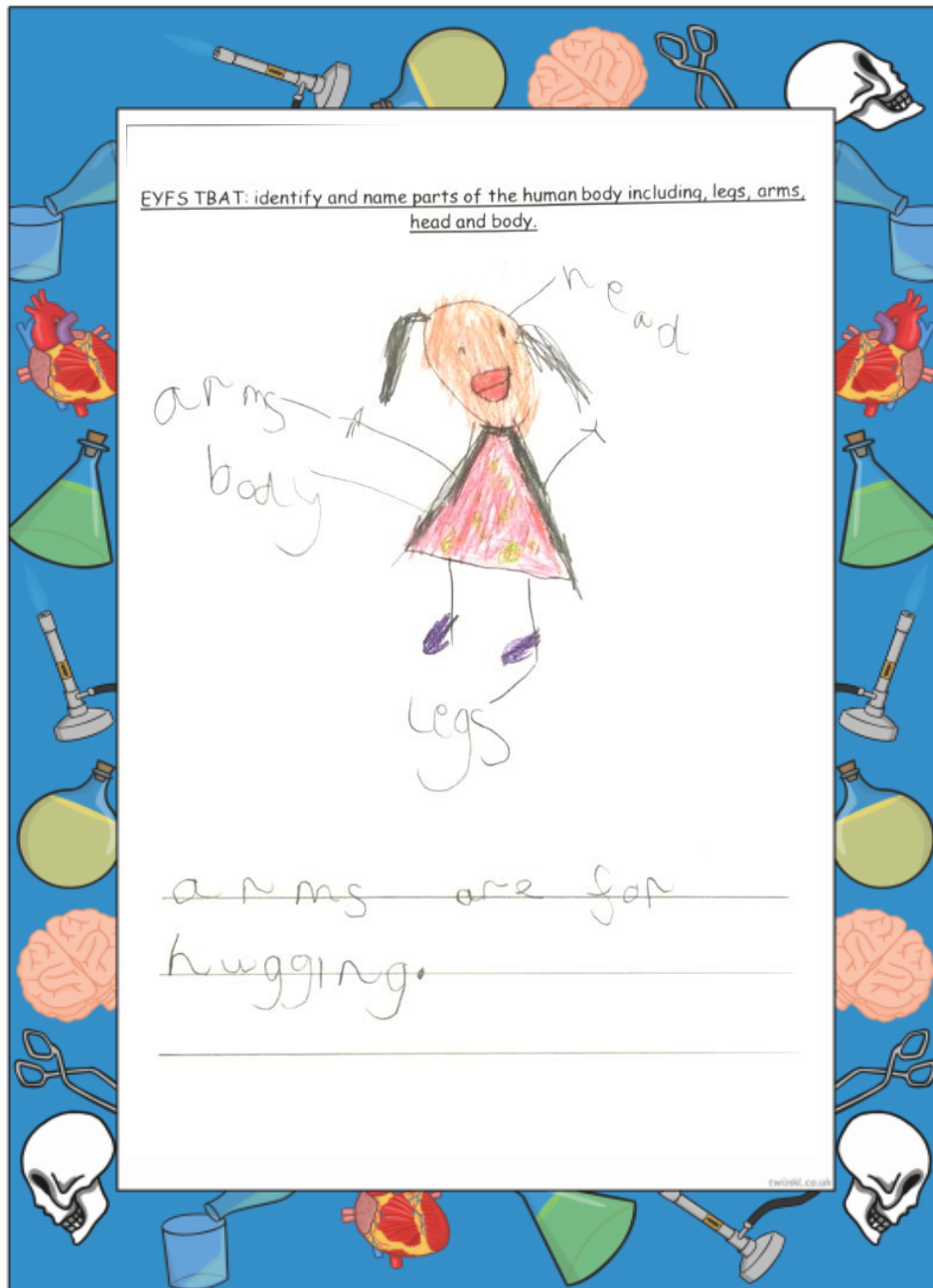




# Science

## Curriculum Progression

### Strand – To understand animals including humans.

