

1

INSIDE YOUR BODY



LET'S BEGIN

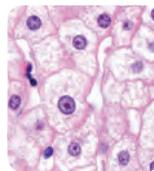
- 1 Look at the photo. Where is the girl? What is the doctor using?
- 2   Which organs can the doctor listen to with this instrument? Why do doctors need to listen to your organs? What can they learn?
- 3 What are the three life functions?
- 4 What is the main function of the heart? Which body system does it belong to?
- 5 Name the body system which:
 - excretes waste from your body
 - transports oxygen to your body cells
 - provides your body with nutrients.
- 6  Listen to the *Your body* song. Point to the words you hear.



sight



babies



cells



vitamins



organs

- 7  Sing the song.
- What do you know? Let's find out.

Useful language

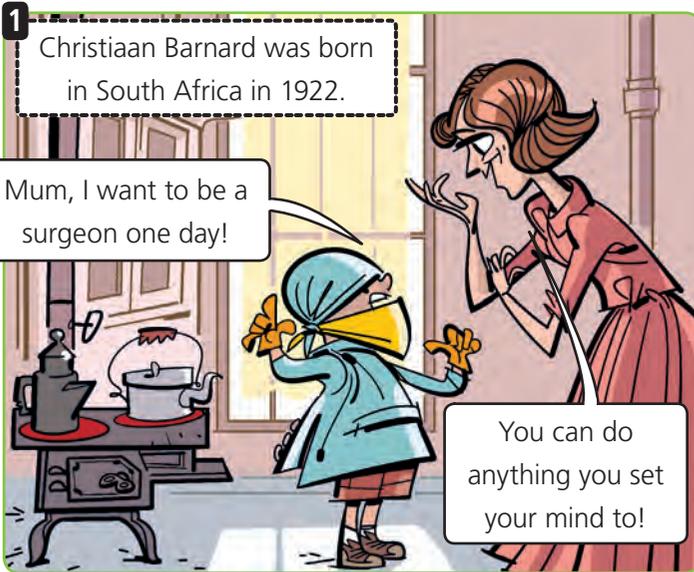
A doctor can listen to the
(heart) or the ...

I think it's important because
they can hear ...

Christiaan Barnard

  Listen, read and act out.

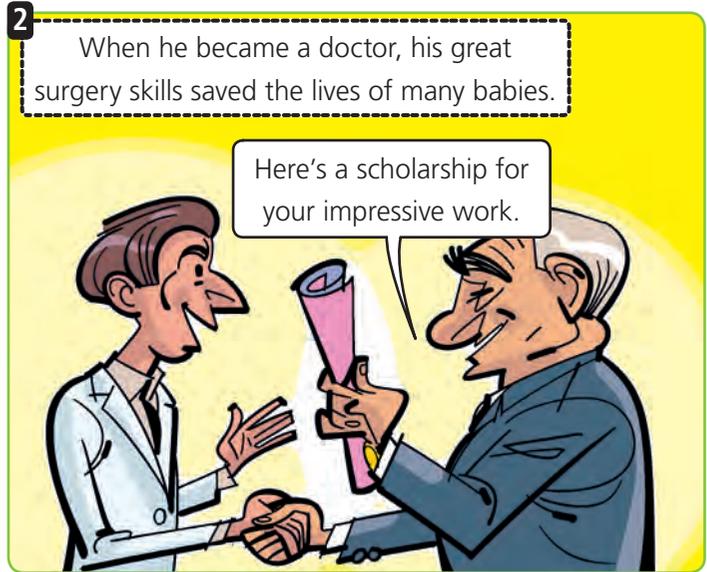
1 Christiaan Barnard was born in South Africa in 1922.



Mum, I want to be a surgeon one day!

