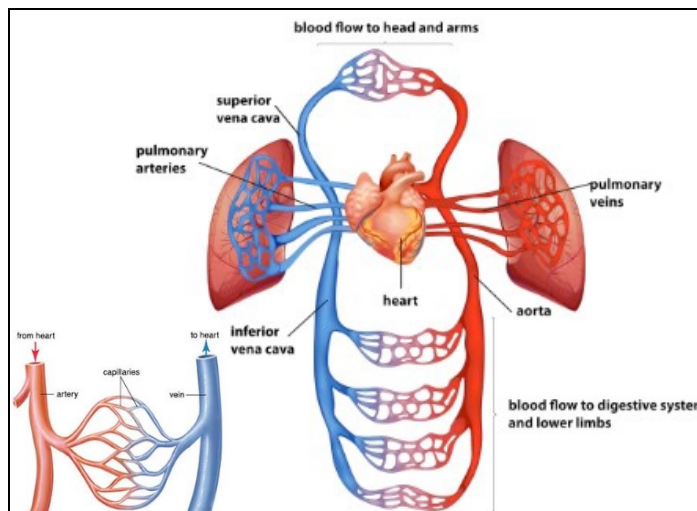
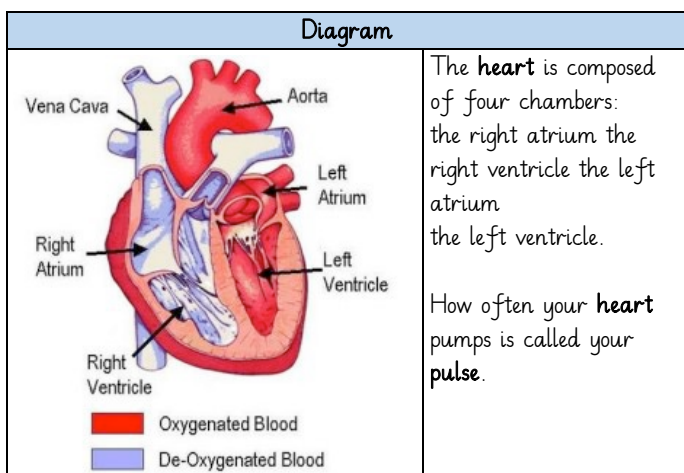


Key Knowledge	
What is the circulatory system?	<ul style="list-style-type: none"> <li>The <b>circulatory system</b> comprises the <b>heart</b>, <b>blood vessels</b> and <b>blood</b>.</li> <li><b>Arteries</b> carry blood <b>away</b> from the <b>heart</b> to the rest of the body.</li> <li><b>Veins</b> carry blood from the body <b>into</b> the <b>heart</b>.</li> <li><b>Nutrients</b>, <b>oxygen</b> and <b>carbon dioxide</b> are exchanged <b>via</b> the <b>capillaries</b>.</li> </ul>
Choices that can harm the circulatory system	<ul style="list-style-type: none"> <li>Some choices, such as smoking and drinking alcohol, can be harmful to our health.</li> <li>Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death.</li> <li>Alcohol can cause short-term effects (e.g. addiction and loss of control) and long-term effects (e.g. organ damage, cancer and death).</li> </ul>
Why is exercise so important?	<p>Exercise can:</p> <ul style="list-style-type: none"> <li>tone muscles and reduce fat</li> <li>increase fitness</li> <li>improve physical and mental health</li> <li>strengthen the heart</li> <li>improve lung function</li> <li>improve skin condition.</li> </ul>



Investigate
How does your pulse change with exercise?
What is the most efficient way to present this data?
Which exercise produces the fastest pulse?
How would you make this a fair test?



Key Vocabulary	
arteries	Blood vessels that carry blood away from the <b>heart</b> to the rest of the body.
blood vessels	The narrow tubes through which your blood flows: <b>Arteries</b> , <b>veins</b> and <b>capillaries</b> .
capillaries	Tiny <b>blood vessels</b> where gas and nutrient exchange takes place.
carbon dioxide	A colourless gas breathed out by animals and people.
circulatory system	The body system that moves blood around the body, supplying <b>nutrients</b> and <b>oxygen</b> and removing waste products such as <b>carbon dioxide</b> .
deoxygenated	Blood that is low in <b>oxygen</b> .
drugs	Chemicals or substances that change the way our bodies work.
heart	The <b>organ</b> that <b>pumps</b> blood around the body.
lungs	Two <b>organs</b> inside the chest which fill with air when you breathe in. In the lungs, blood picks up <b>oxygen</b> and loses <b>carbon dioxide</b> .
medicines	<b>Drugs</b> that help us get better when we are ill.
muscles	Tissues that allow us to live and move.
organ	A group of tissues in a living organism with a specific form and function.
oxygen	A colourless gas that plants and animals need to survive.
oxygenated	Blood that is high in <b>oxygen</b> .
Pulse / heart rate	The number of times the heart beats per minute. Heart rates increase with increased activity.
veins	Blood vessels that carry blood towards the heart.

The Double Circulatory System
1. <b>Deoxygenated</b> blood from the body enters the right atrium, via the vena cava, then passes to the right ventricle.
2. The right ventricle <b>pumps</b> the <b>deoxygenated</b> blood to the <b>lungs</b> . In the lung capillaries, the blood picks up <b>oxygen</b> and disposes of <b>carbon dioxide</b> .
3. The <b>lungs</b> send <b>oxygenated</b> blood back to the left atrium which pumps it to the left ventricle.
4. The left ventricle pumps the blood to the rest of the body, via the aorta. In the capillaries, oxygen is released to the tissues and the blood picks up carbon dioxide.