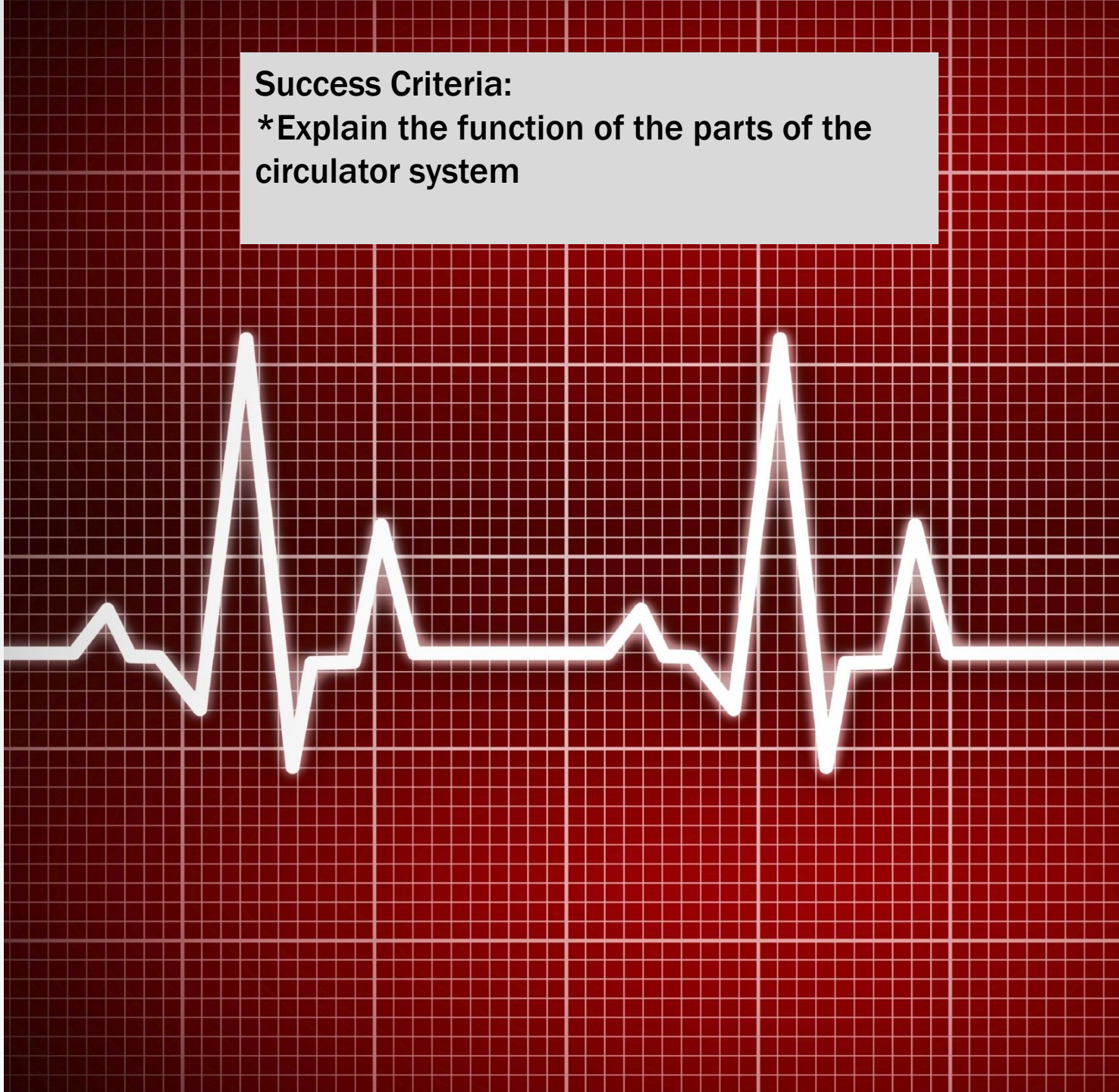
Staying Healthy

LESSON 2: WB 15.6.20

I CAN EXPLAIN THE FUNCTIONS OF THE DIFFERENT PARTS OF THE CIRCULATORY SYSTEM

Key Vocab:
System, human, body, circulatory, circulation, skeletal, muscular, digestive, organs, parts, heart, lungs, blood vessels, aorta, atrium, ventricle, artery, vein, pulmonary, superior vena cava, inferior, pulmonic, aortic valve, trachea, bronchus, bronchiole, diaphragms, air sacs, alveoli, capillary, intercostal muscles and ribs