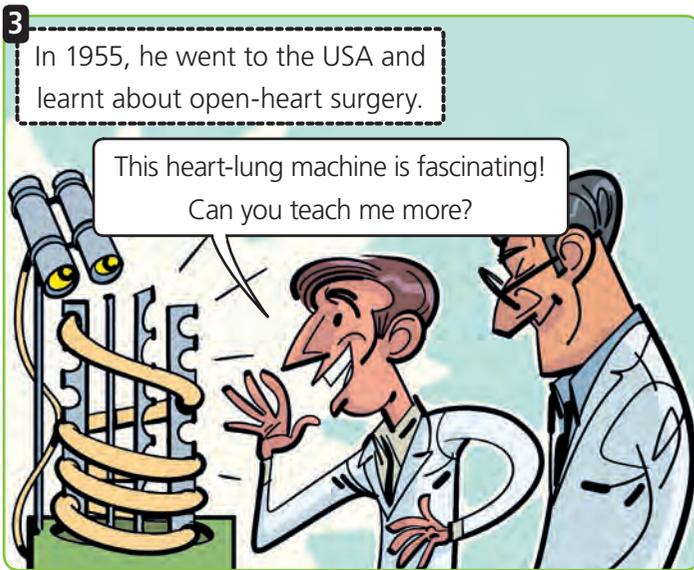
You can do anything you set your mind to!

2 When he became a doctor, his great surgery skills saved the lives of many babies.



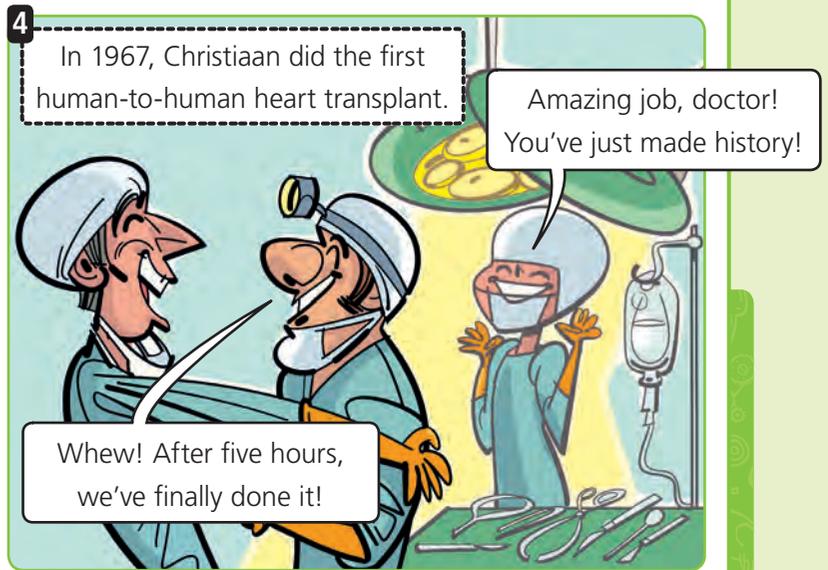
Here's a scholarship for your impressive work.

3 In 1955, he went to the USA and learnt about open-heart surgery.



This heart-lung machine is fascinating! Can you teach me more?

4 In 1967, Christiaan did the first human-to-human heart transplant.



Amazing job, doctor! You've just made history!

Whew! After five hours, we've finally done it!

1 In your notebook, copy and complete the sentences with the correct words.

- a A is an organ which makes blood circulate round your body.
- b A is a medical process where doctors operate on someone.
- c A is a doctor who operates on people.
- d A is when a doctor puts a new organ into a body.

surgeon
heart
surgery
transplant



What does your diaphragm do?



Think first

The diaphragm is the big muscle between your lungs and your stomach. You are going to do an experiment to see how the diaphragm functions and how it helps you breathe. Think about the following questions individually. Then discuss them as a group. Take notes about your group's answers.

- a. When you breathe out, do your lungs expand or contract?
- b. When you breathe in, does your diaphragm move up or down?

Materials: big plastic bottle, box cutter, balloon, scissors, plastic bag, elastic band.

