Literacy Project Plans
THE HUMAN BODY

These project plans are designed to be used with the accompanying resource sheets.
Please note - A CD resource does not accompany this resource pack.
All resources are provided below.

Literacy Project 1: Dictionary skills (Key Stage 2)

Aims of the project: To help pupils review their spelling skills and practise dictionary skills. Pupils will successfully locate words in the dictionary and will demonstrate awareness of guide words.

Activity: Begin the lesson by reviewing the meaning of guide words. Guide words are found at the top of each page in the dictionary (some dictionaries place them on the far left and right of two facing pages). They tell the first and last words found on the page(s). The pupils are going to look up ten words relating to the human body. The **Literacy Project Folder 1** on the CD includes a sheet of words from which the ten can be selected. Ask the pupils to look up the selected words in a dictionary. Then ask them to find the guide words for each spelling word chosen. The pupils should finally write the spelling word, the dictionary page number and the guide words on the page where the word is found.

Plenary: As an extension to this activity, the pupils could create their own class dictionary for the human body. As they progress through their study of the human body, words can be entered into the class dictionary, acting as a constant reference source. The dictionary could be illustrated with pictures or could even be turned into an online dictionary.

Literacy Project 2: A body of poetry (Key Stages 1 and 2)

Aims of the project: To develop an understanding of poetry and begin to write their own poetry relating to a specific theme. To recite stories and rhymes with predictable and repeating patterns, extemporising on patterns orally by substituting words and phrases, inventing patterns and playing with rhyme.

Activity: Begin by showing the class the poem shown opposite. A copy of this poem can be found in the **Literacy Project 2** folder on the accompanying CD-ROM. As a theme, the topic of the human body is perfect for poetry work. It is something that all the pupils know about without too much research, and the scope to write poems about shapes, feelings, senses, etc. is almost limitless. Read the poem opposite aloud or ask the class to read it with you. Then explain that they are going to write their own poems using the theme of the human body. Ensure that the class understand the difference between stories and poems. The **Literacy Project 2** folder contains two more examples of poetry about the human body; these could also be read with the class for inspiration. Either working individually or in groups, ask the class to write some poems about the human body. You could also ask them to write a poem about the human body where arms, legs, etc. are represented by something else – for example, a robot or a machine.

Plenary: As an extension to this activity, ask the class to create a whole-class display for their poetry, complete with illustrations and pictures. There are some illustrations and pictures located on the CD-ROM.

Literacy Project 3: Picture books (Key Stage 2)

Aims of the project: To introduce a study of the human body; develop simple note-taking strategies; learn vocabulary in context and build research skills.

Activity: This lesson introduces pupils to a study of the human body. During the primary years, pupils should learn from a wide variety of texts. Texts that are related to a specific area of study offer pupils the opportunity to learn in a meaningful context. Begin by asking the class to brainstorm a list of words associated with the human body. Then ask them to draw an outline of the human body and see how many different parts they can label on their picture. The CD includes two interactive teaching tools to help pupils learn how to label the human body correctly. Ask the pupils to brainstorm a list of facts about the human body. Once all this information has been noted, ask them to find books from the library relating to the human body. During the reading of these books, they can confirm the information they have already gathered; find new information; determine and take notes on new vocabulary; and participate in classroom and group discussions of the text. Once the reading stage is completed, ask the pupils to choose from a variety of genres (letters, descriptive writing, factual writing, etc.) and write about the human body.