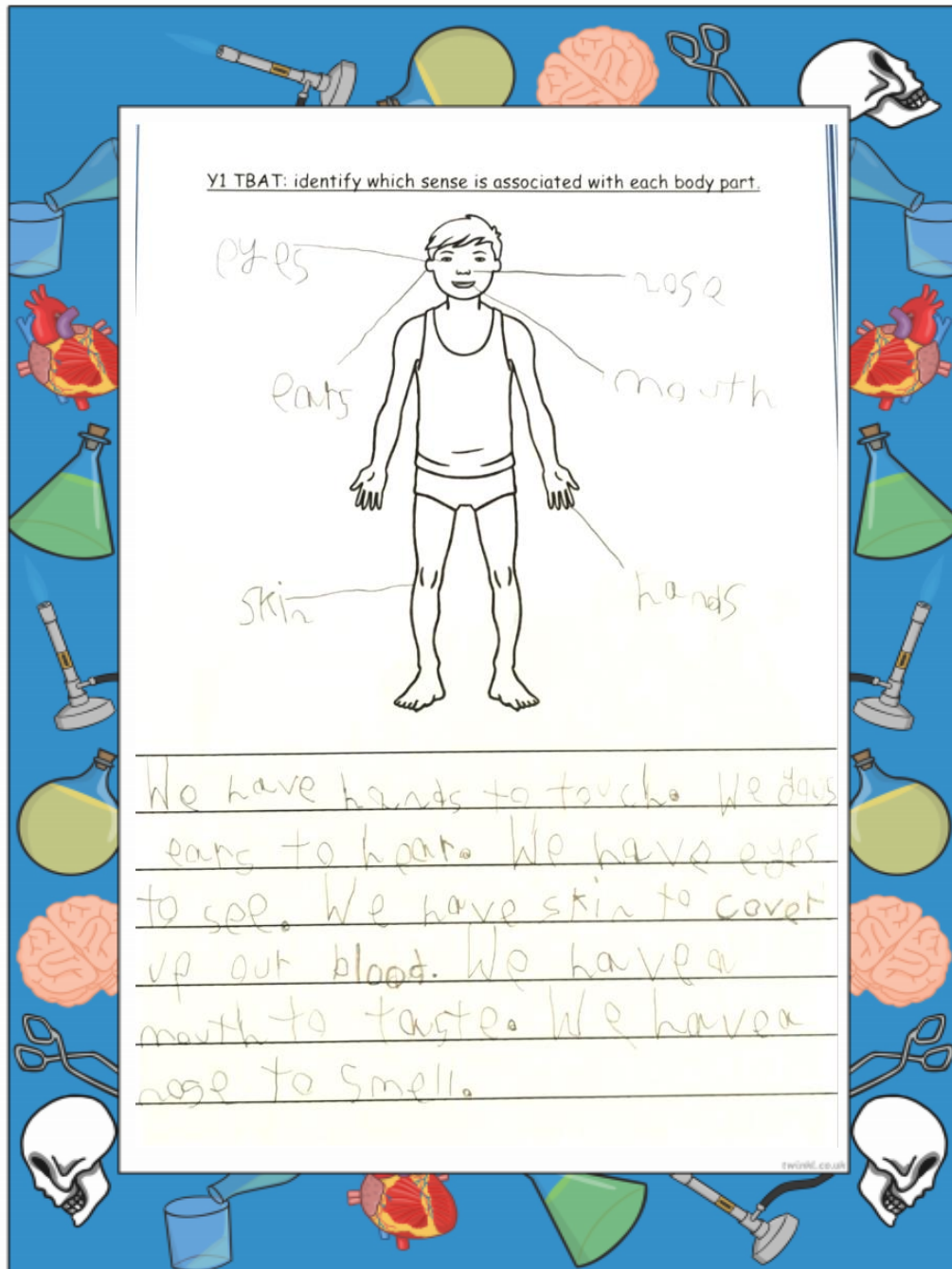


## Foundation stage:

*As scientists, children can identify and name parts of the human body including, legs, arms, head and body.*

