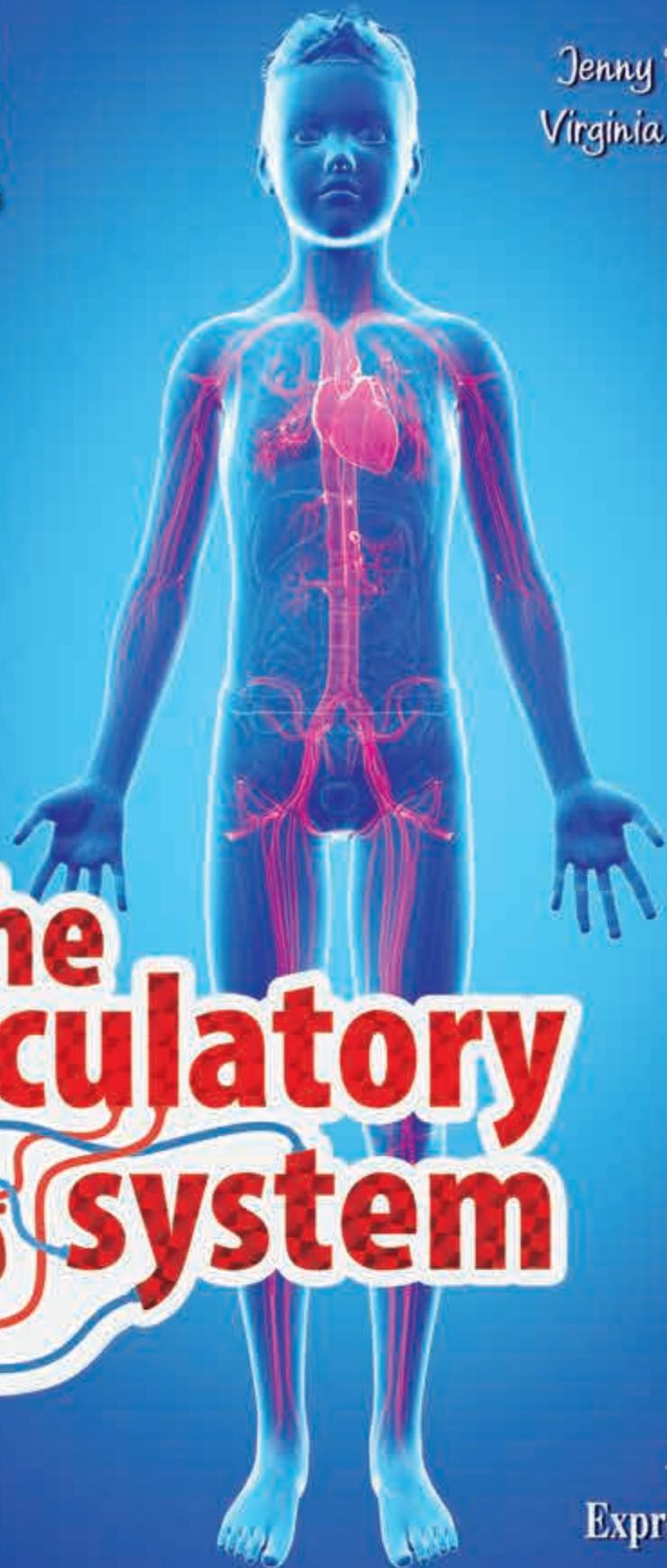


**EXPLORE
OUT
WORLD**

CLIL READERS

Jenny Dooley
Virginia Evans

6



The circulatory system



Express Publishing



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Jenny Dooley – Virginia Evans



Express Publishing

LET'S START!

All the parts of your body need blood. The movement of blood through your heart and around your body is called circulation. The circulatory system is like a transport system. Every time your heart beats, it pumps blood all around your body. The blood carries oxygen and nutrients to every cell.