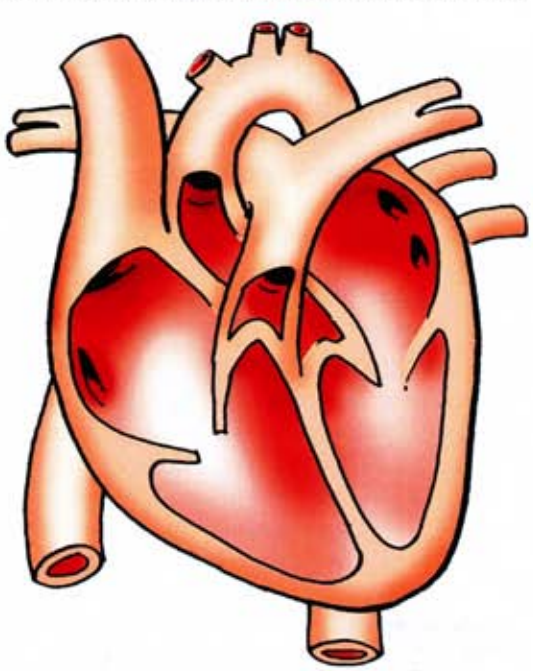
Plenary: As an extension to this activity, ask the class to generate a list of questions about the human body and proceed in a small group to research using the Internet. The **Literacy Project 3** folder on the accompanying CD includes a question sheet posing various questions relating to the human body that the pupils could research. The folder also contains some information sheets on the human body.

Stimulate research with the question and information sheets below

Literacy Project 4: Visual literacy – the function of images in text (Key Stage 2)

Aims of the project: The purpose of this lesson is to show pupils that images can be used in a variety of ways in a text. The lesson will focus on three major ways that images can be used – as example, as evidence and as expression.

Activity: Within this lesson, pupils will be able to recognise that images can have different functions within a text and will be able to understand that the same image can function in more than one way. Begin by reviewing the information sheet located in the **Literacy Project 4** folder on the CD. This sheet explains three uses of pictures – example, evidence or expression. For example, a picture of someone exercising and looking happy and healthy could be used as an 'example' image of how exercise is good for you. A picture of a heart can be used as 'evidence' of what a heart looks like. A picture of someone smoking and looking pale could be 'expression' of how smoking is bad for you and how smoking makes you feel. Once the class have an understanding of the three ways images can be used, ask them to look through some popular textbooks on the human body and see if they find some examples of the three Es. Ask some of the groups to share what they found. Is the way the image is being used in the text always clear? Are there cases where it is unclear as to the way the image is being used? Are there times when the image is being used in two different ways? Are there times when the image is being used in a way other than the 'three Es'? The page opposite shows a picture of the human heart. Ask the pupils what function this image would be playing if it was used in a medical text book or on a Valentine card.



Plenary: As an extension to this activity, ask the pupils to think of other ways that images are used to make us think or feel things.

The Human Body

Literacy Project 1:
Dictionary Skills

Key Stage 2

Spelling list – the human body

1. Brain
2. Heart
3. Lungs
4. Liver
5. Bladder
6. Respiration
7. Reproduction
8. Muscles
9. Skeleton
10. Veins
11. Tongue
12. Teeth
13. Ankle
14. Knee
15. Elbow
16. Jaw
17. Nose
18. Breathing
19. Digestion
20. Intestine

The Human Body

Literacy Project 2:
A body of poetry

Key Stages 1 & 2

Handprints

Sometimes you get discouraged
Because I am so small
And always leave my fingerprints
On furniture and walls.
But every day I'm growing.
I'll be grown up someday.
And all those tiny handprints
Will surely fade away.
So here's a final handprint
Just so you can recall
Exactly how my fingers looked
When I was very small.

Author unknown

Poetry example 1: Priceless Little Parts

These little hands will grow to be
big and strong and helpful, you'll see.
These teeny-tiny little toes
will carry this body that grows and grows.
This precious, sweet and radiant smile
will help me go the extra mile.
... And deep inside, a soul and heart,
Destined to be special from the start.

AUTHOR UNKNOWN

Poetry example 2: My Handprints

My little hands play patty-cake
They peek-a-boo and wave...
They catch me while I learn to walk
and splash me when I bathe.

My little hands reach up to you
for hugs before I sleep...
And fold together when I pray
the Lord my soul to keep.

My little hands are tiny now
but yours will serve to guide me...
And when I'm grown I'll still reach out
And know you're right beside me.

AUTHOR UNKNOWN

The Human Body

Literacy Project 3:
Picture books

Key Stage 2

Human body – question sheet

Skeleton

- How many bones are there in your skeleton?
- What are some of those bones called?
- What does the skull do?
- How do the bones of a new born baby differ from those of an elderly person?
- How are bones joined together?