### Key Vocabulary

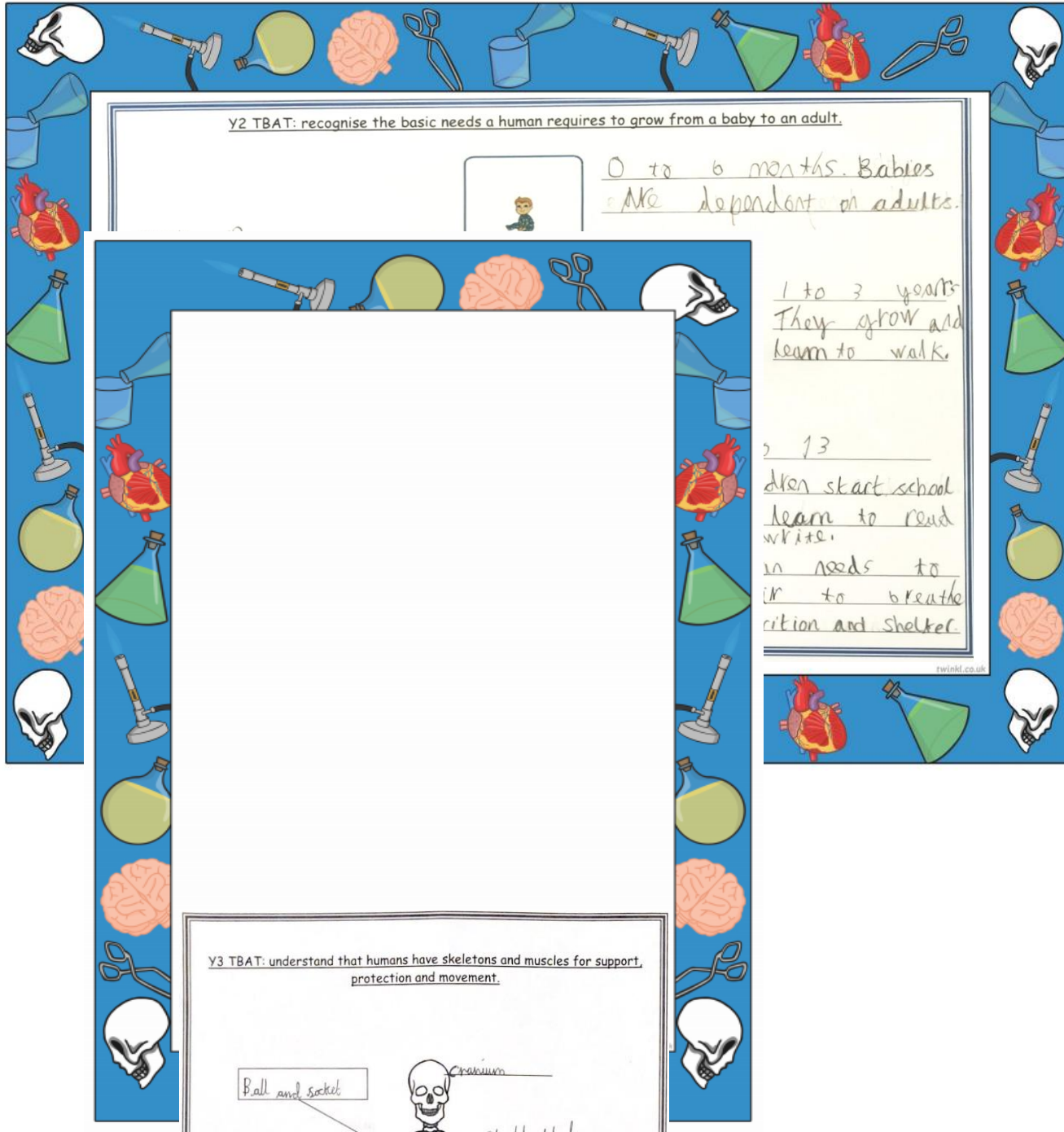
*leg, arm, head, and body*



Y1:

*As scientists, children can identify which sense is associated with each body part.*

*Key Vocabulary*  
*hear, see, touch, smell and taste*



Y2:

*As scientists, children can recognise the basic needs a human requires to grow from a baby to an adult.*

*Key Vocabulary*  
*baby, toddler, child, teenager, adult, grow, nutrition*

Y3:



*As scientists, children can identify that humans have skeletons and muscles for support, protection, and movement.*

Y3 TBAT: understand that humans have skeletons and muscles for support, protection and movement.

Animals and humans have one of the three main types of skeletons. Like a Endo skeleton, a exo skeleton is where your skeleton is in the inside of your skin. A Exo skeleton is where your skeleton is on the outside of your skin. A Hydrostatic skeleton is where you have no skeleton. Bones are made up of two materials called collagen, protein.

The three main functions of the skeleton are such as support, movement, protection. If we don't have a skeleton we won't stand up, jump, walk any type of movement. The skull protects your brain so it doesn't flop around your body. And the rib cage protects your organs.

The body consists of the three main joints in our body. These are ball and socket, gliding and hinge. If we don't have these joints we will be stiff like a stick. Our bones support our body and protect our different types of organs.

