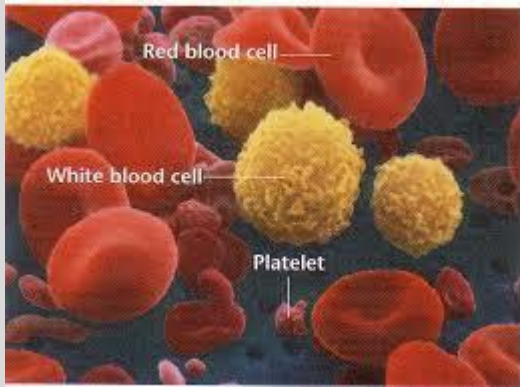


Components of Blood



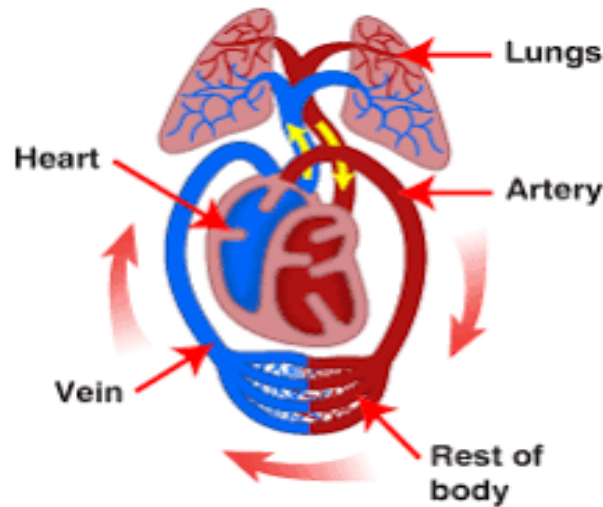
Blood transports materials around the body and protects against disease.

Blood makes up around 7% of the weight of a human body. Blood contains red blood cells, white blood cells and platelets. These blood cells float in a yellow liquid called blood plasma. Blood plasma is made up of 90% water and also contains various nutrients, electrolytes, gases, proteins, glucose and hormones.

Functions of the blood components:

- Red blood cells which transport oxygen.
- White blood cells which protect against disease.
- Blood platelets which help the blood to clot and repair a cut.
- Plasma which is a liquid that carries these cells. It also transports important nutrients

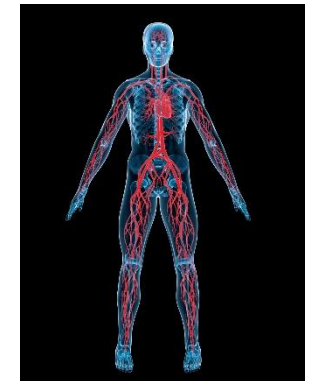
The Circulatory System



- The heart is a major organ and is made of muscle.
 - The heart pumps blood around the body through vessels and this can be felt as a pulse.
 - The heart pumps blood through the lungs in order to obtain a supply of oxygen.
 - Blood carries oxygen/essential materials to different parts of the body.
 - During exercise muscles need more oxygen so the heart beats faster and our breathing and pulse rates increase.
 - Animals are alive; they move, feed, grow, use their senses, reproduce, breathe/respire and excrete.
 - An adequate, varied and balanced diet is needed to help us grow and repair our bodies (proteins), provide us with energy (fats and carbohydrates) and maintain good health (vitamins and minerals).
 - Tobacco, alcohol and other 'drugs' can be harmful.
 - All medicines are drugs, not all drugs are medicines.
- Can you explain the negative effects of alcohol, drugs, tobacco, poor diet and lack of exercise on the body?**

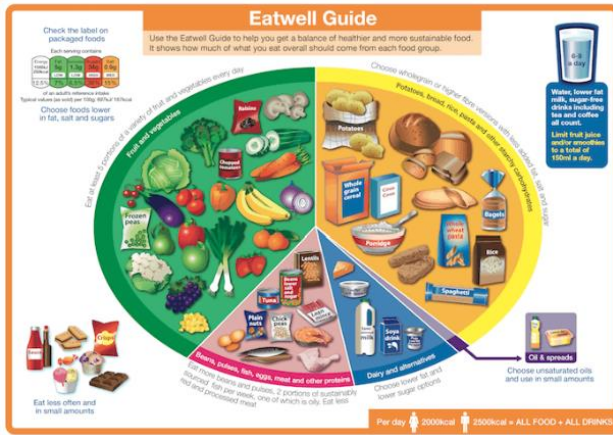
Key Vocabulary

- circulatory system
- heart
- blood
- blood vessels
- pumps
- oxygen
- carbon dioxide
- lungs
- nutrients
- water
- diet
- exercise
- drugs
- lifestyle