Success Criteria:
*Explain the function of the parts of the circulator system

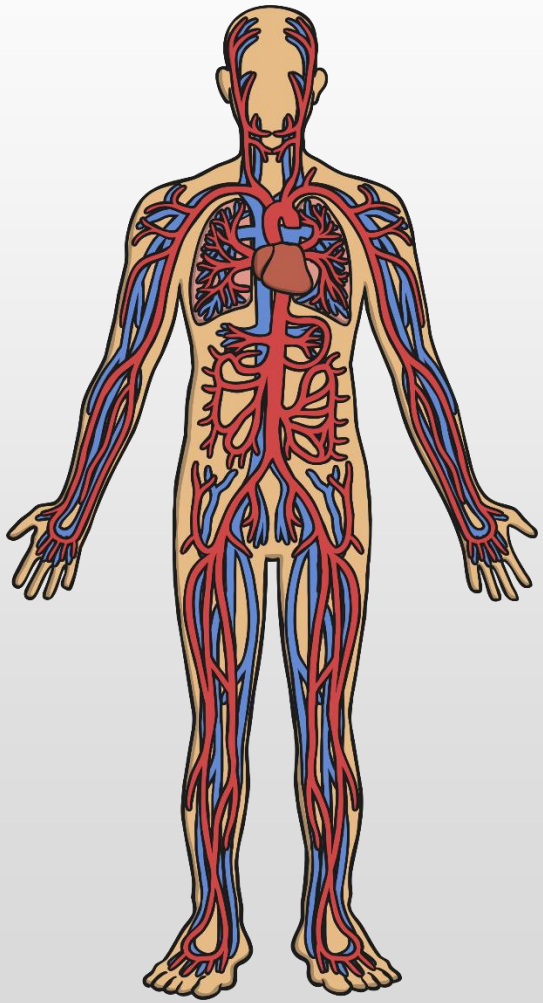
The Circulatory System

Label the main parts of the circulatory system:

Blood vessels

Heart

Blood



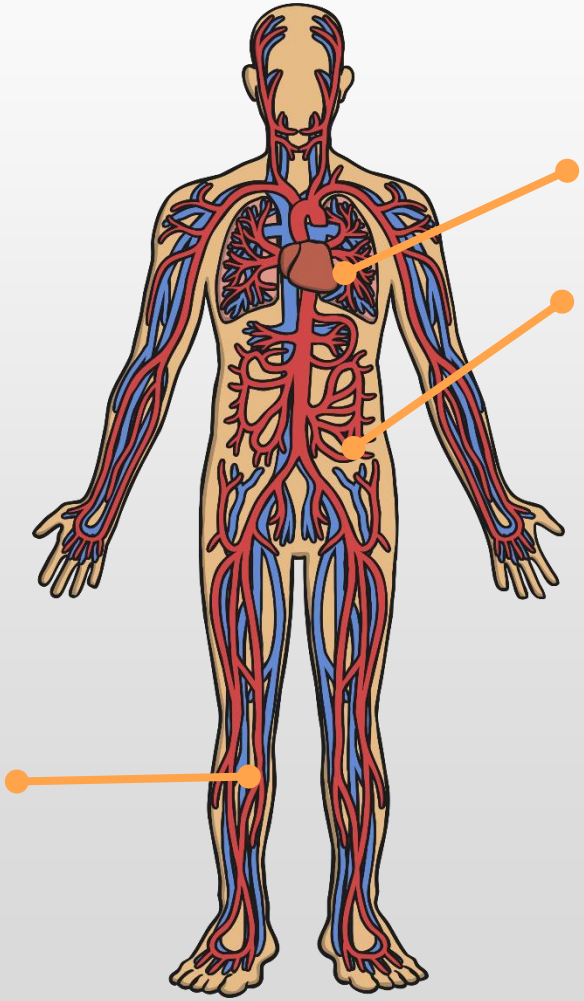
The Circulatory System: How did you do?

