

Definitions and Concepts for WJEC (Wales) Biology GCSE

Topic 1.4: Circulatory System in Humans

*Definitions in **bold** are for higher tier only*

Definitions marked by '' are for separate sciences only*

Angioplasty - A procedure used to reduce the blockage of the coronary artery. A balloon is threaded into and inflated in the artery.

Aorta - The main artery that takes oxygenated blood away from the heart to the body.

Artery - A blood vessel that carries blood away from the heart under high pressure.

Atrioventricular valves - Valves that prevent backflow of blood between the atria and the ventricles.

Atrium (pl. atria) - The upper chamber of the heart that receives the blood from the veins.

Biconcave - Describes the shape of red blood cells which increases the surface area for gaseous exchange.

Bicuspid valve - The valve on the left side of the heart that prevents backflow from the ventricles into the atria.

Blood - A tissue that contains red blood cells, white blood cells, plasma and platelets.

Capillary - The smallest type of blood vessels that connect the arteries and the veins. The exchange of substances and gases between the tissues and the blood occurs in the capillaries.

Cardiovascular disease - A non-communicable disease that affects the heart or blood vessels.

Coronary artery - A blood vessel that provides oxygenated blood to the heart muscle.

Double circulatory system - A circulatory system found in mammals in which the blood passes through the heart twice in a full body circuit.

Heart - The muscular organ that pumps blood around the body.

Human circulatory system - A system consisting of the heart, blood and blood vessels which circulates blood around the body.

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



Lymphocytes - Cells that make up white blood cells that produce antibodies and antitoxins when a foreign body enters the body.

Pathogen - A bacteria, virus or any other microorganism that can cause disease.

Phagocytes - Cells such as white blood cells that engulf and digest unwanted microorganisms in the blood via phagocytosis.

Plasma - A pale yellow liquid found in the blood that carries water, enzymes, salts, nutrients, antibodies, urea and hormones.

Platelets - Cell fragments involved in the clotting of blood.

Pulmonary artery - The main artery that carries deoxygenated blood away from the heart to the lungs.

Pulmonary circulation - The part of the circulation between the heart and the lungs, which takes deoxygenated blood from the right side of the heart to the lungs for gas exchange.

Pulmonary vein - The main vein that carries oxygenated blood back to the heart from the lungs.

Red blood cells - Cells in the blood that carry oxygen and remove carbon dioxide.

Risk factor - Something that increases the chance of getting ill (does not have to make you ill).

Semi-lunar valve - The valves found at the base of the aorta and pulmonary artery; they prevent backflow of blood from the arteries into the ventricles.

Septum - The wall that separates the right and left side of the heart.

Statins - A type of drug used to decrease LDL (bad) cholesterol levels to slow down the rate of fatty material build up.

Stent - A mesh tube inserted into the coronary artery to keep it open.

Systemic circulation - The part of the circulation which takes oxygenated blood from the left side of the heart to the other organs of the body.

Tricuspid valve - The valve on the right side of the heart that prevents backflow from the ventricles into the atria.

Valves - Structures found at each end of both ventricles that prevent the backflow of blood (ensuring blood flows in only one direction).

Vein - A blood vessel that carries deoxygenated blood back to the heart at low pressure.

Vena cava - The main vein that carries deoxygenated blood back to the heart from the body.



Ventricles - The lower chambers of the heart that receive blood from the atria and pump it to the arteries. The heart has two ventricles.

White blood cells - Cells of the immune system that protect the body from invading pathogens. They produce antibodies and antitoxins.

✦ Definition taken from: [WJEC \(Wales\) GCSE in BIOLOGY Specification V.2 January 2019](#)