The muscles in our body work in antagonistic pairs to move limbs. Muscles can pull but they can't push. To build strong muscles you have to eat healthy, exercise.

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Key Vocabulary  
skeleton, muscles,  
joint, movement,  
protection and  
support

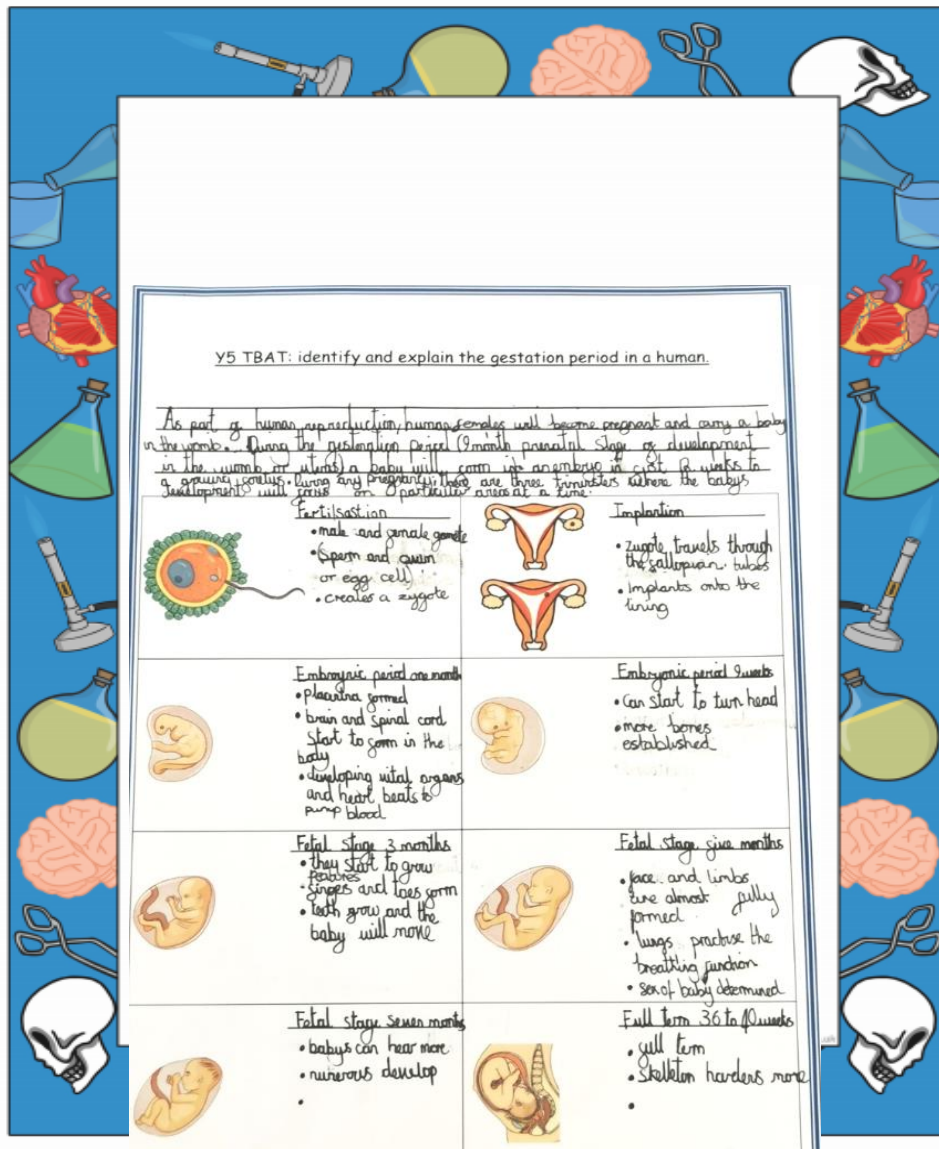
V4:

As scientists,  
children can identify and explain the parts and functions of the digestive  
system in humans.