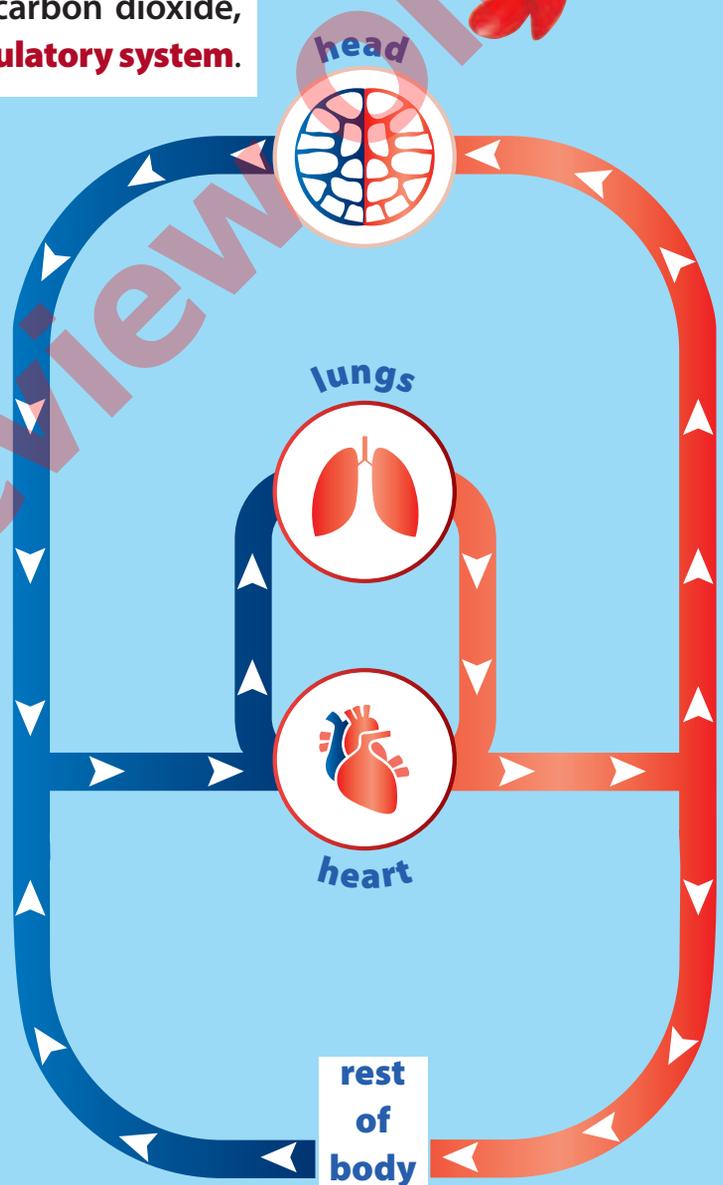
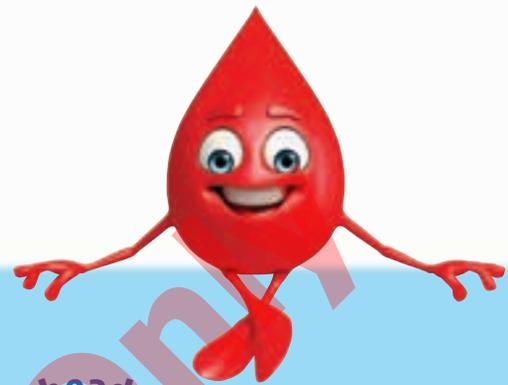
Every day, about five litres of blood travel many times through blood vessels that branch and cross in an amazing network that links all the cells of your body together. Let's take a closer look at how the circulatory system keeps you alive and active!