Heart and circulation

- What does the heart do?
- How can a heart be kept healthy?
- How does blood travel around a body?
- What does the blood carry around the body?

Muscles

- How many muscles are there in the human body?
- What are the three main types of muscle?
- What does each type do?
- What is the biggest muscle?
- What is the difference between voluntary and involuntary muscles?
- Where can they be found and what do they do?
- How do muscles work?
- How are muscles attached to bones?

Teeth

- What is a baby's first set of teeth called?
- How many are there?
- How many teeth are there in an adult set?
- What are different teeth called?
- What jobs do different shaped teeth do?
- What foods are good for the growth of strong teeth?
- What foods are bad for teeth?
- How do teeth go bad?

Senses

- What are the five main senses?
- What job does each of these senses do?
- How does each of these senses help us?
- What are the parts of the eye called?
- What are the parts of the ear called?
- What are the important parts of the skin and what are they called?

Information sheet – Muscles

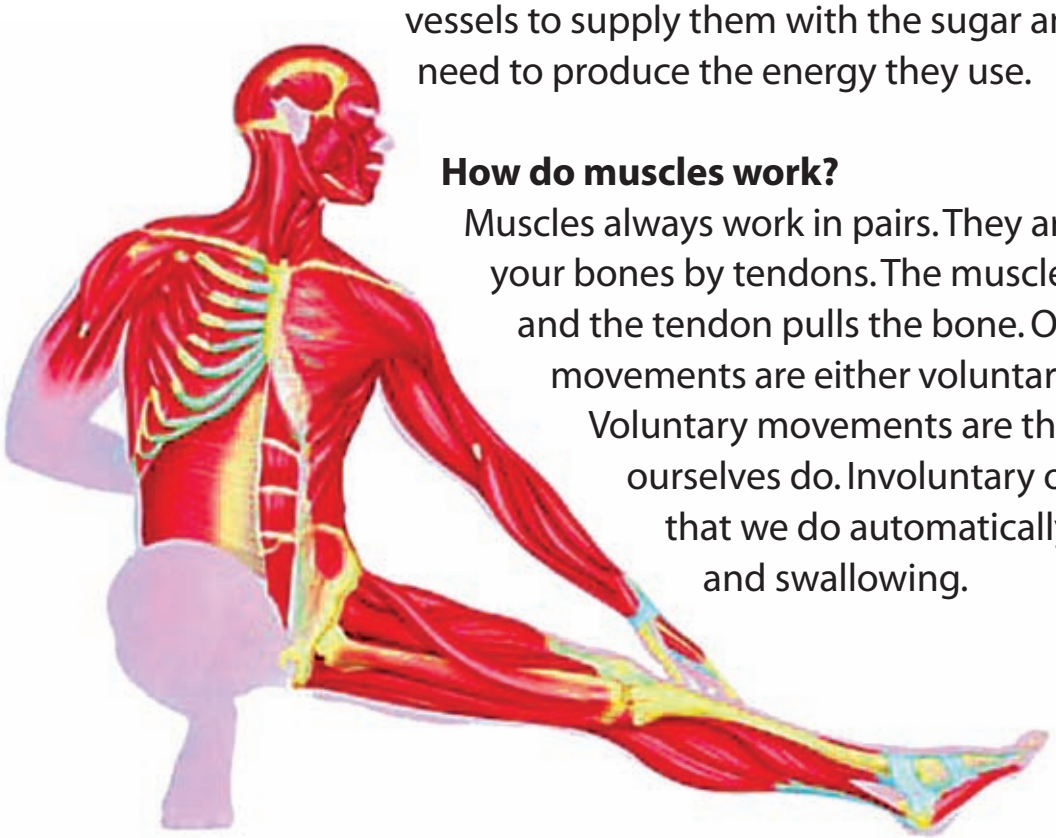
The human body is full of muscles and without them we would not be able to move. There are about 650 muscles in the body.