Artery	Vein	Capillary
Transport blood away from the heart.	Transport blood back to the heart.	They allow gases and nutrients to pass through.
Thick muscular wall with a thin inside (lumen).	Thinner walls but Wider inside than arteries.	Very small only allowing one blood vessel to pass through at a time.

Eatwell Guide



The human body needs a balanced diet to work properly which means eating the right amount of foods from the different food groups. The eatwell guide shows us which foods belong to each group and how much we should be eating.

Carbohydrates give us energy. They are found in foods such as bread, potatoes and pasta.

Fruit and vegetables provide our bodies with fibre which is important for helping us digest our foods. They are also a good source of vitamins and minerals and we should be eating our 'five a day'.

Meat, fish and beans are a good source of proteing and help our bodies to repair themselves. They are found in foods such as fish, meat, beans, nuts, seeds, eggs and cheese.

Dairy products such as milk, cheese, yoghurt and fromage frais are good sources of protein and some vitamins, and they're also an important source of calcium, which helps keep our bones healthy.

Foods high in fat and sugar should be eaten in small amounts. Good health involves drinking enough water to keep our bodies hydrated, digest food and working at their best.

Keeping Healthy and a Healthy Lifestyle

Keeping fit and healthy is not just about what we put into our bodies as fuel such as the food that we eat; there are other things we need to do, as well as eating a balanced diet, to keep our bodies and minds in the best shape possible.

Exercise helps our bodies because :

- Our muscles become stronger and they can work harder.
- Our bones also become stronger too because the physical activity puts pressure on them.
- Our muscles also need oxygen to work during physical activity so because we are more active, we get fitter. Our lungs get better at taking in oxygen from the air and our hearts get stronger and better at pumping oxygen to our muscles through the blood.
- It is great for our mental health: **W**hen we exercise, our bodies release chemicals called endorphins which make us feel good.
- Exercise also helps us to concentrate better because of the chemicals it releases into our bodies and after physical activity, we find it easier to sleep.



Sleep

Sleep is really important in keeping us physically and mentally healthy. When we sleep, our bodies and minds have the time to rest, recover and process all the things which have happened to us during the day.

When we're young, our bodies are growing and changing quickly, so we need even more sleep than adults to be able to cope with everything that's happening. If we don't get enough sleep, we find it hard to concentrate, become stressed and it also makes us grumpy!

Seasonality

Different foods grow better at different times of the year. This is called **seasonality**.

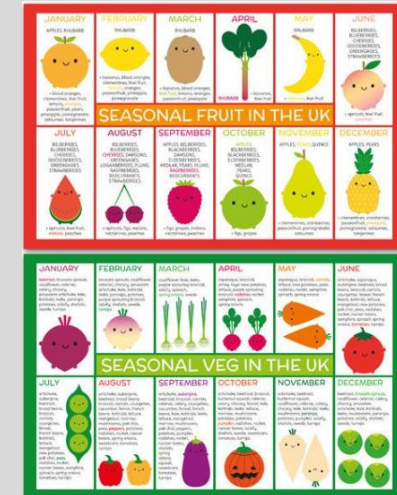
What is seasonal eating?

Spring, summer, autumn and winter are the four seasons of the year. Weather conditions in a country are known as the climate. The climate determines which foods can grow and when and these vary according to place.

Seasonal foods are fruit and vegetables that are ripe and ready in a particular season. They will no longer grow when the weather changes.

Is all food seasonal?

Most foods that come from animals are not seasonal and can be eaten all year round, for example dairy products.



Why eat the seasonally?

Seasonal is cheaper, tastier, and better for the planet! Access to a variety of fruit and vegetables all year round is not always a good thing. Eating foods that are grown locally and in season is better for everyone. It also cuts transport costs, making them cheaper and reducing carbon dioxide emissions and helping the planet!