Label the main parts of the circulatory system:

Blood vessels

Heart

Blood



Watch this video if you can.
If not, read through the transcript:

The heart is a pump and the blood goes around and around all the time.
Any why does it do that?

Why can't it just have a rest?

Well the blood has to be kept moving around all the time because it is the bodies delivery system.
Every possible part of the body has to be supplied with oxygen, food, and water and the veins and arteries are like roads going all the way through your body with the blood cells like delivery vans.

The body is all the time shouting out 'over here', 'delivery needed' 'I need oxygen', 'I need nutrients'.

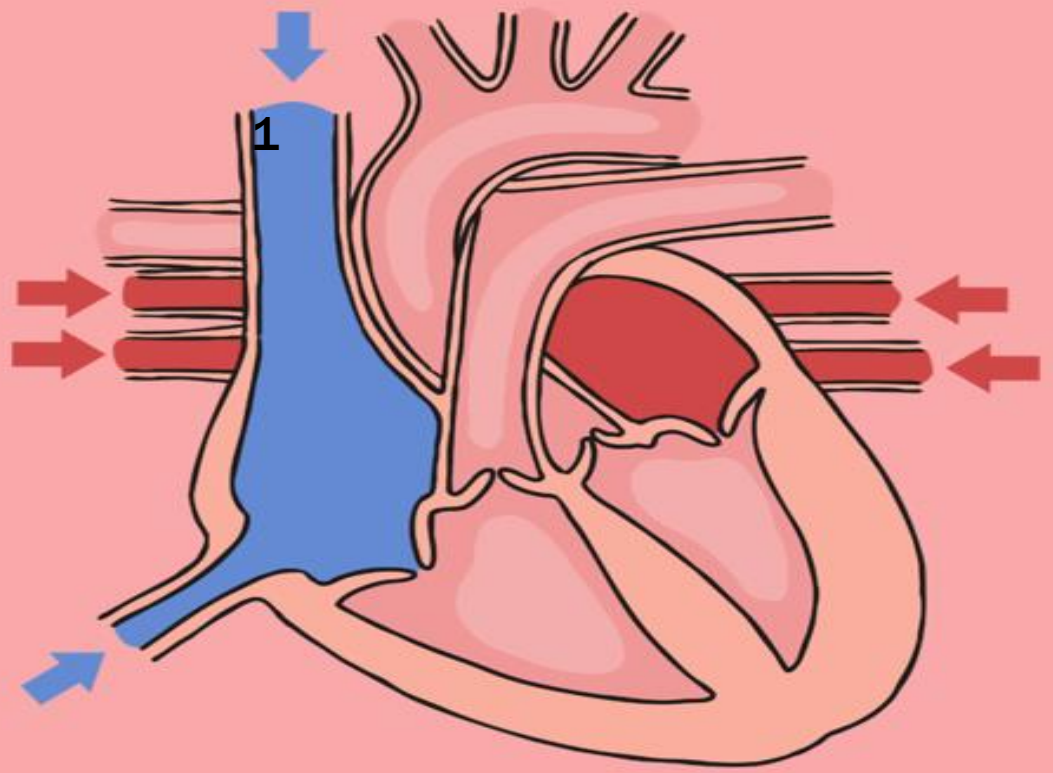
That means the vans are very busy, all the time. So it's a good thing we have the circulatory system to deliver water, nutrients and oxygen to the entire body.

Right, come on heart, back to work.

Can you label the different parts of the heart?
1 has been done for you.