Steps

- 1 With the help of an adult, cut off the bottom of the bottle.
- 2 Put the balloon into the top of the bottle. Wrap it around the outside of the bottle.
- 3 Cut a big circle out of the plastic bag. Wrap it around the bottom of the bottle.
- 4 Use the elastic band to keep the plastic bag in place.
- 5 Carefully pull the plastic bag down from the centre. Then push the plastic bag up. Watch what happens to the balloon. Write down your observations.



Reflect

Revise your answers to the **Think first** questions. What happened to the balloon when you pulled the plastic bag down and what happened when you pushed it up? Has the experiment helped you understand the function of the diaphragm better?



Evaluate your cooperative learning.

Nutrition: the digestive and excretory systems

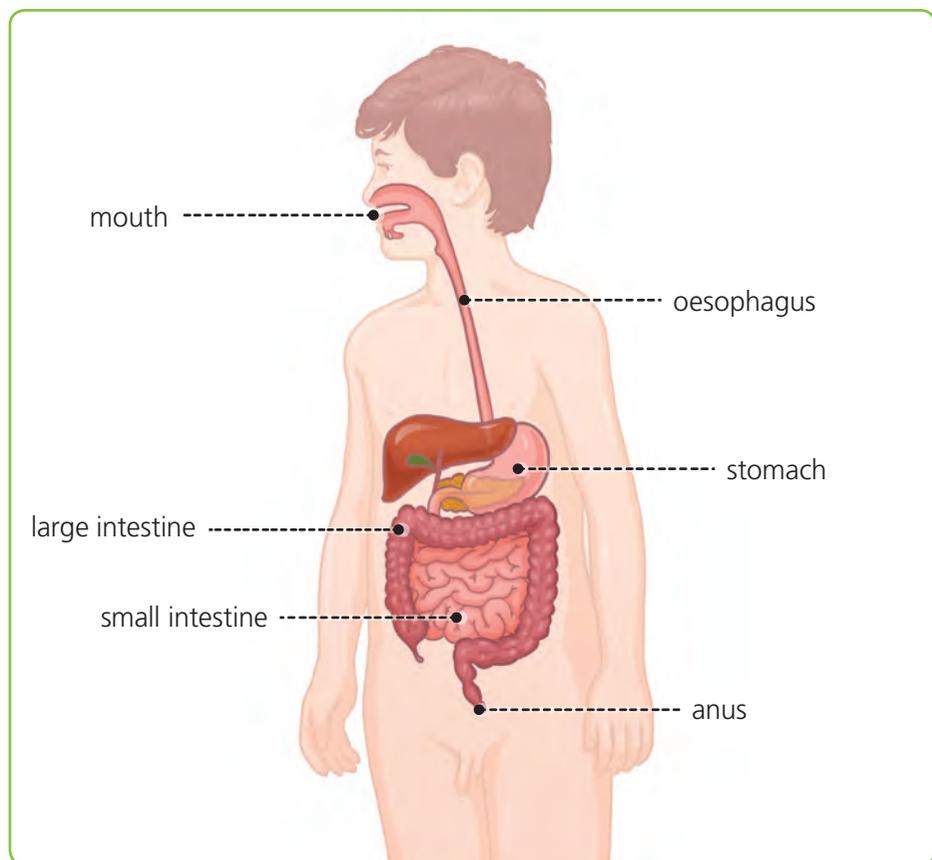
Where does the process of digestion begin?

The human body is made up of different **systems** which work together. These systems are made up of **organs**. Organs are made up of different types of **tissue**. All tissues are made up of millions of **cells** working together.

All human beings perform three life functions: **nutrition**, **reproduction** and **interaction**. The function of nutrition consists of digestion, excretion, respiration and circulation.

The digestive system

The digestive system allows your body to get the nutrients it needs from the food you eat. The digestive process begins when food enters the **mouth**. When you swallow, the food goes down the **oesophagus** to the **stomach**, then into the **small intestine**. The small intestine separates the nutrients from the waste. The blood absorbs the nutrients and delivers them to all the body cells. The waste passes into the **large intestine** and then leaves the body through the **anus**.