### Key Vocabulary

mouth, oesophagus, small intestine,  
large intestine, transports, stomach,  
acid, enzymes,

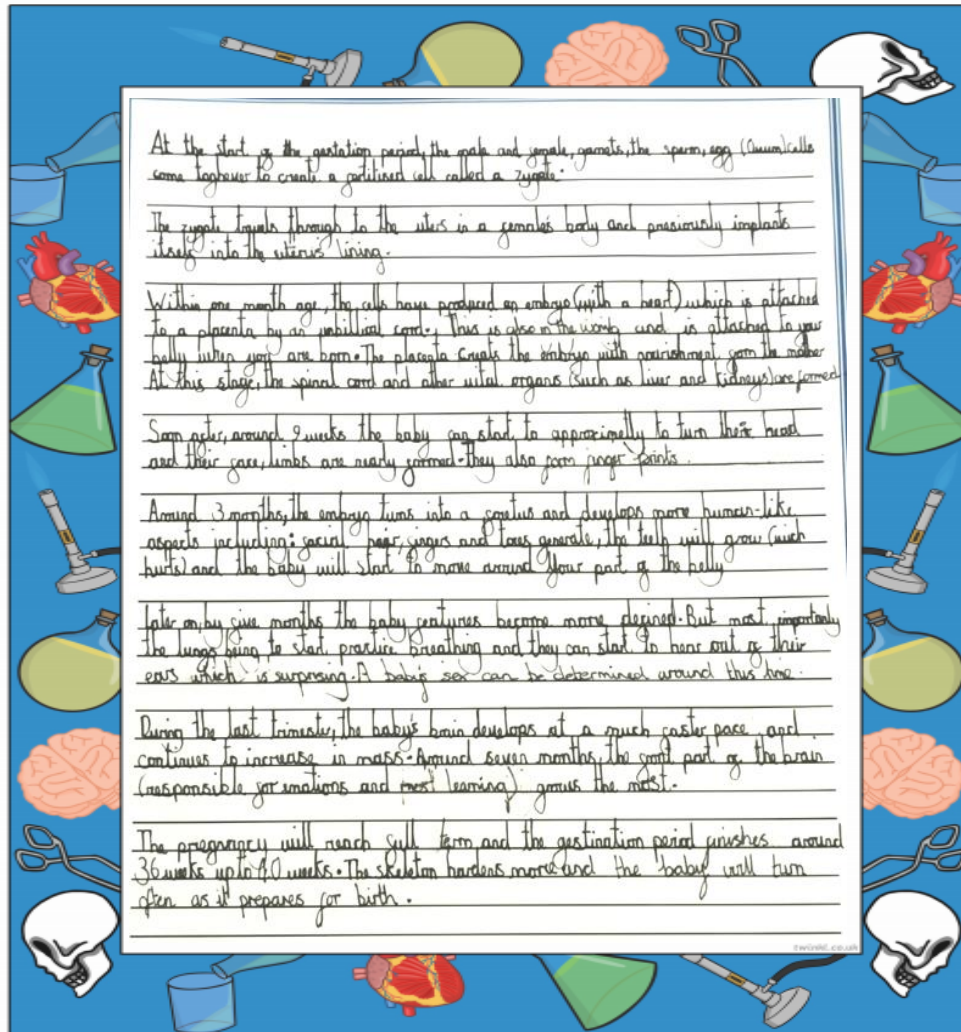
V5:



*As scientists, children can confidently identify and explain the gestation period in a human.*

### Key Vocabulary

*prenatal, foetus, uterus, fallopian tube,  
reproduction, sperm, egg,  
gestation, trimesters*

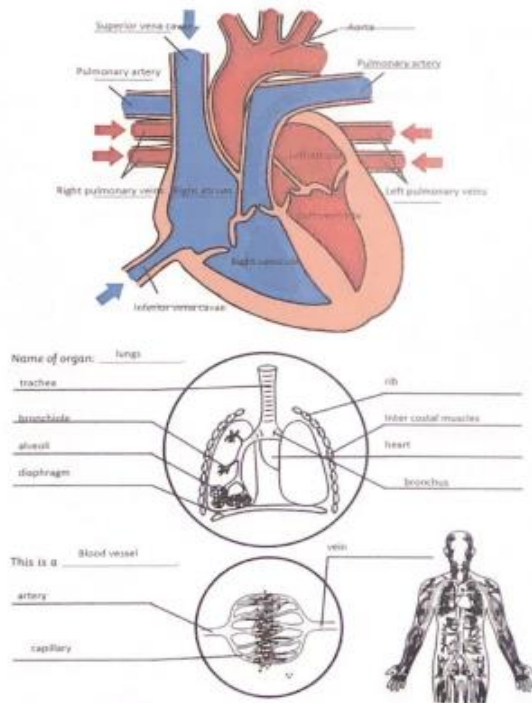




Y6 TBAT: identify, name and explain the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.(CG)

