GCSE Biology – The Heart - Transcript

By the end of this video your heart will have pumped about 10 litres of blood around your body. You can feel the blood moving when you take your pulse. But how does the heart work?

Well, your heart is an organ made of muscle. Its role is to pump blood around the body in a double circulatory system. The right side forms one circuit which pumps blood to the lungs, where it picks up oxygen.

The left side forms the second circuit. This pumps blood around the rest of the body. So, let's look in a little more detail.

The heart has four chambers, two atria at the top and two ventricles at the bottom. Valves stop blood flowing backwards between the chambers and from the blood vessels.

In one circuit, deoxygenated blood coming from the body flows into the right atrium through the vena cava. It's pumped to the lungs from the right ventricle through the pulmonary artery.

Here, oxygen diffuses into the blood. Oxygenated blood then returns to the left atrium by the pulmonary vein. It's then pumped out of the heart by the left ventricle through the aorta to supply the whole body.

The left ventricle has a much thicker muscly wall as it has to pump the oxygenated blood much further around the whole body. This pumping process is controlled by a group of cells and this group of cells act as a pacemaker.

Blood travels through three main types of vessel.

Arteries carry blood away from the heart under high pressure so they have thick, elastic, muscular walls, and a thin internal channel, called the lumen.

Veins carry blood back to the heart at lower pressure. They have thinner walls, and valves to stop blood flowing backwards, and they have a wider lumen.

Capillaries are tiny vessels with walls only one cell thick which carry blood into and out of tissues and organs. They allow substances like oxygen and glucose to diffuse in and out of cells.

So, with every beat of your heart pumps blood through this network of vessels, keeping oxygen and nutrients moving around your body, every second of every day.