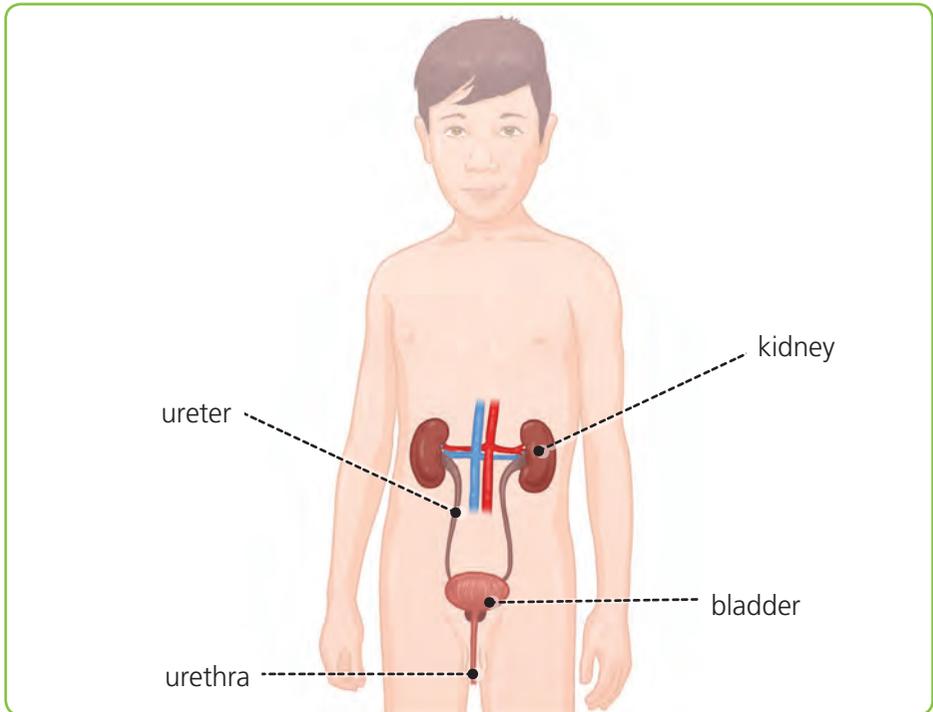
- 1 What is the function of the digestive system?
- 2 What is the difference between the small intestine and large intestine?
- 3 What is obesity? How can you prevent it?
- 4 Which illnesses affect the digestive system? What do they do?
- 5 What can you do to protect your digestive system?
- 6 What are the three life functions?

The excretory system

The excretory system expels waste from the body. It consists of the **urinary system** and **sweat glands**.

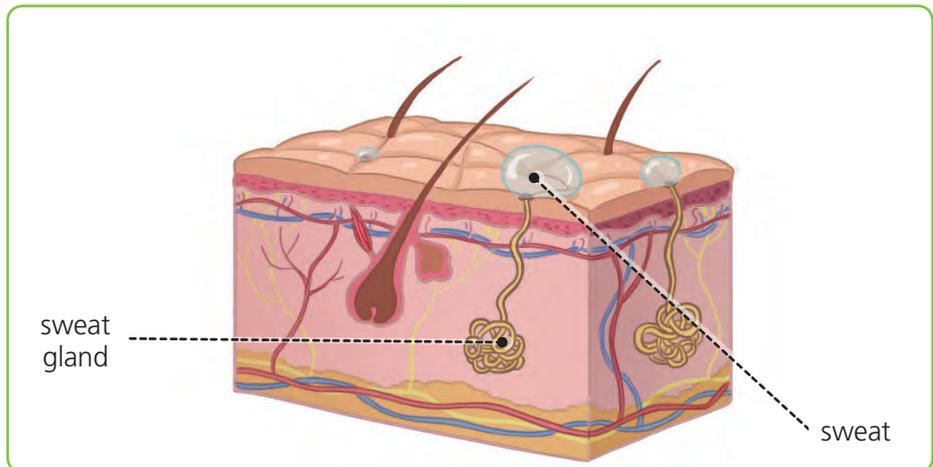
The urinary system

The urinary system is responsible for removing liquid waste from the body. The **kidneys** filter the blood and separate the waste and water. This combination of waste and water forms **urine**. The urine goes down two tubes called **ureters** to the **bladder**. When the bladder is full, your body tells you to go to the bathroom. The bladder releases urine through the **urethra**.