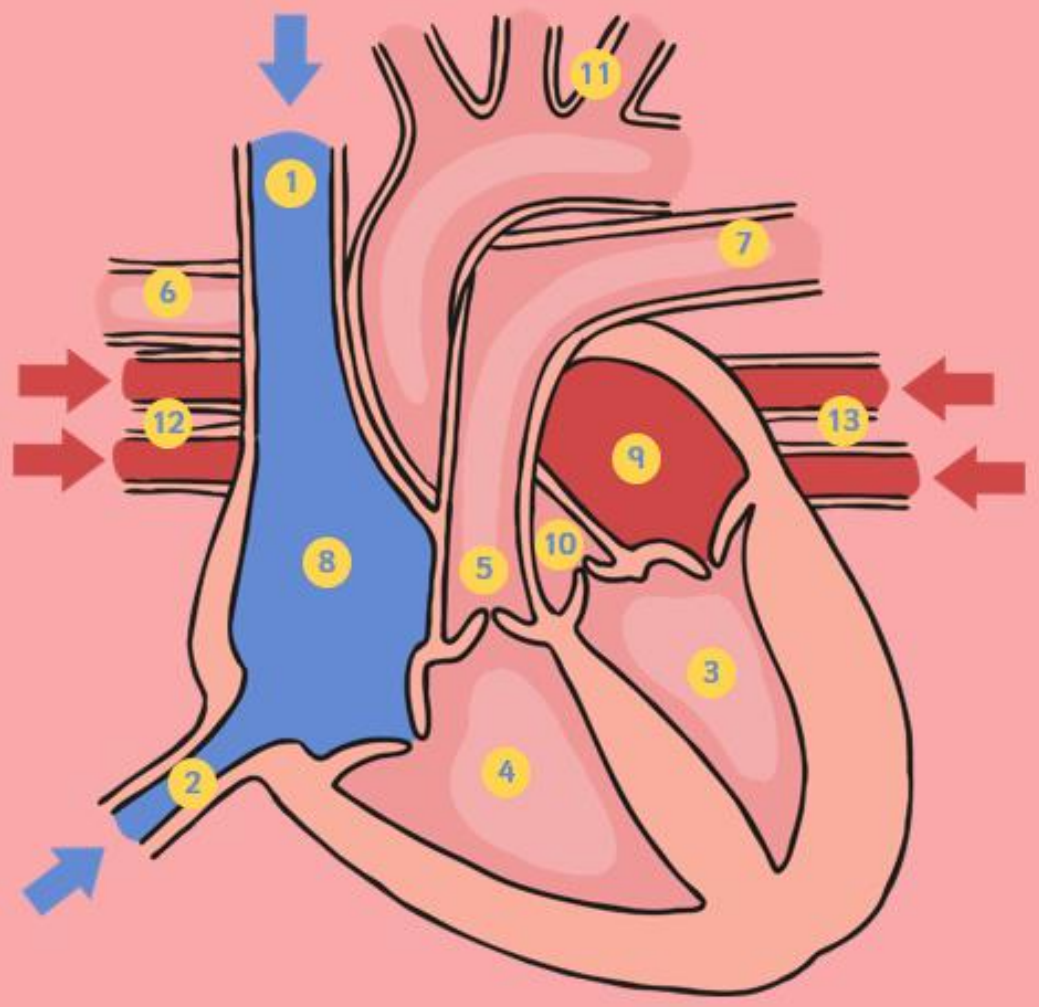
The Circulatory System: Heart

1 Superior vena cava
Inferior vena cava
Left ventricle
Right ventricle
Pulmonic valve
Pulmonary artery (right)
Pulmonary artery (left)
Right atrium
Left atrium
Aortic valve
Aorta
Right pulmonary veins
Left pulmonary veins



How did you do?

