



Karl Landsteiner was born on 14th June, 1868 in Vienna and was brought up by his mother after his father died when he was just six years old. Karl studied medicine at the University of Vienna and graduated in 1891. Before he had even finished studying, though, Karl began to carry out research into the composition of human blood. He spent five years after he graduated working at labs in Zurich, Wurzburg and Munich.

Upon returning to Vienna, Landsteiner worked at a hospital where he continued his studies and developed an interest in immunology. Over the next twenty years, he carried out research, wrote papers and even worked as a professor of Pathological Anatomy at the university where he had once studied. Later in his life, Landsteiner worked in Holland and the US before he had a heart attack in his lab. He died two days later in hospital on 26th June, 1943.

During his life, Landsteiner contributed to many different areas of immunology, but the one he is most famous for is his discovery of blood groups in 1901 which he later won the Nobel Prize for in 1930. His work continued that of another scientist called Landois in 1875 who noticed that human blood clumps together when it comes into contact with animal blood and so humans cannot receive blood transfusions from animals.

However, Landsteiner pointed out that this same reaction can happen when blood is transferred from one human to another. On closer inspection of blood cells, Landsteiner classified them into several groups which he named A, B, AB and O. These groups are named based on antigens present on the surface of the blood cell and antibodies present in the blood. From this, he discovered that in order for a successful blood transfusion to take place, the person donating the blood must have a blood group that is compatible with the person who receives it. But his work didn't just help people to receive blood, Landsteiner also used it as one of the first types of basic paternity tests after he understood how different blood groups were inherited genetically by children from their parents. Today Karl Landsteiner's work saves millions of lives each year. A blood transfusion, a common but lifesaving procedure, can only be successful if the blood groups of all donors and recipients are checked carefully. This ensures that the blood being transferred won't clot and be rejected by the recipient's body. So, if you or anyone you know has ever had a blood transfusion - it's all down to the hard work and research done by this incredible scientist.

Fill in: antibodies, platelets, antigens, plasma. Check any unknown words in your dictionaries

Blood consists of red blood cells, white blood cells, 1)(small cells) and 2)(liquid part of blood). Antibodies and antigens in the blood identify your blood group. 3),..... are proteins in plasma which protect the body from foreign substances in the blood such as germs. 4)are molecules on the surface of red blood cells that help produce antibodies.