Sweat glands

Your body also eliminates waste in the form of **sweat**. It is a mixture of water and minerals. When your body is too hot, **sweat glands** produce sweat. Then the sweat is released through your pores. This process cools down your body.



7  Listen. How must you take care of the excretory system? Which illnesses can affect the excretory system?

8   Why do you sweat when you do exercise?

Useful language

You sweat because ...

The (pores) release ...

Nutrition: the respiratory and circulatory systems

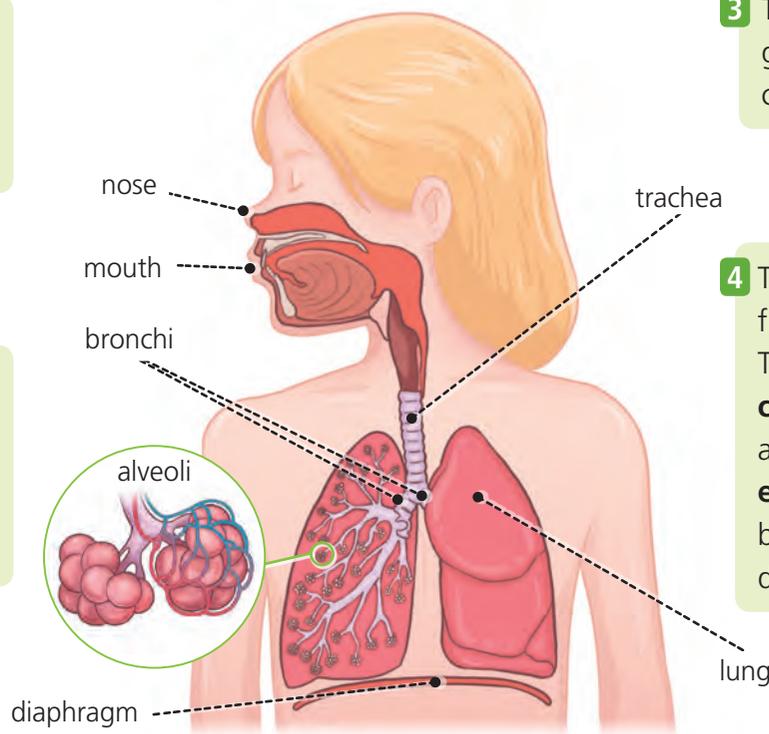
Which organs help you breathe?

The respiratory system

The organs in the respiratory system help you breathe in **oxygen** and breathe out **carbon dioxide**.

1 When you breathe in, air enters your body through your **mouth** or your **nose**.

2 The air goes down the **trachea** and into two tubes, called **bronchi**. They bring air into your **lungs**.



3 The air inside the lungs goes into small air sacs, called **alveoli**.

4 The alveoli transfer **oxygen** from the air into the blood. The blood also transfers **carbon dioxide** into the alveoli. This is called a **gas exchange**. When you breathe out, the carbon dioxide leaves your body.

Germs and sickness

Sometimes germs (viruses and bacteria) can enter your respiratory system. If they attack your airways, you can get a cold, the flu or pharyngitis. If they enter your lungs, you can get pneumonia. You can prevent spreading illnesses if you cover your mouth when you sneeze or cough. You can even wear a face mask. Make sure to always wash your hands!



1 What is gas exchange?

2 How does the diaphragm help you breathe?

3 What is pneumonia? What happens to the respiratory system?

4 Listen. Are the sentences true or false?

- a. Jamie gets tired after playing football.
- b. Jamie coughs around his dog.
- c. The doctor thinks Jamie has a cold.
- d. Only medicine can treat his symptoms.