Muscles can be categorised into four different shapes:

- Spindle-shaped muscles have a thick middle section and include biceps and triceps in the upper arm.
- Flat muscles are the same thickness throughout.
- Triangular muscles are thick at one end and thin at the other.
- Circular muscles are called closing muscles and can be found surrounding the mouth and eyes.

What are muscles made of?

Muscles are made of fibres, which consist of thickly packed long, thin cells. The fibres are arranged in bundles that are wrapped in tissue. Each muscle is made up of several bundles of fibres, with nerves running through the muscles carrying signals from the brain to control the muscles. Muscles also contain many blood vessels to supply them with the sugar and oxygen they need to produce the energy they use.



How do muscles work?

Muscles always work in pairs. They are attached to your bones by tendons. The muscle pulls the tendon and the tendon pulls the bone. Our muscle movements are either voluntary or involuntary. Voluntary movements are those that we make ourselves do. Involuntary ones are those that we do automatically, like blinking and swallowing.

Information sheet: the brain

The human brain is one of the most complicated machines on the planet. Inside this small mass exists the instructions for everything that we say, think, feel, do and hope. If you could zoom in onto any section of the brain, you would see a dense network of cells. These cells, called *neurons* (which are commonly referred to as grey cells), are designed to carry an electrical signal from one to another, relaying information about your emotions and everything you see, hear, taste, touch and smell.

Each neuron connects with approximately 10,000 neighbours. A neuron has two distinct branch types:

- Axon, which conducts signals away from the cell nucleus.
- Dendrite, which receives incoming information.

The cell is covered in *myelin*, which acts just the same as the insulation on the power cable for your computer. Between two cells, where an axon meets a dendrite, there is a gap. This gap is the *synapse*. For signals to cross the synapse, the electrical signal must be converted into a chemical signal. This translation, from electrical to chemical, is done by neuro-transmitters. The chemicals then cause not only the closest cell, but also all the neighbouring cells, to respond and produce their own electrical signals. This chain reaction effects millions of cells. In this way, if the conditions are right, we increase the number of connections our brain cells make for each learning stimulus. When you learn something for the first time, a whole series of these connections are made; a new *pathway* is formed. The more times these connections are made and reinforced, the thicker the pathway becomes, and subsequently the signal can pass along it quicker.

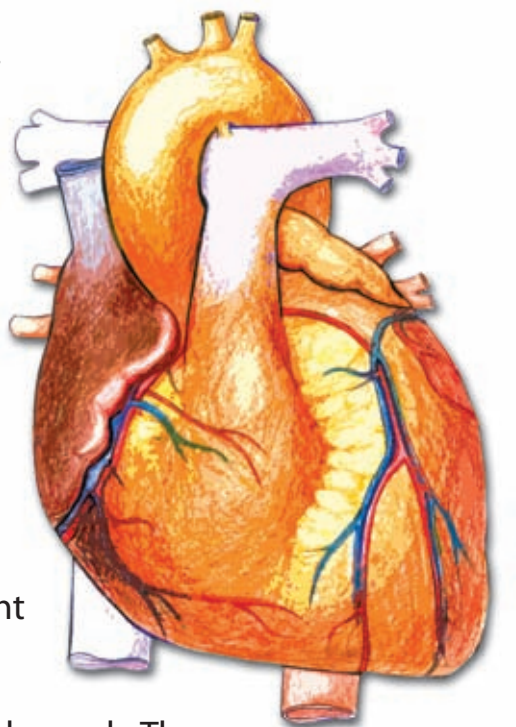
The three brains

Your brain is about as big as a coconut, the shape of a walnut, the colour of uncooked liver and the consistency of chilled butter. It has three main elements:

- *Brain Stem*. The primitive brain, sometimes refereed to as the 'reptilian brain', controls heartbeat, sleep and anxiety, breathing and the body clock.
- *Cerebellum*. The mid brain or 'mammalian brain' controls emotions, moods and feelings, long-term memory and the ability to learn.
- *Cerebral Cortex*. The higher brain, or 'neo-cortex', is made up of billions of brain cells (neurones) which are intertwined like a giant web. This 'lump' is split into two halves:
  - Left – Academic. Deals with processes in a step-by-step way, language, numbers, sequences, parts, symbols, facts and procedures.
  - Right – Creative. Deals with artistic development, patterns, music, intuition, rhythm and creativity.