1

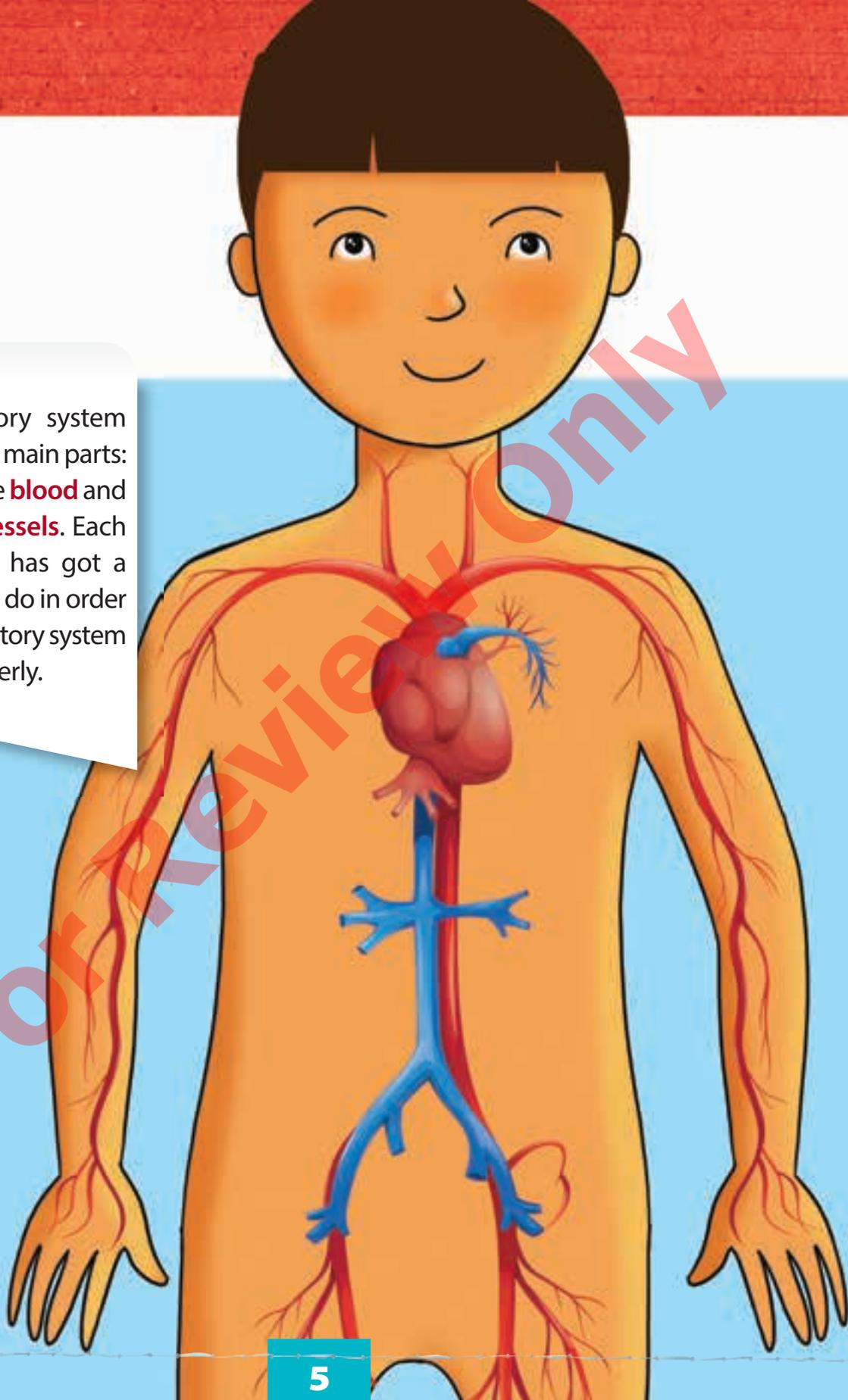
WHAT IS THE CIRCULATORY SYSTEM?

All the cells in your body need oxygen and nutrients. This is what keeps you alive. The cells also need their wastes, such as carbon dioxide, removed. This is the job of the **circulatory system**.

The circulatory system uses a network of blood vessels to carry carbon dioxide to the lungs. When you breathe out, the carbon dioxide leaves your body. Then, when you breathe in, oxygen goes into the lungs and the same network of blood vessels carries it to all parts of your body. To put it simply, the circulatory system is a loop which starts and ends at the heart. It is called a closed system because the blood does not enter or leave the system on its journey around your body. In a closed system, a continuous flow of blood can be pumped through the loop again and again.