The circulatory system

The circulatory system transports **oxygen** and **nutrients** to each cell in your body. It also takes waste products like **carbon dioxide** to the lungs, where the respiratory system expels it from your body. The circulatory system consists of the **heart**, **blood vessels** and **blood**. The heart pumps blood round the body through three different types of blood vessel:

arteries

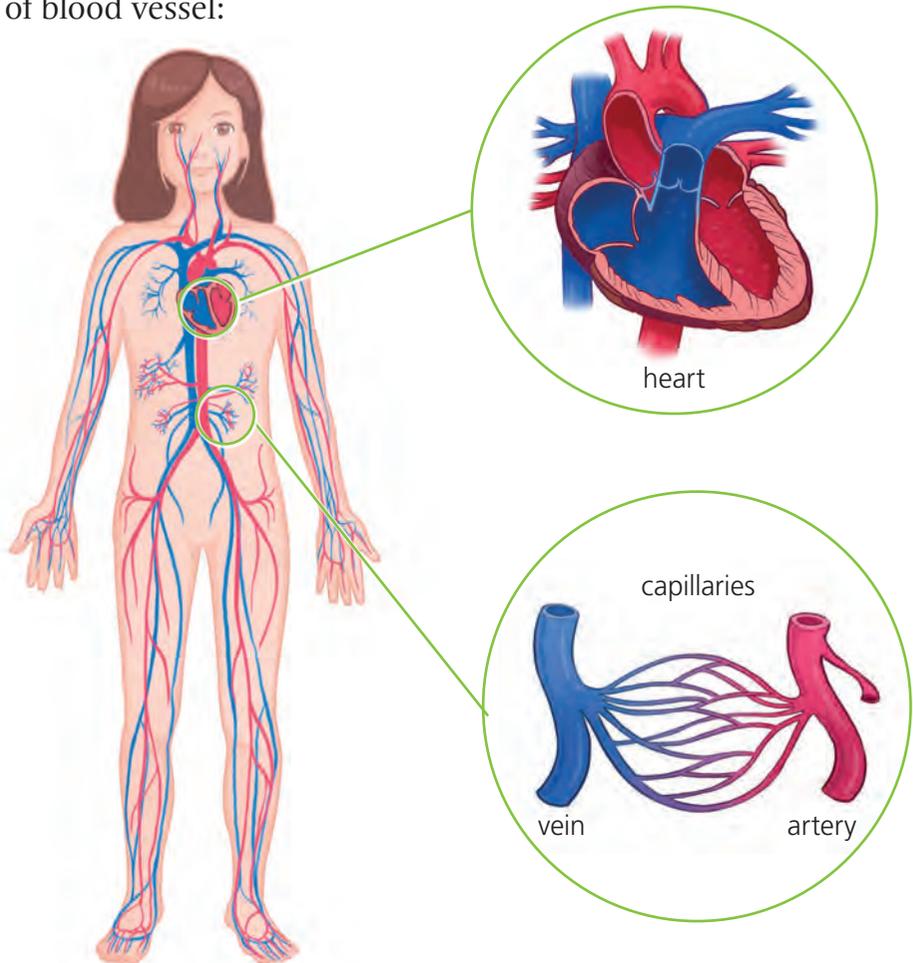
Arteries take the blood **from your heart** to all parts of your body.

veins

Veins bring blood from your body back **to your heart**.

capillaries

Capillaries connect arteries and veins. **Gas exchange** occurs in the capillaries because they have thin walls. Oxygen and carbon dioxide can move easily between the blood and the tissue cells in the body.



5 Where does gas exchange occur?

6 What is the difference between an artery and a vein?

7 Listen to a doctor talking about cholesterol. What is it? Why is cholesterol good for your body? What can happen when your cholesterol level is too high?