Information sheet – the heart

The human heart is a shell. There are four cavities (open spaces) inside the heart that fill with blood. Two of these cavities are called atria. The other two are called ventricles. The two atria form the curved top of the heart. The ventricles meet at the bottom of the heart to form a pointed base that points toward the left side of your chest.



The left side of the heart houses one atrium and one ventricle. The right side of the heart houses the others. A wall, called the septum, separates the right and left sides of the heart. A valve connects each atrium to the ventricle below it. The mitral valve connects the left atrium with the left ventricle. The tricuspid valve connects the right atrium with the right ventricle.

The top of the heart connects to a few large blood vessels. The largest of these is the aorta, or main artery, which carries nutrient-rich blood away from the heart. Another important vessel is the pulmonary artery, which connects the heart with the lungs as part of the pulmonary circulation system.

The two largest veins that carry blood into the heart are the superior vena cava and the inferior vena cava. The superior is located near the top of the heart. The inferior is located beneath the superior.

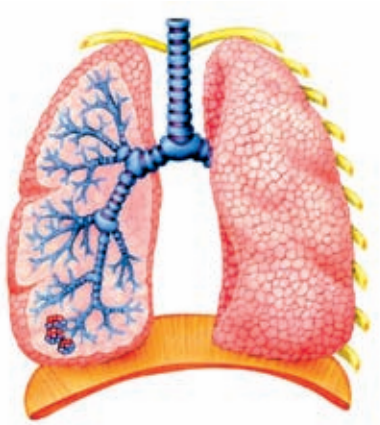
The average heart's muscle, called cardiac muscle, contracts and relaxes about 70 to 80 times per minute without you ever having to think about it. As the cardiac muscle contracts, it pushes blood through the chambers and into the vessels. Nerves connected to the heart regulate the speed with which the muscle contracts.

The heart is surprisingly small. The average adult heart is about the size of a clenched fist and weighs about 11 ounces (310 grams). Located in the middle of the chest behind the breastbone, between the lungs, the heart rests in a moistened chamber, called the pericardial cavity, which is surrounded by the ribcage. The diaphragm, a tough layer of muscle, lies below. As a result, the heart is well protected.

SOURCE: THE FRANKLIN INSTITUTE

Information sheet – The lungs

Every part of the human body needs oxygen to survive. Oxygen is in the air all around us and we breathe it into our lungs. The purpose of the lungs is to absorb oxygen and transfer it into the blood stream.



The lungs are found inside the chest and are protected by the ribcage. Between the ribs are muscles that are essential for breathing. The most important muscle for breathing is called the diaphragm. It is dome-shaped and lies below the lungs, separating them from the abdomen. Two thin layers of tissue called the pleura cover each lung and the inside of the ribcage. These layers, or membranes, slide back and forth over each other as we breathe.