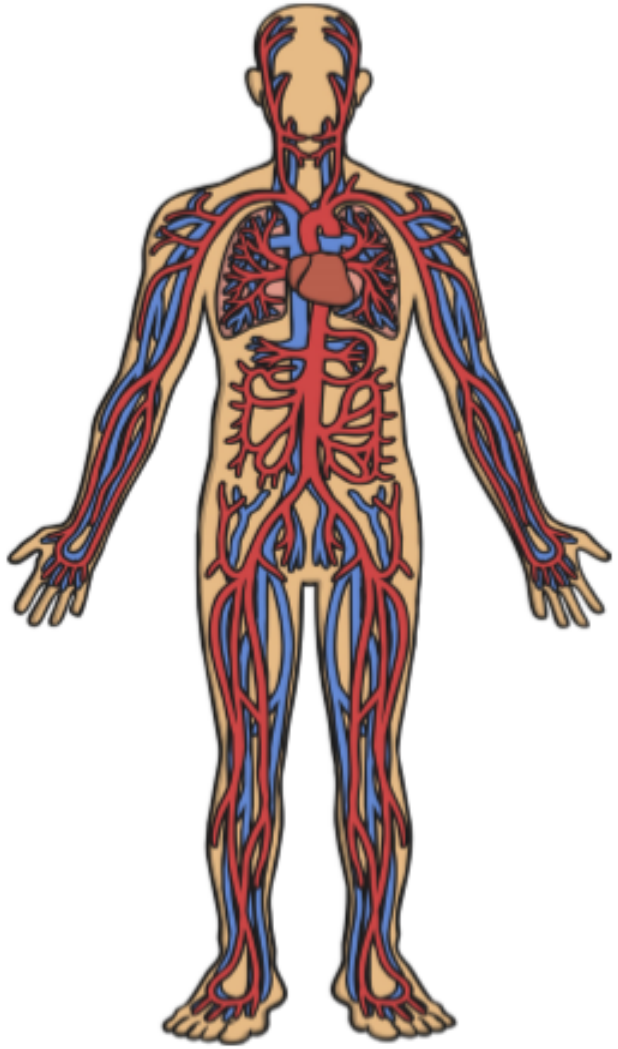
1. Superior vena cava
2. Inferior vena cava
3. Left ventricle
4. Right ventricle
5. Pulmonic valve
6. Pulmonary artery (right)
7. Pulmonary artery (left)
8. Right atrium
9. Left atrium
10. Aortic valve
11. Aorta
12. Right pulmonary veins
13. Left pulmonary veins



Functions of the circulatory system.

Read the information on the next few slides.

If you can, underline, or highlight the key information.



General Functions of the Circulatory System

Heart:

The heart plays an important role because it keeps all the blood flowing in the circulatory system. The process of exercising results in the body requiring more oxygen, this means that the heart has to circulate more oxygenated blood through the circulatory system. That is why your heart beats faster when you exercise.

Lungs:

When we breathe, we inhale air containing oxygen into our lungs. It is in the lungs that blood vessels pick up oxygen and leave carbon dioxide to be released.

Blood Vessels:

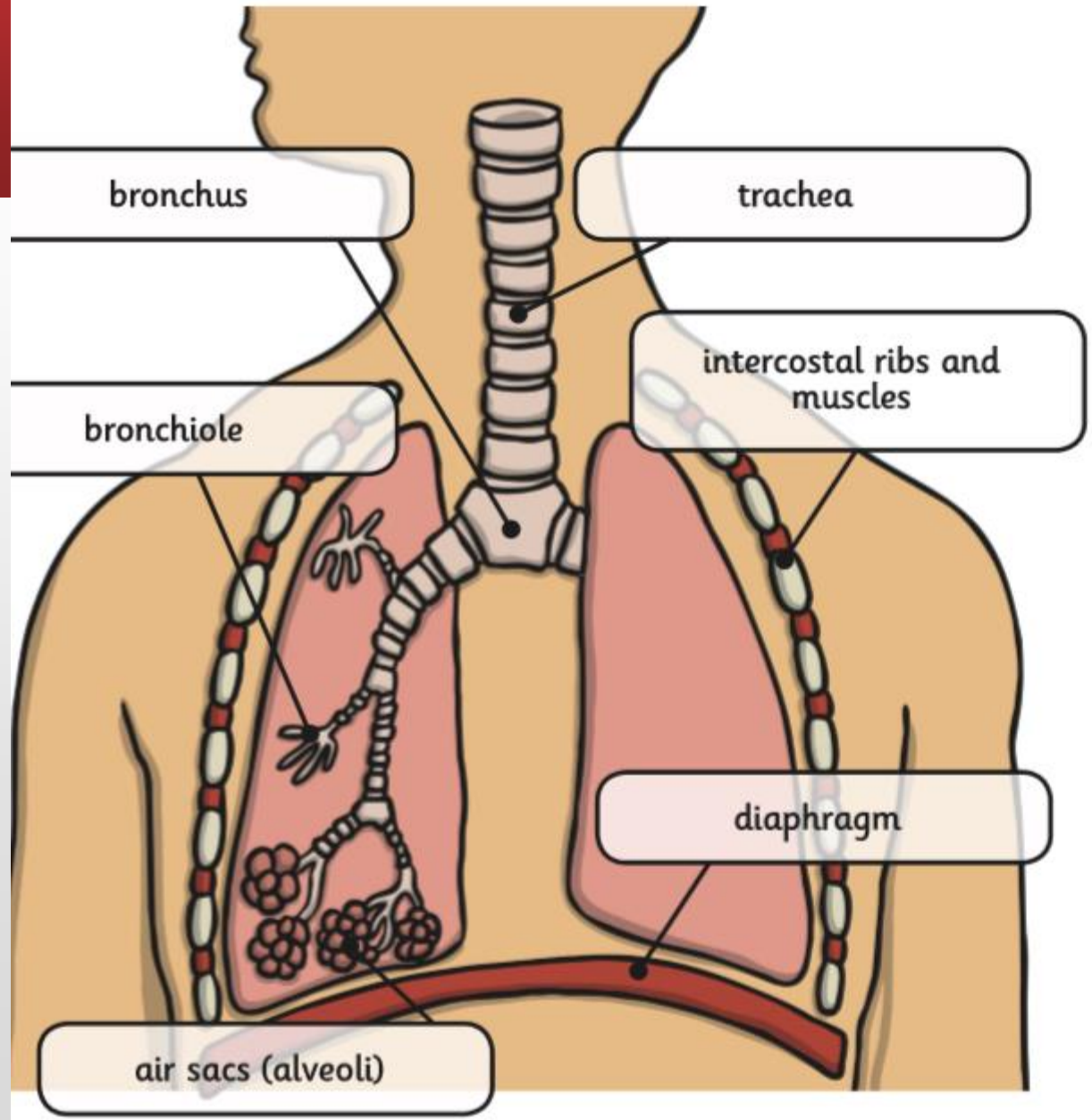
Blood vessels are tubes that carry the blood around the body.

There are three main types of blood vessels:

Arteries – these carry oxygenated blood away from the heart to the rest of the body.

Veins – these carry deoxygenated blood back to the heart to be pumped to the lungs to become oxygenated.

Capillaries – these are blood vessels that connect to both arteries and veins. They are also connected directly to cells. Blood with nutrients and oxygen passes from the artery, through the capillary to a cell. Any waste is passed through capillary to the vein.



Specific Functions of the Lungs in the Circulatory System

The lungs are responsible for transferring oxygen into the blood system.

Intercostal Muscles and Diaphragm: These two parts work together to enable you to breathe in and out. When you breathe in, the **intercostal muscles** contact and expand the ribcage to make room for the air filled lungs. The **diaphragm** also contacts to increase the space for the expanded chest.