8 What is blood pressure? What happens if you have high blood pressure?

9 Are these things good for your heart? Justify your answers.

- doing exercise
- eating a Mediterranean diet
- eating lots of salt
- eating fried food

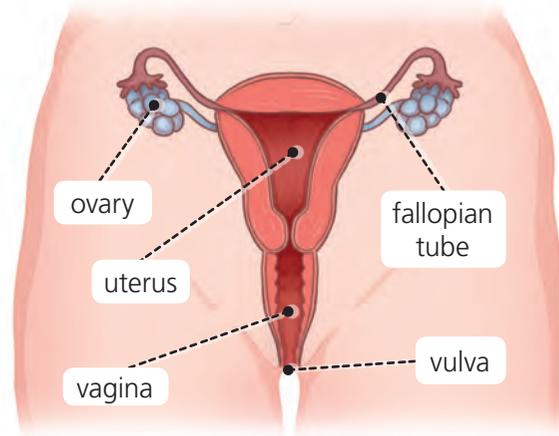
Reproduction

Where does a baby develop in the female reproductive system?

Other body systems are the same in women's and men's bodies, but the parts of the reproductive systems are different. In order to reproduce, both systems are necessary.

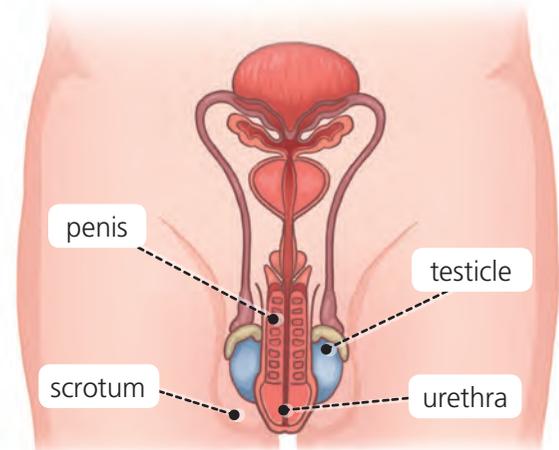
female reproductive system

- The female reproductive system is made up of two ovaries, the fallopian tubes, the uterus, the vagina and the vulva.
- The **ovaries** produce and store the female sex cells, called **ova**. The **fallopian tubes** connect the ovaries to the **uterus**. The uterus is where babies develop. The **vagina** is a muscular tube which connects the uterus to the outside of the body. The **vulva** protects the outside of the vagina.



male reproductive system

- The male reproductive system consists of the scrotum, two testicles, the urethra and the penis.
- The **scrotum** is an external sac of skin which contains the **testicles**. These produce millions of the male sex cells, called **sperm**. They travel through two thin tubes to the **penis**. The **urethra** is a tube inside the penis which carries the sperm out of the body.



- 1 Which are the main parts of the female and male reproductive systems?
- 2 Where is sperm produced? Where are ova produced?
- 3 The testicles produce millions of sperm. How many ova do a woman's ovaries produce in her lifetime?

Useful language

Sperm is produced in ...
Ova are produced in ...

Accept your body

How can you be a good friend to your classmates?

The world is full of many different people. Everyone has different beliefs, customs, and habits. It is important to accept and respect yourself just the way you are. It is also important to respect other people just the way they are.

personal problems

Maybe you feel like it is hard to accept yourself sometimes. You can think that how you look or the activities you like make you different from other children. This can make you feel lonely or sad.

- Talk about how you feel with a friend, a family member or one of your teachers.
- When you share a problem, you can find that sometimes other people have similar problems. You can help each other resolve them.
- It is important to accept and value yourself for who you are.



group conflicts

Sometimes groups of friends can have problems. In these situations, you can try to mediate a solution. A mediator is a person who can help solve problems between two or more people. Here are some points to remember if there is a group conflict:

- Go somewhere neutral to talk, such as a park.
- Stay calm. Let everyone talk openly and honestly. Only allow friendly words.
- Listen to all opinions and try to see both sides of the story. Find points in common where they can agree.



1   Why do you need to respect yourself and others?

2  With a partner, think of ways you can help a classmate who is being bullied.

3  Listen and answer the questions.

- a. Why is the first child crying?
- b. What does the second child do? What advice can you give the girl?