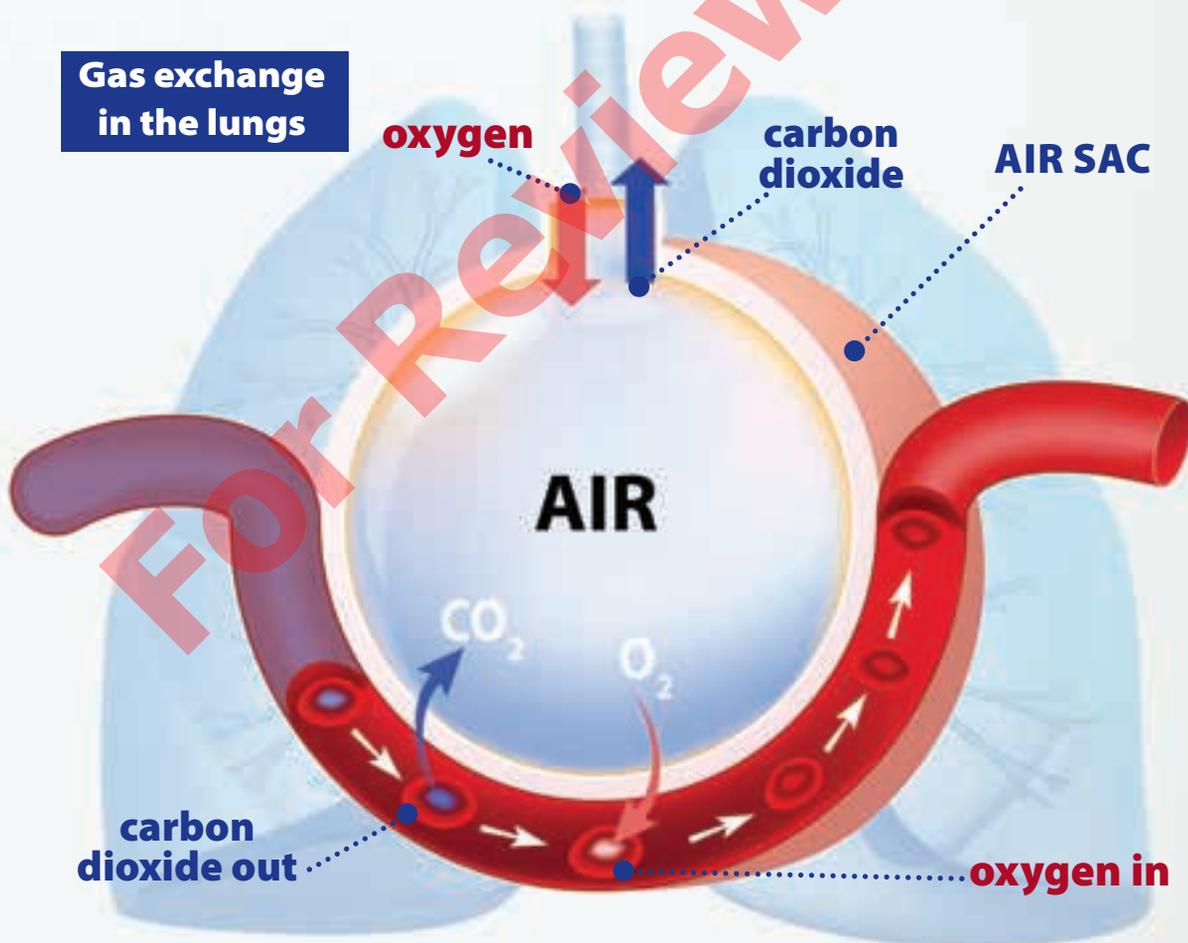
The circulatory system has got three main parts: the **heart**, the **blood** and the **blood vessels**. Each of the parts has got a special job to do in order for the circulatory system to work properly.



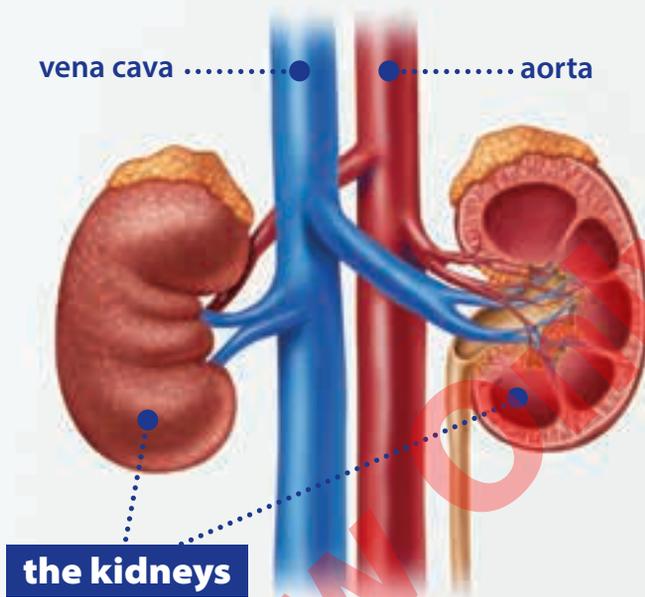
• Connections to Other Systems

Your circulatory system is connected to other systems in your body, too. One of them is the **respiratory system**, which includes the **lungs**. So, how do the lungs help? Well, when you breathe in, oxygen travels from the tiny air sacs in the lungs into the blood. When the blood is oxygenated (full of oxygen), it travels to the heart through one of the blood vessels. At the same time, deoxygenated (without oxygen) blood, containing waste like carbon dioxide, passes from the blood back into the air sacs. The carbon dioxide leaves your body when you breathe out. This swapping of carbon dioxide for oxygen in the lungs is called gas exchange.

Gas exchange in the lungs



Another system that is connected to the circulatory system is the **urinary system**. This includes the **kidneys**. Blood from your heart goes to the kidneys through a large blood vessel called the **aorta**. The kidneys clean the blood and then send it back to the heart in another blood vessel called the **vena cava**.



