

# Sithney C.P. School Knowledge Organisers

## Science. Biology: Circulatory System and Healthy Eating



### What you should already know:

- Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food – they get nutrition from what they eat.
- The basic needs of animals for survival (water, food, air).
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement.
- The basic parts of the digestive system.
- The different types of teeth in humans.
- The importance of exercise, hygiene and a balanced diet

### Key learning:

The heart pumps blood in the blood vessels around to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body.

Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. As they are used, they produce carbon dioxide and other waste products. Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body. This is the human circulatory system.

Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well our heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel. Some conditions are caused by deficiencies in our diet e.g. lack of vitamins. (Some of this content will be taught through PSHE).

### Key Vocabulary:

**Artery:** vessels that carry oxygenated blood away from the heart to the body.

**Atrium (Atria):** Upper chambers of the heart

**Blood vessels:** Tubes that carry blood around the body

**Capillaries:** tiny blood vessels that connect the arteries to the veins

**Circulatory System:** the system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide.

**De-oxygenated blood:** blood with very little oxygen.

**Heart:** a strong muscle in the body, that is protected by the ribs, that pumps blood around the body.

**Lungs:** part of the respiratory system, a group of organs and tissues that work together to help you breathe.

**Nutrients:** are compounds in foods essential to life and health, providing us with energy, the building blocks for repair and growth and substances necessary to regulate chemical processes.

**Organ:** a part of your body that has a particular purpose

**Oxygenated blood:** blood rich in oxygen

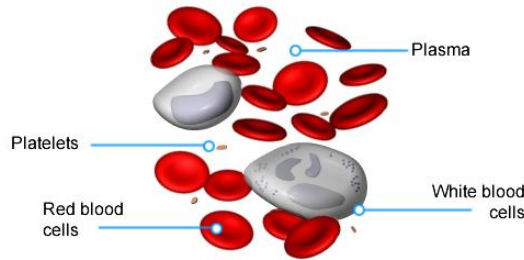
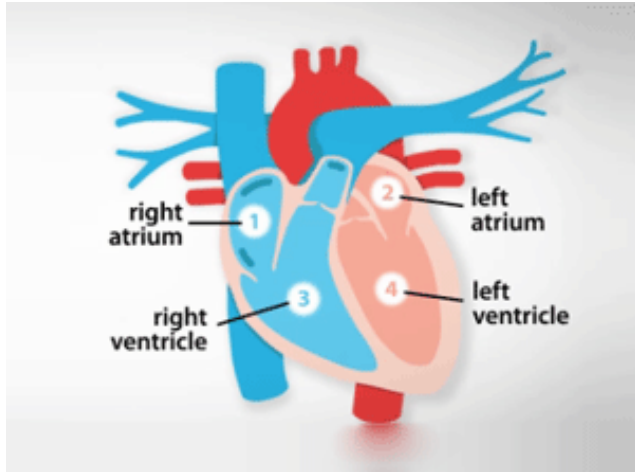
**Pulse rate:** the number of times the heart beats per minute

**Veins:** vessels that return de-oxygenated blood from the body to the heart

**Ventricles:** the lower chambers of the heart

**Valve:** A one-way 'door' that allows blood to flow freely in one direction,

## The human heart



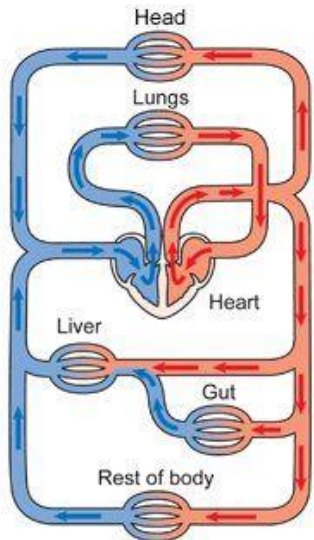
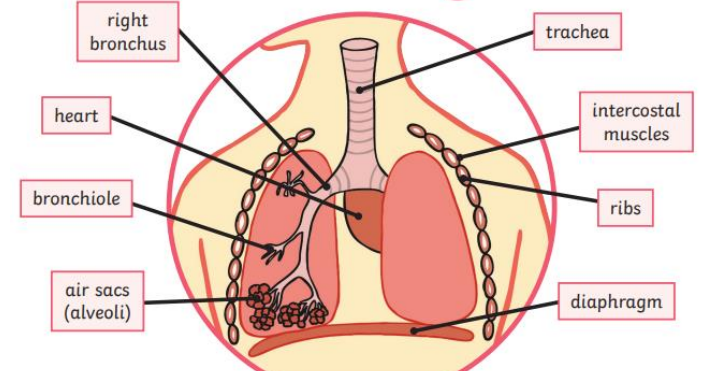
Blood transports materials and heat around the body, and helps to protect against disease.

Blood contains:

- Red blood cells
- White blood cells
- Platelets
- Plasma

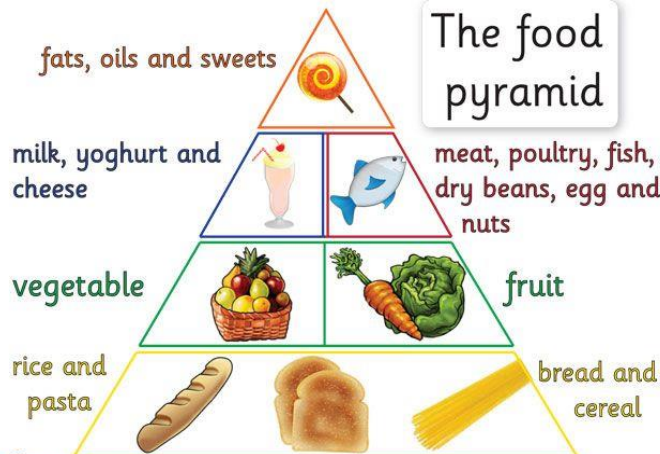
Plasma makes up roughly 55% of the blood's volume

## The Lungs



→ Blood carrying carbon dioxide in veins  
→ Blood carrying oxygen in arteries

Diagram showing the circulatory system of the body  
Copyright © CancerHelp UK



Teachers copyright www.tpet.co.uk

