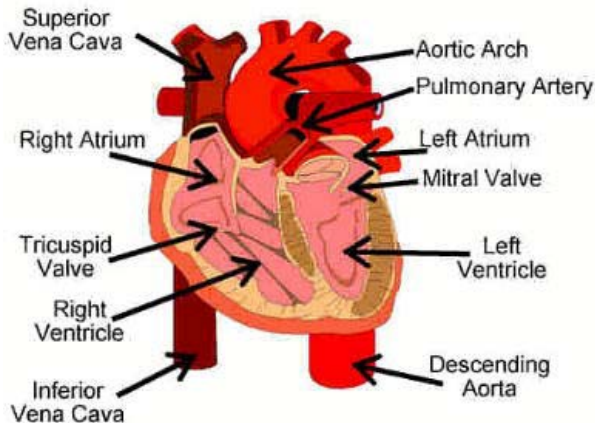


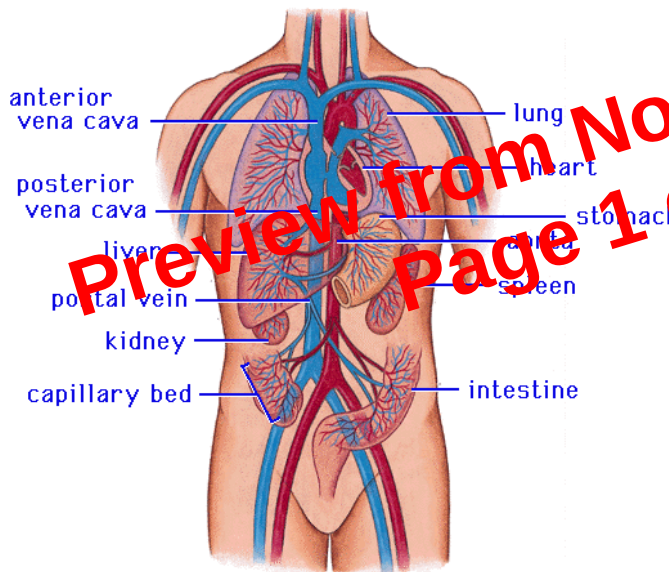
# AS Biology - Module 1



## CHAPTER 6: THE CIRCULATORY SYSTEM

### THE CIRCULATORY SYSTEM and the LYMPHATIC SYSTEM

Most of the cells in the human body are not in direct contact with the external environment, so rely on the circulatory system to act as a transport service for them. Two fluids move through the circulatory system: **blood** and **lymph**. The blood, heart, and blood vessels form the **Cardiovascular System**. The lymph, lymph nodes and lymph vessels form the **Lymphatic System**. The Cardiovascular System and the Lymphatic System collectively make up the **Circulatory System**.



1. Vertebrates have a **closed circulatory system**, meaning the blood is repeatedly cycled throughout the body inside a system of pipes.

2. It was in 1628, when the English Dr. William Harvey showed that blood circulated throughout the body in one-way vessels. According to him, blood was pumped out of the heart and into the tissues through one type of vessel and back to the heart through another type of vessel. The blood, in other words, moved in a closed cycle through the body.

3. Blood is the body's internal transportation system. Pumped by the heart, blood travels through a network of blood vessels, carrying nutrients ( $O_2$ , glucose) and hormones **to** the cells and removing waste products ( $CO_2$ , urea) **from** the  $10^{12}$  (= 100 trillion) cells of our bodies..