Learning Organiser for Year 6 Science
Animals including humans

National Curriculum Summary
Key Subject Concept

- Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood
- Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- Describe the ways in which nutrients and water are transported within animals, including humans.

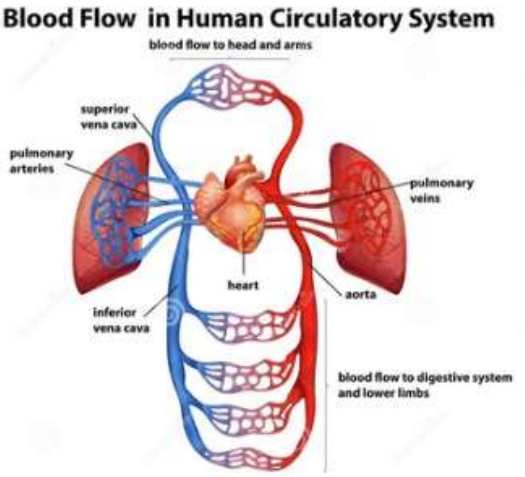
Key Questions

- How does your heart rate change for different activities?
- How would different types of stomach juices affect break down of food?
- Is lung capacity linked to height, age, fitness?

Key Vocabulary	Definition
Aorta	The main artery through which blood leaves your heart before it flows through the rest of your body
Arteries	Tubes in your body that carry oxygenated blood from your heart to the rest of your body
Atrium	One of the chambers of the heart
Blood Vessels	The narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels
Capillaries	Tiny blood vessels in your body
Carbon dioxide	A gas produced by animals and people breathing out
Circulatory system	The system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes the waste products such as carbon dioxide
Deoxygenated	Blood that doesn't contain oxygen
Heart	The organ in your chest that pumps the blood around your body
Lungs	Two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it
Nutrients	Substances that help plants and animals grow
Organ	A part of your body that has a particular purpose
Oxygen	A colourless gas that plants and animals need to survive
Oxygenated	Blood that contains oxygen
Pulse	The regular beating of blood through your body. How fast or slow your pulse is depends on the activity you are doing
Respiration	Process of respiring: breathing: inhaling and exhaling air

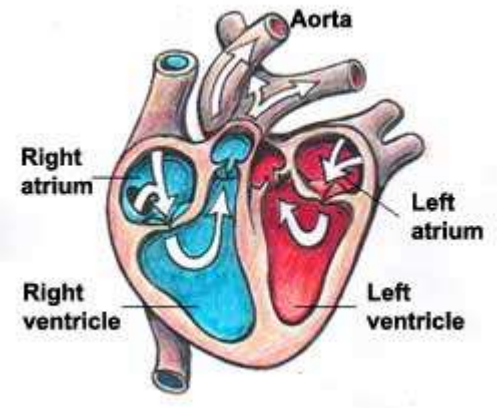
Key Facts

- The circulatory system is made of the heart, lungs and the blood vessels.
- Arteries carry oxygenated blood from the heart to the rest of the body.
- Veins carry deoxygenated blood from the body to the heart.
- Nutrients, oxygen and carbon dioxide are exchanged via the capillaries.



- Some choices, such as smoking and drinking alcohol, can be harmful to our health.
  - tobacco can cause short term effects such as shortness of breath and long term effects such as organ damage and cancer
  - alcohol can cause short term effects such as addiction and loss of control and long term effects such as organ damage and cancer
- Exercise is important because it can:
  - tone our muscles and reduce fat
  - increase fitness
  - make you feel physically and mentally healthier
  - strengthen the heart
  - improve lung function
  - improve skin

Veins	Tubes in your body that carries deoxygenated blood to your heart from the rest of your body	
Vena Cava	A large vein through which deoxygenated blood reaches your heart from the body	
Ventricle	One of the chambers in the heart	

Working Scientifically Skills	**Diagrams/Charts/Pictures**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	The human heart 
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	
Record data and results of increasing complexity using scientific diagrams and♣ labels, classification keys, tables, scatter graphs, bar and line graphs	
Report and present findings from enquiries, including conclusions, causal♣ relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations	

Possible Experiences	**Biographical Information**
• Investigate how the type of material/weight added/shape/ making holes affects the falling time of a parachute. • Investigate how moving the fulcrum on a lever affects the force needed to move an object. • Investigate which factors affect the sag of a simple beam bridge. • Investigate what affects the time of the swing of a pendulum. • Investigate what affects the height bounced by a ball. • Investigate what affects the time it takes different Plasticine shapes to fall in water. • Investigate how air resistance affects our ability to run. • Explore resistance in water by making and testing boats of different shapes. • Design and make artefacts that use simple levers, pulleys, gears and/or springs and explore their effects.	**William Harvey** (1578-1657) discovered and published the first accurate description of the human circulatory system.