The **digestive system** is also connected to the circulatory system. Nutrients from the food we eat are absorbed in the **small intestine** into the blood. Then, the blood carries the nutrients all around your body.

the small intestine



It takes our heart only one minute to pump blood into every cell of our body!

READ
MORE

The Belly and the Members

One day it occurred to the Members of the Body that they were doing all the hard work but the Belly was getting all the food. They were really upset by this and decided to hold a meeting. "The Belly should do its proper share of the work!" said the Mouth, who was always the first to speak. "It makes us really mad!" said the Hands, shaking their fists in anger. Then, the Legs started to pace around the room. "We must do something," they said. "We get very tired after a day of walking around, and then the Belly is the one that gets a big meal at the end of the day. It's just not fair!"

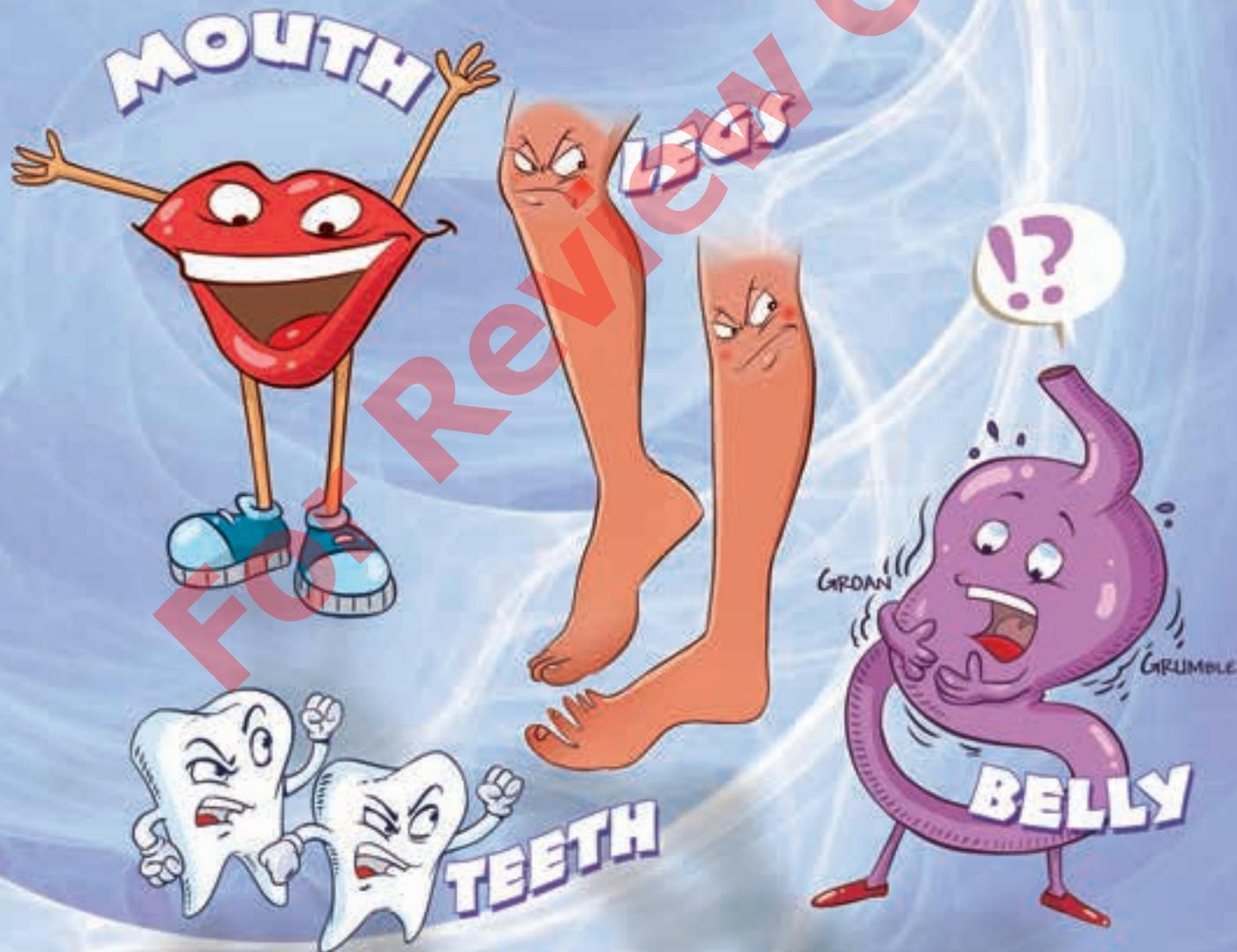
An illustration featuring two anthropomorphic hands. On the left, a hand with a blue bow tie and a determined expression holds one end of a red banner. On the right, a clenched fist with a grumpy expression holds the other end. The banner is held taut between them. The background is a light blue, textured surface.