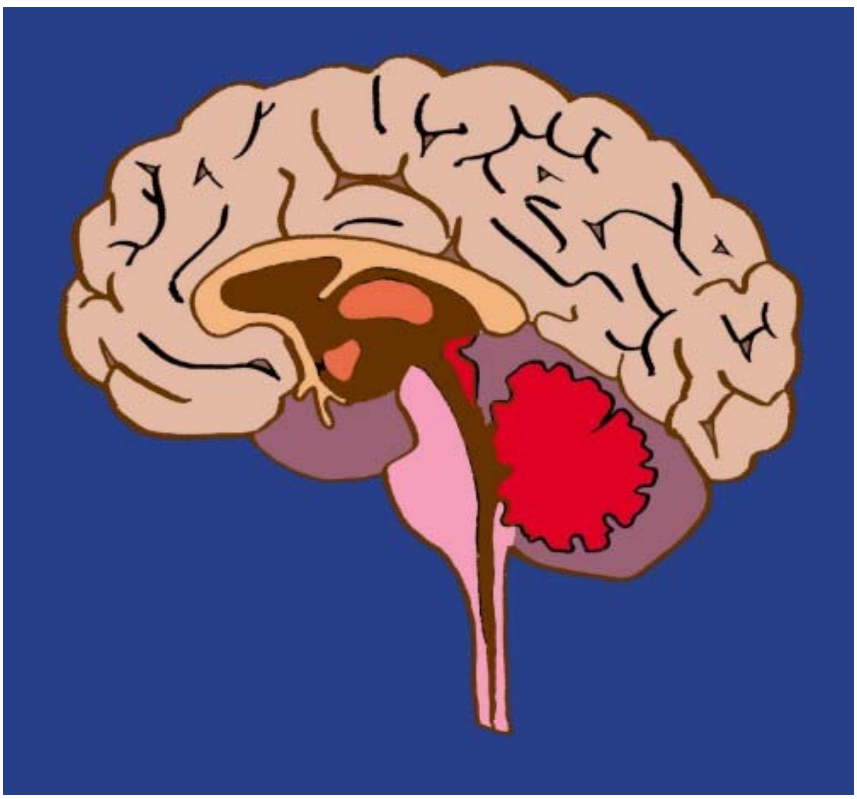
The lungs are made up of several sections called lobes – three on the right and two on the left. The inside of your lungs looks like a giant sponge. It is a mass of fine tubes, the smallest of which end in tiny air sacs called alveoli. These air sacs have very thin walls which are criss-crossed with hundreds of tiny blood vessels called capillaries. There are 200 million or so of these air sacs.

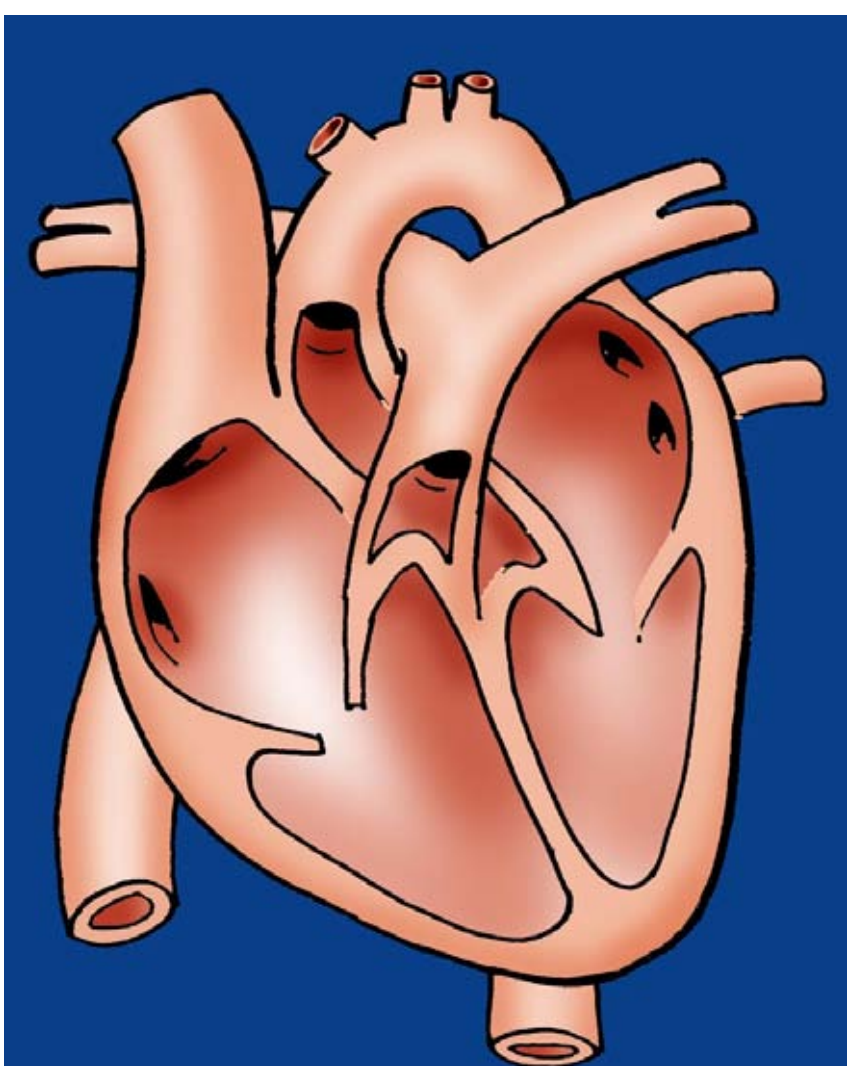
How do we breathe?

