

# Science- Circulatory System- Year 6 Autumn Term

## Prior Learning:

Y2

Importance of exercise, eating the right amounts of different types of food, and hygiene

Y3

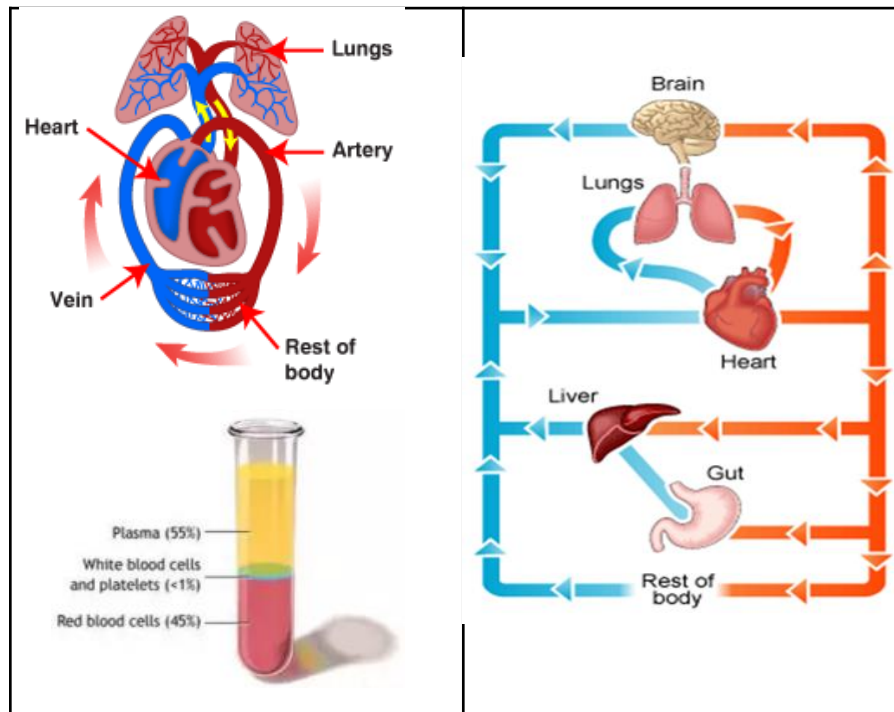
Animals, including humans, need the right types and amount of nutrition from what they eat ( they cannot make their own food)

## Key Vocabulary

Heart	Organ in the body that expands and contracts to pump blood around the body
Pulse	Rhythmical throbbing of arteries as blood is pumped through
Blood	Red liquid that carries oxygen to and carbon dioxide from the tissues of the body.
Blood vessels	Tubes that carry blood through the tissues and organs: a vein, artery, or capillary.
Lungs	Pair of air-breathing organs
Oxygen	Gas essential to life
Carbon dioxide	Gas formed by respiration (breathing)
Nutrients	Substances that provides nourishment essential for life and growth
Muscles	Produces movement for skeleton
Circulatory system	Combination of heart, lungs, blood and blood vessels

**Sir Magdi Yacoub (16<sup>th</sup> November 1935, Egypt)**

Professor Sir Magdi Yacoub has pioneered a number of operations to correct congenital heart conditions and improve heart transplant surgery.



## Key Learning

- Heart pumps blood (red and white blood cells and plasma) in the blood vessels around to the lungs
- Oxygen goes into the blood and carbon dioxide is removed
- Blood returns to 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 these are used they produce carbon dioxide and other waste products
- Diet, exercise, drugs and lifestyle have an impact on the way our bodies function - how clearly we think, whether we suffer from conditions such as diabetes, how fit and well we feel
- Some conditions are caused by deficiencies in our diet

## Diet



-A healthy, balanced diet can have a huge effect on a person's health. People who eat the right balance of fresh, healthy foods are less prone to chronic illnesses and diseases.

-Carbohydrates are used by the body to create glucose, the body's main energy source. Fat is also helpful for energy, but too much fat in a person's diet causes them to gain weight. Protein helps to build and repair muscles, but too much can cause indigestion and intestinal problems.

## Exercise



-As we exercise, our muscles need more oxygen. So, we breathe quicker, helping our lungs to take in more oxygen.

-Our heart needs to pump blood more quickly to get all of the oxygen around the body. In order to do this, our heart rate increases.

-Regular exercise helps our bones and muscles to become stronger. It also helps the heart and lungs to become healthier.

## Drugs



-A drug is a chemical that has an effect on your body.

-Some drugs are prescribed by doctors to make people healthy. Other, illegal drugs can have a dangerous effect on our health.

-Alcohol is a depressant. Alcohol can cause damage to the liver and brain. Cigarettes contain nicotine, which is a stimulant, and is addictive. Cigarettes cause damage to the lungs and heart.

## Can I answer:

Identify and name the main parts of the human circulatory system.

Describe the functions of the heart, blood vessels and blood.

Describe some of the impacts of diet, exercise, drugs and exercise of the way bodies function in the short and long term.

How are nutrients and water transported within animals, including humans?