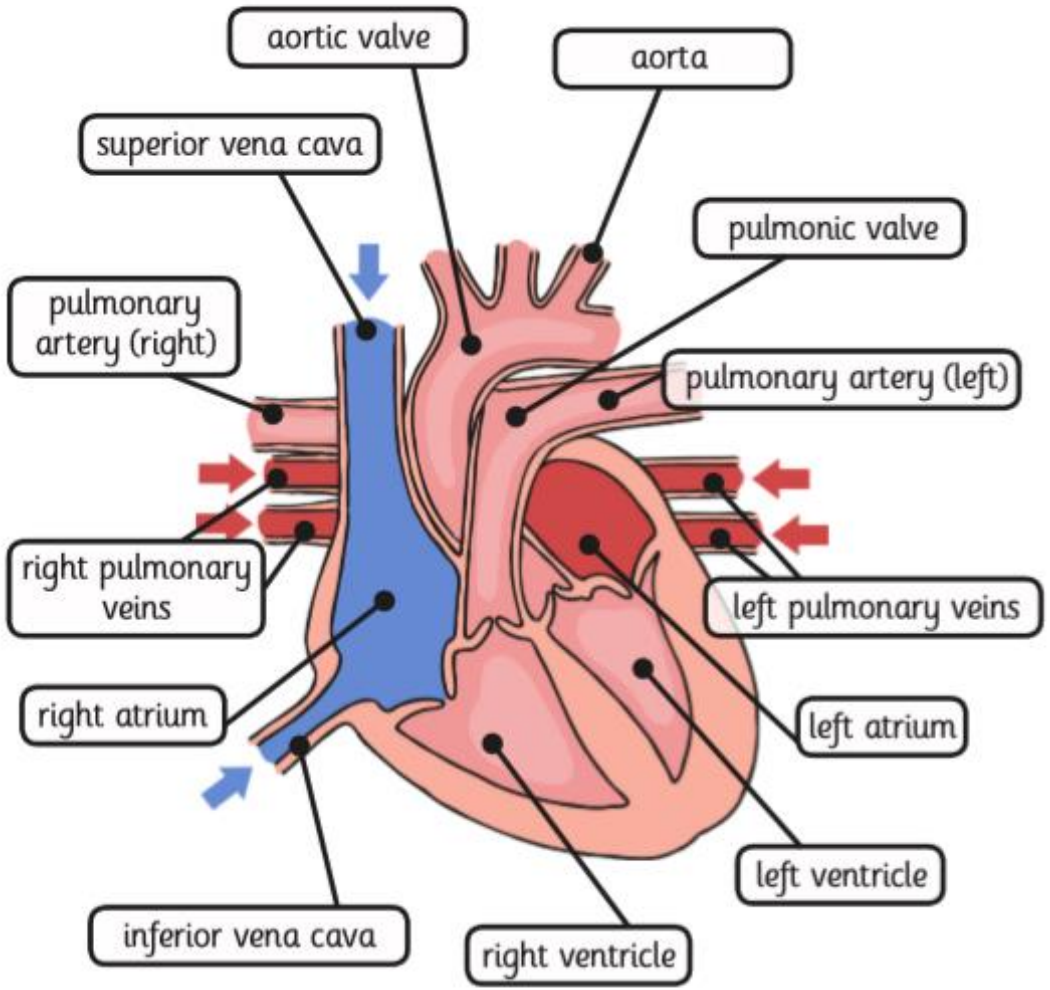
When you breathe out, the **diaphragm** and **intercostal muscles** relax decreasing the space for the chest. This pressure forces the air out.

Trachea: This is also known as the windpipe. The trachea filters the air we inhale (breathe in) and branches into the **bronchi.**

Bronchi: Bronchi is the plural of **bronchus** (there are two – one for each lung). Air passes from the **trachea** through the **bronchi** into the **bronchioles.**

Bronchiole: These branch off from the **bronchi** and allow air to pass to the **alveoli (air sacs)**.

Air Sacs (Alveoli): This is where the gas exchange takes place in the lungs. Oxygen from the air in the **alveoli** passes into the blood and carbon dioxide passes out of the blood into the air in the **alveoli**, which will then be pushed out of the lungs.



Specific Functions of the Heart in the Circulatory System

The heart is responsible for pumping blood in the circulatory system.

Without the heart it would not possible to transport nutrients and oxygen around the body.