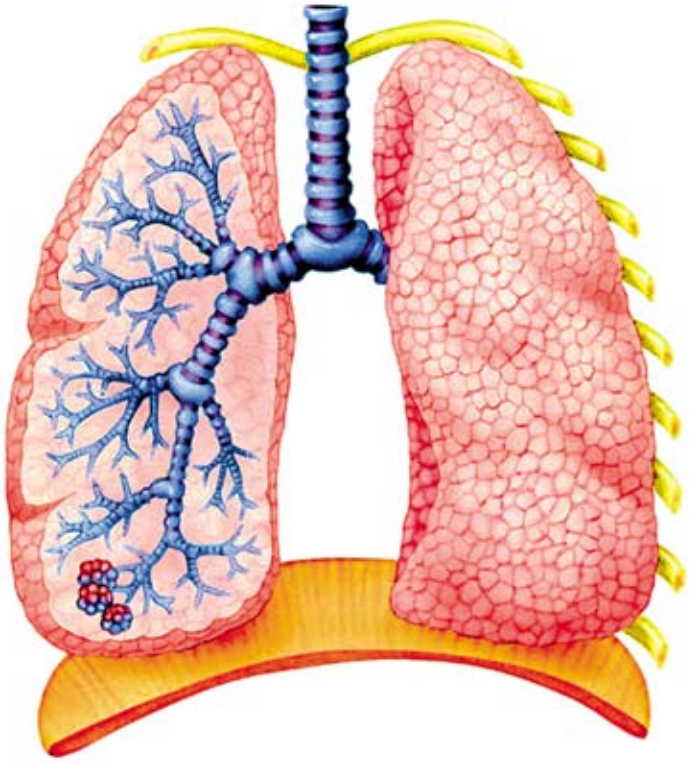
The lungs have no muscles themselves. Breathing occurs when the breathing centre in the brain sends a message along the nerves to your breathing muscles. The muscles contract and you breathe in. The diaphragm is pulled flat and, at the same time, the muscles between your ribs shorten and pull your ribcage upwards and outwards. This ensures that the lungs have the largest possible amount of space to expand into. Each time we breathe, air is drawn into the nose or mouth down through the throat and into the windpipe, or trachea. The windpipe is a tube about ten to twelve centimetres long in adults, and it splits into two smaller air tubes called the bronchi, one of which goes to the left lung and the other to the right lung. The air passes down the bronchi, which divide another 15 to 25 times into thousands of smaller and smaller airways, called bronchioles, until the air reaches the alveoli. Breathing out is usually just a matter of relaxing the diaphragm and the muscles between the ribs, so that the air is pushed out and the lungs return to their resting size.

How does oxygen get into the bloodstream?

Inside the alveoli, oxygen moves across the thin walls of tiny blood vessels, called capillaries, and into the blood, where it is picked up by chemicals in the red blood cells, ready to be carried around the body. At the same time, a waste product from the body called carbon dioxide comes out of the capillaries back into the alveoli, ready to be breathed out.







The Human Body

Literacy Project 4:
Visual literacy

Key Stage 2

The Three Es

Example

An image can be used to show what an idea might look like. The picture may be used to illustrate a concept that is being described within a text or strengthen a point of which the author is trying to persuade his or her audience.