In the **circulatory** system, there are multiple different muscles and organs that help it to work such as the lungs, heart, blood cells and **blood vessels**[ **arteries** , **veins** and capillaries. The role of the heart is to pump your blood round your body, transporting oxygenated blood cells with it. The oxygenated blood cells travel around the body using your heart and spread **oxygen** to all of your various muscles and organs to make your body function. Next, the blood cells visit your lungs via the inferior vena cava and expels all of the **carbon dioxide** in your body. The blood cells then travel back to your heart and go through your pulmonary veins. There, it goes to a **chamber** called the left **atrium** and then to the left **ventricle** passing many places such as the **aorta**. Once through your body, it goes up to your vena cavae and its journey continues again. This happens quicker than you can wink!

**The Heart**



Y6:

*As scientists, children can identify, name and explain the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood*

### Key Vocabulary

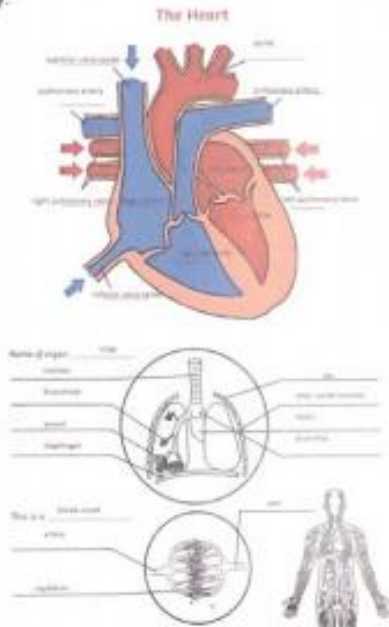
*arteries, veins, blood vessels, circulation, oxygen, carbon dioxide, chambers, ventricles, atriums, aorta*



Y6 TBAT: identify, name and explain the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.(EK)

The heart, which is an organ and a muscle, has one of the most essential roles in the body. Without the heart we would not be able to live. In the **circulatory system**, the heart takes on the role of helping the blood flow through the body and pumping it so then it moves swiftly. We start our journey with the blood vessels collecting **oxygen** from the lungs. After that, **oxygenated blood** passes through the **inferior vena cava** which then gets transferred to the **right atrium**. Then, it gets sent into the **right ventricle** (one of the multiple **chambers** in the heart) going into the **aorta**. After going through the **aorta**, it gets sent to something called a **capillary** (a **blood vessel** that connects a **vein** and an **artery** which filters out all the water and nutrients as well as disposing of **carbon dioxide**).

This sequence is then repeated over and over again faster than a blink of an eye. People who study this are called physiologists and surgeons. Whilst surgeons usually focus on transplants and the removal of inner body parts, physiologists study and examine how humans as well as animals bodies works. They may specialise in physical therapy if you have been involved in an accident or they might even specialise in diagrams and teaching their ways to others. So you see the body is interesting and without the circulatory system living things wouldn't be on the Earth this very day.



## Mastery:

*As scientists, children can independently describe the benefits of a healthy lifestyle on the health and function of a human heart.*

## Key Vocabulary

*arteries, veins, blood vessels, circulation, heart rate, oxygen, carbon dioxide, chambers, ventricles, atriums, aorta, heart rate, heart attack, heart disease*

What are the benefits of a healthy lifestyle? The benefits of a healthy life style are definitely effective. It gives you a healthier body and increases your lifespan. One of the most beneficial things you could do is exercise 30 minutes per day or cardio which involves running, boxing and swimming. This increases your **heart rate** - how many beats per minute your heart beats - and strengthens the heart muscle.

Of course, there are many bad effects of living an unhealthy lifestyle like nasty diseases like **heart disease** and cancer. Even worse, seizures and **heart attacks**. Many heart attacks happen when you are older because throughout your life you have been eating food that is filled with sugar and fats that make your arteries fur up.

One of the worst things you could do is smoke. Smoking is a very harmful and threatening thing for your body. It can have a severe consequence on your lungs and your body including lung cancer, COPD and bronchitis. The worst case scenario would be death or having to be hospitalised. Back in the olden days, smoking was very popular because society didn't know what a bad impact it had on your lungs and the way you breathe. Eventually, if you are not careful whilst smoking, the oxygen, which is supposed to be taken to the arteries and the heart, struggles to circulate around the body.