It's just not fair!

HANDS

Then the Mouth shouted out, "Let's go on strike until the Belly agrees to work as hard as we do!" The other Body Members agreed that this was a good plan and decided to keep the Belly without food for a few days.

The Legs refused to walk to the food market. The Hands refused to pick up the food. The Mouth refused to receive it. The Teeth refused to chew it. In fact, all the Body Members refused to do their work.



1

WHAT IS THE CIRCULATORY SYSTEM?

1 Read and complete. Then match.

breathe

kidneys

blood

cells

network

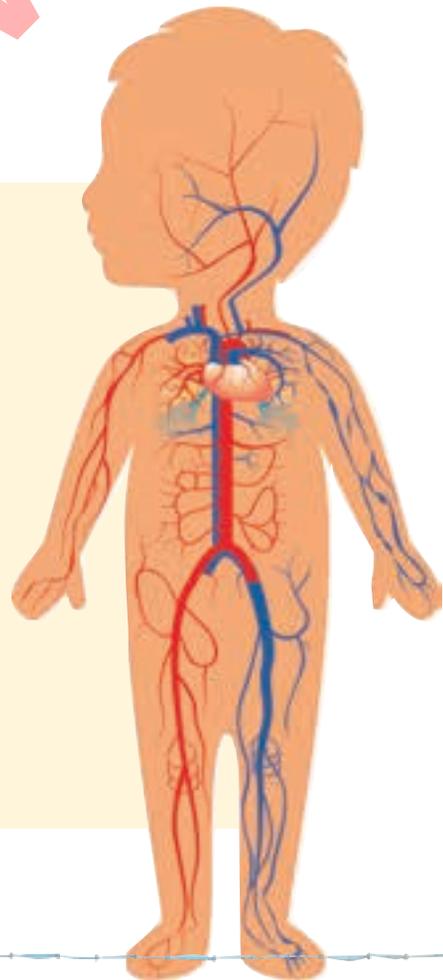
respiratory

- 1 All the in your blood need
- 2 The circulatory system uses a
- 3 When you in, oxygen
- 4 The system includes
- 5 Deoxygenated
- 6 The

- a contains waste.
- b oxygen.
- c clean the blood.
- d goes into the lungs.
- e of blood vessels.
- f the lungs.

2 Read and circle the correct words.

- 1 Oxygen **keeps** / **links** you alive.
- 2 Carbon dioxide is **pumped** / **carried** through blood vessels.
- 3 The circulatory system is a **loop** / **flow** which starts and ends at the heart.
- 4 Our circulatory system is **included** / **connected** to other systems in our body.
- 5 Carbon dioxide **leaves** / **absorbs** your body when you breathe out.
- 6 The **intestine** / **aorta** is a large blood vessel.