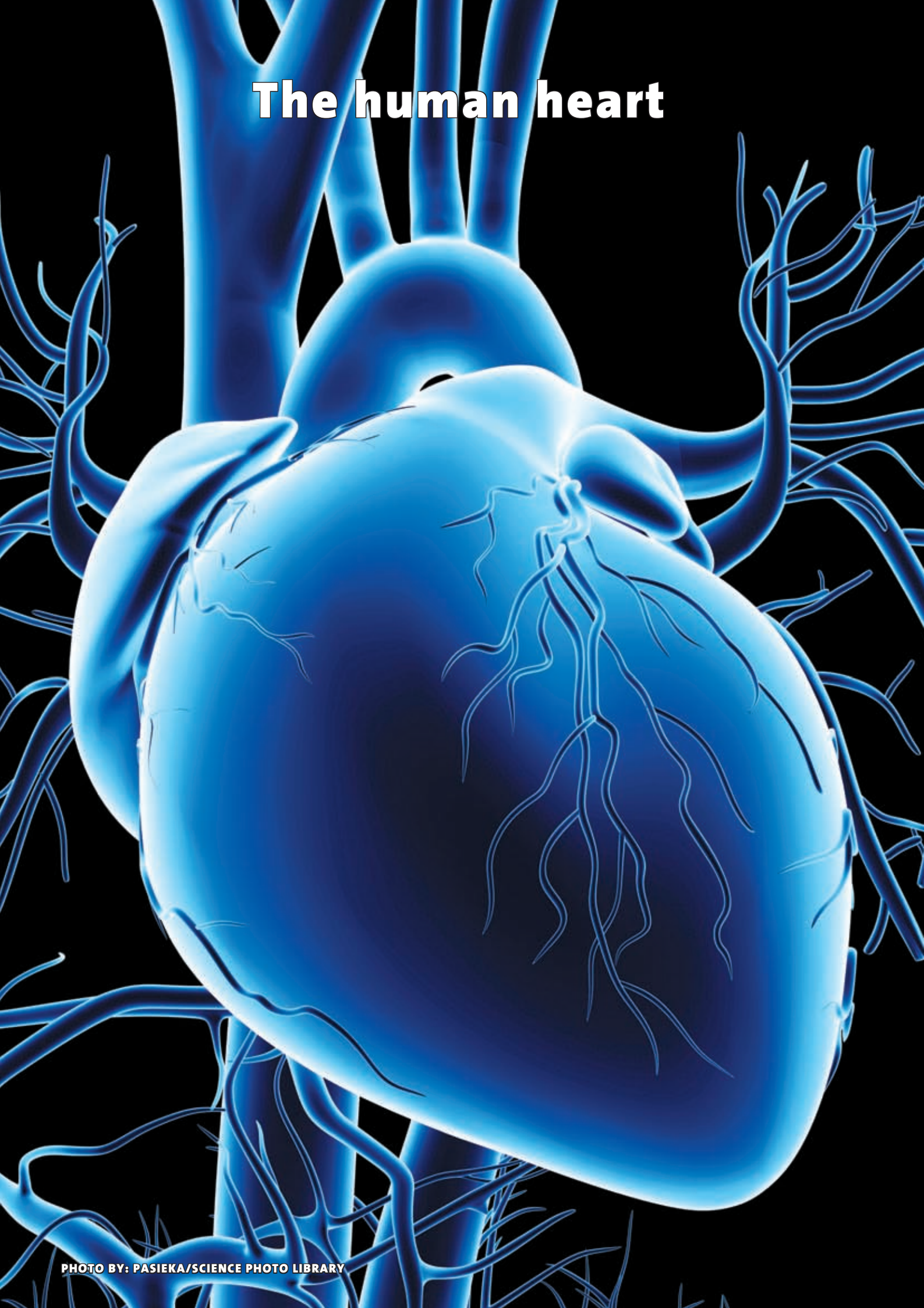
Evidence

An image can be used to add new information. The picture may be used to represent data that is being described within a text or highlight one aspect of an argument of which the author is trying to persuade his or her audience.

Expression

An image can be used to express a feeling or attitude. The picture may be used to stylise information that is being described within a text or make an ironic or emotional comment on the point of which the author is trying to persuade his or her audience.

The human heart



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