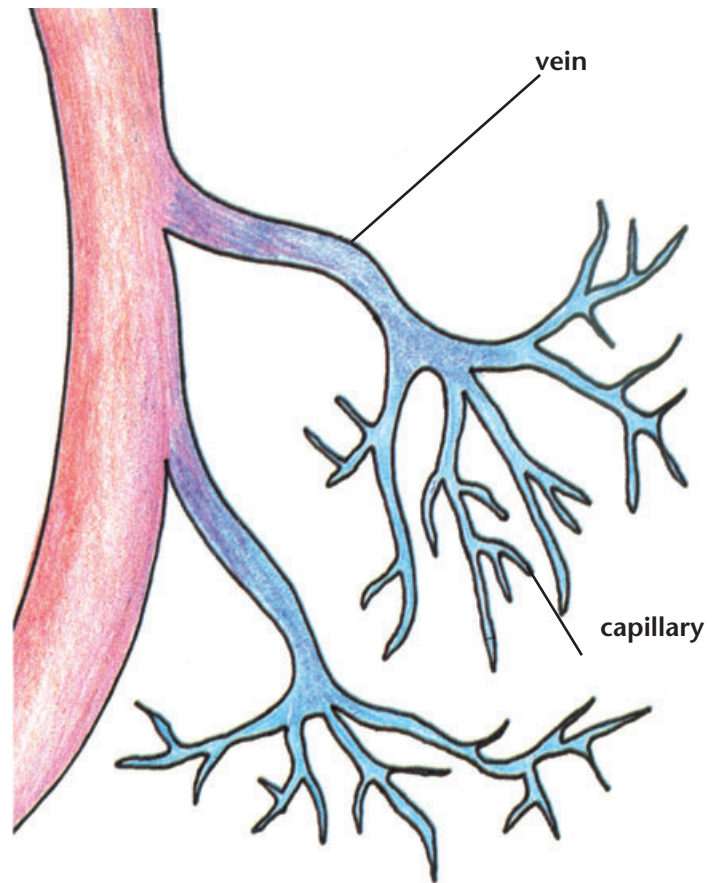
Your Blood Vessels

Blood flows through your body through thousands of miles of hollow, soft, elastic tubes called blood vessels. There are three kinds of blood vessels: arteries, veins, and capillaries.

Blood leaving the heart flows through big arteries. Arteries have thick, muscular walls so they can stretch and widen when the heart sends spurts of blood through them. The big arteries gradually branch into smaller ones. The smallest arteries are almost too small to see. From these small arteries blood flows into capillaries.

The capillaries snake in and out around the cells. Capillary walls are so thin that nutrients and oxygen in the blood are able to pass through them into the cells. Also, wastes from the cells pass into the blood in the capillaries.

The capillaries link up with the smallest veins, so that the blood can travel through the branches of veins and carry away the waste products. On the return trip to the heart through the veins, the blood moves with less force. For this reason, vein walls are much thinner than artery walls.



Questions and Answers About AIDS

What is AIDS?

AIDS stands for acquired immune deficiency syndrome. AIDS is not a specific disease; it is a condition in which the body's immune system breaks down. Persons with AIDS die from diseases that they are unable to fight off.

What causes AIDS?

AIDS is caused by a virus called HIV (human immunodeficiency virus). HIV attacks the white blood cells of the body. Unlike the viruses that cause colds and flu, HIV doesn't eventually leave the body. It stays in the body indefinitely.

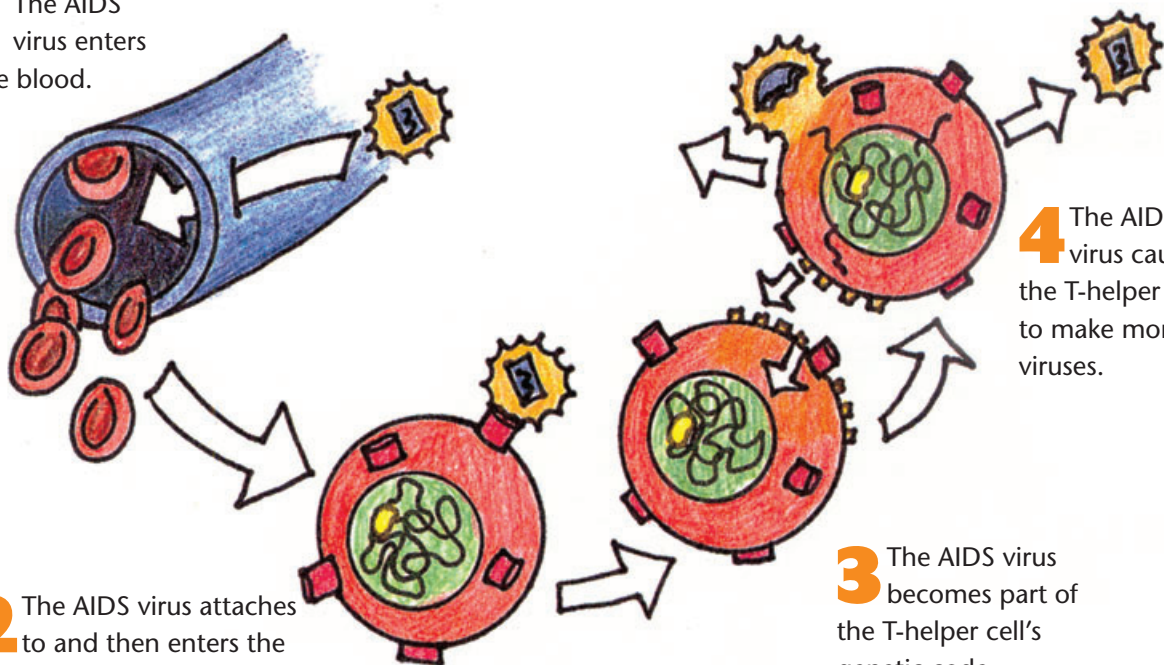
How does HIV attack the immune system?

1 The AIDS virus enters the blood.

2 The AIDS virus attaches to and then enters the T-helper cell.

3 The AIDS virus becomes part of the T-helper cell's genetic code.

4 The AIDS virus causes the T-helper cell to make more viruses.



HIV's main target is special white blood cells called T-helper cells. These cells are critical parts of the body's immune system. They control the antibodies, the chemical fighters the body makes to fight disease germs.

When HIV enters T-helper cells, it combines its genetic code with that of the T-helper cells. In this way it orders the cells to make copies of itself. The hundreds of new viruses