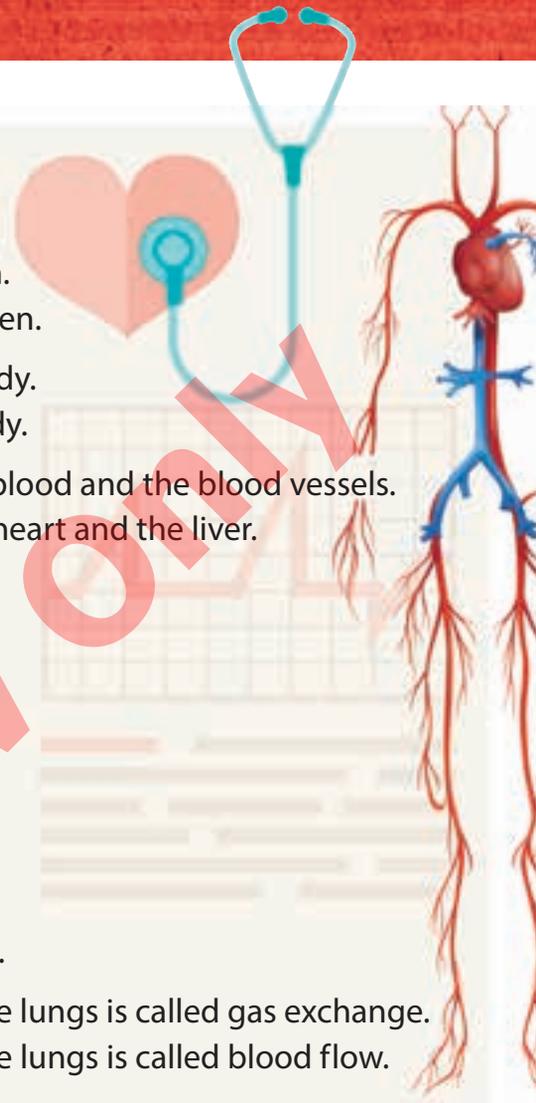


3 Read and choose the correct sentences.

- 1 **a** Deoxygenated blood means blood full of oxygen.
b Deoxygenated blood means blood without oxygen.
- 2 **a** The blood carries the nutrients all around our body.
b The heart carries the nutrients all around our body.
- 3 **a** The circulatory system consists of the heart, the blood and the blood vessels.
b The circulatory system consists of the lungs, the heart and the liver.
- 4 **a** The urinary system is called a closed system.
b The circulatory system is called a closed system.
- 5 **a** The vena cava is a blood vessel.
b The vena cava is an air sac.
- 6 **a** Food is absorbed in a small cell.
b Food is absorbed in the small intestine.
- 7 **a** The urinary system includes the small intestine.
b The digestive system includes the small intestine.
- 8 **a** The swapping of carbon dioxide for oxygen in the lungs is called gas exchange.
b The swapping of carbon dioxide for oxygen in the lungs is called blood flow.

4 Answer the questions.

- 1 What do the cells in our body need?
.....
- 2 When does carbon dioxide leave our body?
.....
- 3 Why is the circulatory system called a closed system?
.....
- 4 Which other systems is the circulatory system connected to?
.....
- 5 How long does it take our heart to pump blood into each cell of our body?
.....



The Belly and the Members

1 Read and write the words.

upset

weak

refuse

support

mad

occur

receive

chew

- 1 to hold in position
- 2 unhappy or disappointed
- 3 to come into mind
- 4 very angry
- 5 to bite food into small pieces in your mouth
- 6 to say that you will not do something
- 7 not strong
- 8 to accept



2 Complete the phrases.

laughter

hold

do

go

shake

work

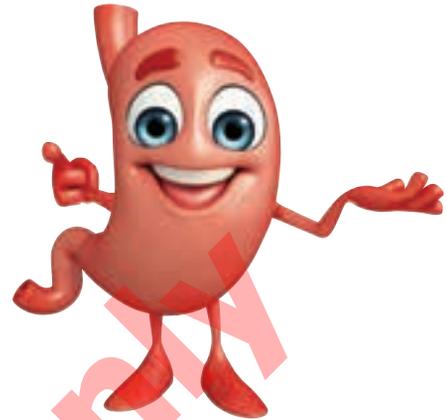
- 1 their fists 3 a meeting 5 its proper share
- 2 shake with 4 do their 6 on strike

• Now use the phrases to complete the sentences below.

- 1 One day the Members of the Body decided to
to discuss what to do about the Belly.
- 2 They thought that the Belly was lazy and didn't of the work.
- 3 The Hands were so mad that they started to in anger.
- 4 The Mouth suggested they should all
until the Belly worked as hard as they did.
- 5 As a result, all the Body Members decided not to
to teach the Belly a lesson.
- 6 When the Belly found out about their strike, it began to
because it thought they were very silly.

3 Put the events in the correct order.

- A Soon, all the Body Members began to feel weak.
- B The Belly asked the Body Members what was going on.
- C The Body Members were upset with the Belly.
- D The Belly explained that its work was important.
- E The Body Members all refused to work.
- F The Body Members decided to work together to keep the Body healthy.



1 2 3 4 5 6

4 Who says what? Read and write the body part.

- 1 *I digest the food and it goes into the blood.*
- 2 *It makes us really mad!*
- 3 *Let's go on strike!*
- 4 *Now, will you PLEASE give me something to eat!*
- 5 *We get very tired after a day of walking around.*
- 6 *How does that happen?*

5 OVERTOYOU: @ Read and choose. Use the Internet to help you.

- 1 The stomach contains **sulphuric acid / hydrochloric acid**, which helps to kill off bacteria and viruses that may enter with the food you eat.
- 2 **Berengaria / Borborygmi** are the rumbling sounds in your stomach.
- 3 You **can't / can** eat when you're standing on your head.
- 4 It takes food **7 / 17** seconds to get from your mouth to your stomach.
- 5 The stomach is about **60 / 30** centimetres long.

1 **THINK!** Look and write the beats per minute (*bpm*). Choose from the box.