Atria: The two chambers that collect blood are called **atria**. The **right atrium** collects deoxygenated blood and the **left atrium** collects oxygenated blood. **(Atrium = single, Atria = plural.)**

Ventricles: These two chambers receive blood from the **atria**. When the heart contracts the blood is pushed out from these two chambers. The **right ventricle** pushes deoxygenated blood to the lungs. The **left ventricle** pushes oxygenated blood to be circulated throughout the body. This takes a lot of force which is why the **left ventricle** is larger than the **right ventricle**.

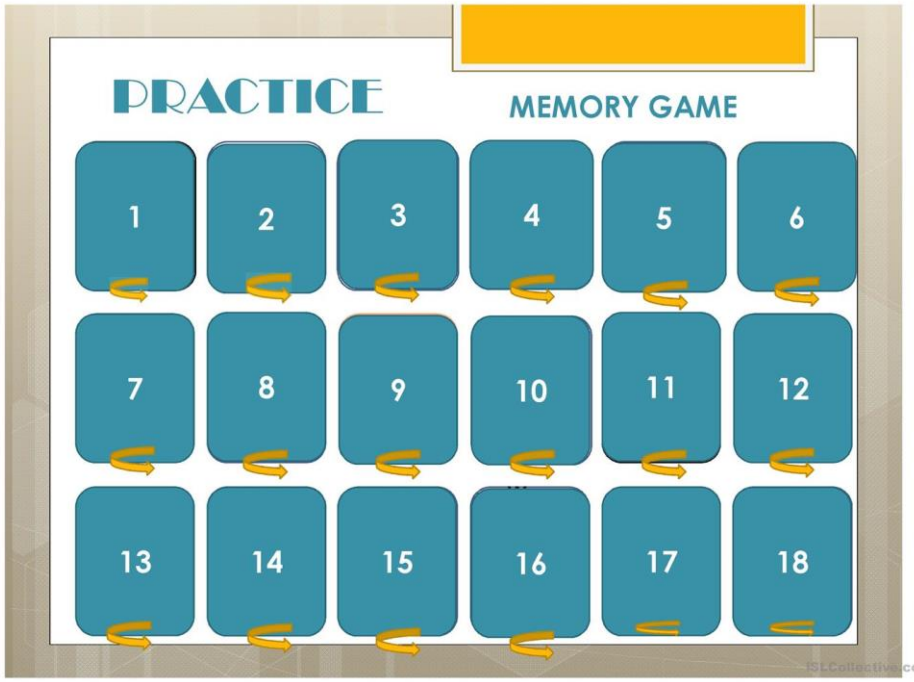
Valves: Valves open and close in blood vessels. The **aortic valve** and **pulmonic valve** both open to let blood pass and close to prevent blood flowing back.

Pulmonary Arteries and Veins: The pulmonary arteries are different to other arteries as they carry deoxygenated blood to the lungs. This blood becomes oxygenated and is carried back by the **pulmonary veins**. This makes the **pulmonary veins** different to normal veins (which carry deoxygenated blood). The veins drain into the **left ventricle**. This blood is pushed out to the **aorta**.

Aorta: This is the largest artery in the body. It receives the oxygenated blood from the left ventricle. The **aorta** branches off into the **ascending aorta** (branches off to the coronary arteries which supply the heart), **aortic arch** (arteries branch off from here to the head, neck and arms), the **descending thoracic aorta** (which branches off to supply blood to the ribs and chest) and the **abdominal aorta** (which branches off to supply major organs in the body).

Vena Cavae: The **superior vena cava** and **inferior vena cava** are the two largest veins in the body. The **superior vena cava brings** deoxygenated blood from the head, neck, arms and chest to the heart. The **inferior vena cava** brings deoxygenated blood from the legs, back, abdomen and pelvis to the heart).

Create your own matching pairs memory game.



Use the information you have just learned and create a memory game.

1 card to have a question,

The second card (its pair) will have the answer.

Q: How many Different parts of the circulatory system are there?	A; 3
Q: Name the three different parts of the circulatory system.	A: The Lungs, The Heart Blood vessels