Useful language

I need to respect myself / others because ...

When everyone respects each other, we can all ...

Everyone will be (*happier*) and ...

First aid

First aid is the assistance you give to someone who is ill or injured. It is a very helpful set of skills to know. If someone you know gets hurt, you must find help. It is also important to know some basic first aid and how to stay safe at home and at school.

Find out how much you know about first aid! Choose one option to complete the sentences. Write the full sentence in your notebook.

1. If you cut yourself with a knife and you are bleeding,
 - a. you should apply pressure with a clean cloth.
 - b. you should call an ambulance.
 - c. you should put alcohol on the cut.
2. If you have something in your eye,
 - a. you should rub your eye to clean it.
 - b. you should close your eye and let the tears wash it out.
 - c. you should take it out with a clean tissue.
3. If you get burnt,
 - a. you should put butter on the burnt skin.
 - b. you should put a T-shirt over the burnt skin.
 - c. you should put the burnt skin under cool water.
4. If someone drinks something poisonous,
 - a. you should call an ambulance.
 - b. you should give them milk.
 - c. you should make them vomit.
5. If a bee stings you,
 - a. you should take out the stinger.
 - b. you should not touch the stinger.
 - c. you should cover the stinger with a cold tissue.



 Listen and check your answers. You get one point for each correct answer.

What is your score?

- 0-1 You need to start learning about first aid!
- 2-3 You need to find out a little more about first aid!
- 4-5 Great! You can teach your friends about first aid!

Look out for dangers

People have accidents when things happen suddenly or when they are not paying attention to what they are doing. You can prevent a lot of accidents if you know what situations or objects can be dangerous. The places where most accidents happen are the places you spend most of your time: at school and at home.



Dangers at school

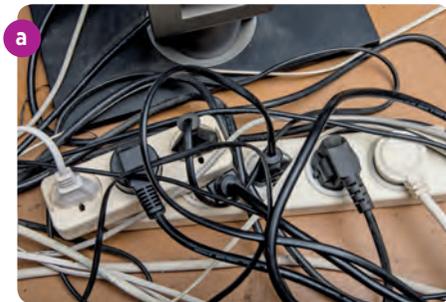
Pay attention:

- on the playground. Play safely or you could fall and get injured.
- in the corridors. Do not run or you could slip and hurt yourself or others.
- in the classroom. If there is a lot of noise, you could get a headache or hurt your ears.

Dangers at home

Many accidents happen at home, especially in the bathroom and kitchen. Look out for:

- electrical appliances near sinks and bathtubs.
- things that could cut or burn you.
- objects you could choke on.
- floors that are wet and slippery.



1 🗣️ Look at photos a–c. What do you see? What could happen? Share your ideas with your partner.

2 🎧 Now listen to possible consequences for the situations in photos a–c and decide which one they refer to. Did you and your partner say any of them?

3 🔍 Why must you never tilt your head back if your nose starts bleeding?

4 📞 What number must you call in an emergency?

Useful language

I can see a boy doing a flip into / standing on a chair next to / ...

You could get ...

5 In your notebook, write the sentences with the correct words.

- a The **urinary / reproductive** system removes liquid waste from the body.
- b Urine leaves the body through the **ureters / urethra**.
- c Gas exchange occurs in the **veins / capillaries**.

6  In pairs, choose to be A or B.

blood nose and mouth trachea lungs alveoli tissue cells

- a A explains to B the route of oxygen in the body, starting with the nose and mouth. Use all the words in the box.
- b B explains to A the route of carbon dioxide in the body, starting with the tissue cells in the body. Use all the words in the box.

Study skills

When you learn how to organise your time, you feel happier, avoid stress and get more things done!

- Write a to-do list of all the tasks you need to complete. Put the most important things at the top. Check them off when you are done!
- Keep a calendar with important dates, like tests and project deadlines.
- Make a daily planner for your homework, after-school activities, revision, favourite series, etc.



What do you know now?
Check your progress!