95 bpm 150 bpm 67 bpm 120 bpm 78 bpm



sleeping

1 67 bpm



studying

2



dancing

3



jogging

4



walking

5

• Fill in the chart for Suzy's heartbeat.

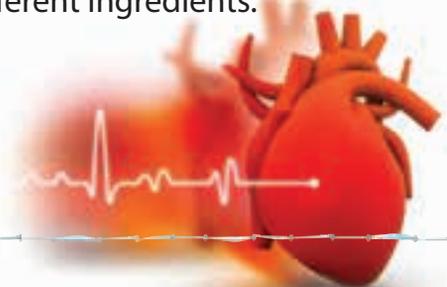
	Beats per minute (<i>bpm</i>)	Beats per hour (<i>bph</i>)	Beats per day (<i>bpd</i>)
At rest	67		
After a short walk	95		
After a jog	120		

Quiz

1 Do the quiz.

- 1 What does your heart do?
 - A It pumps blood to just your muscles.
 - B It pumps air around your body.
 - C It pumps blood around your body.
- 2 Veins carry blood ...
 - A towards the heart.
 - B away from the heart.
 - C inside the heart.
- 3 Which of these is **not** a blood vessel?
 - A A vein B A ventricle
 - C An artery
- 4 The circulatory system is ...
 - A only connected to the urinary system.
 - B only connected to the respiratory and digestive systems.
 - C connected to all three of them.
- 5 Which of the following would make your heart beat faster?
 - A Sleeping B Swimming
 - C Lying on the sofa
- 6 You want to become healthier. Which of these would **not** help you?
 - A Using the lift instead of running up the stairs
 - B Having a balanced diet
 - C Exercising regularly
- 7 What happens to your blood when it reaches your lungs?
 - A It becomes deoxygenated.
 - B It becomes oxygenated.
 - C It becomes full of fat.
- 8 Smoking is bad for you because ...
 - A you can burn your fingers.
 - B you can harm your eyes.
 - C you can harm your heart and your lungs.
- 9 Red blood cells ...
 - A fight off infections.
 - B protect us from a cut.
 - C carry oxygen around our body.
- 10 Why does your heart beat faster when you exercise?
 - A To get more oxygen to your muscles.
 - B To make a *lub dub* sound.
 - C To make you feel scared.
- 11 Pacemakers ...
 - A control the heartbeat.
 - B measure the blood pressure.
 - C take your pulse.
- 12 Blood is made from ...
 - A three different ingredients.
 - B five different ingredients.
 - C four different ingredients.

- Prepare your own *The Circulatory System Quiz*.



WORD BANK

Let's Start! _____

body = 
blood = 

movement = a change in position

heart = 

circulation = the flow of blood in the body

transport = the act of moving people or things from one place to another

beat = to make a steady, rhythmic movement

pump = to force liquid to move in a particular direction

oxygen = 

nutrient = a substance that plants and animals need to grow

cell = 

blood vessel = 

branch = to split from the main path

cross = to intersect; to move over something

link = to join

active = on the move

1 _____

waste = leftover, unusable materials

carbon dioxide = 

network = a number of things which are connected and work together

lungs = 

breathe = to take air into the lungs and let it out again

loop = a circular path

continuous = without stopping

flow = the act of a liquid moving steadily in one direction

connection = a link with something

respiratory system = the organs and structures we use to breathe

include = to be part of
air sac = a small bag-like space filled with air

swap = to exchange
gas exchange = the process of giving one gas in exchange for another

urinary system = the organs used to produce and eliminate liquid waste from the body

kidneys = 

aorta = 

vena cava = a large vein that carries deoxygenated blood

digestive system = the organs used to absorb food and eliminate waste

absorb = to take in

intestine = 

2 _____

finger = 

get rid of = to remove

hormone = a chemical that helps the body do something, such as grow, reproduce, etc

regulation = the act of controlling

temperature = the amount of heat in a body or an area

skin = 

heat = degree of hotness

protection = something that stops a person or an animal from being hurt

attack = to try and hurt physically

destroy = to damage

germ = 

injury = 

recipe = the ingredients to make something

average = normal

adult = grown-up

amount = quantity

toes = 

ingredients = the things used to make something

follow = to come after

platelet = a blood cell that helps stop bleeding

liquid = 

plasma = the yellow liquid part of blood

bone marrow = 

release = to let go

mix = 

haemoglobin = the red part of the blood that carries oxygen

fit = 

increase = to grow

army = 

fight = 

infection = an illness caused by bacteria or germs

measles = 

tiny = very small

bleed = to lose blood from a cut or wound