

## UNIT 4 PEOPLE IN SCIENCE

### 4.1 FAMOUS SCIENTISTS

Group work (home group):

Collect information about the person from the picture.

- What does he do?
- What is his background?
- What is he famous for?
- When did he live?
- Where did he live?

You can use some expressions describing this person:

*Stockholm, industry, prize, St. Petersburg, dynamite, literature, chemistry, secretary, entrepreneur, engineer, private life, peace*

1. While reading mark the information (+ or – or !):

Put a mark next to the facts described in the text.

- I knew this fact ( + )
- I was not right about this ( – )
- This information was unknown for me ( ! )

Alfred Nobel was born in Stockholm on October 21, 1833. His father Immanuel Nobel was an engineer and inventor who built bridges and buildings in Stockholm. In connection with his construction work Immanuel Nobel also experimented with different techniques for blasting rocks.



Alfred Nobel.

Alfred's mother, born Andriette Ahlsell, came from a wealthy family. Due to misfortunes in his construction work caused by the loss of some barges of building material, Immanuel Nobel was forced into bankruptcy the same year Alfred Nobel was born. In 1837 Immanuel Nobel left Stockholm and his family to start a new career in Finland and in Russia. To support the family, Andriette Nobel started a grocery store which provided a modest income. Meanwhile Immanuel Nobel was successful in his new enterprise in St. Petersburg, Russia. He started a mechanical workshop which provided equipment for the

Russian army and he also convinced the Tsar and his generals that naval mines could be used to block enemy naval ships from threatening the city.

The naval mines designed by Immanuel Nobel were simple devices consisting of submerged wooden casks filled with gunpowder. Anchored below the surface of the Gulf of Finland, they effectively deterred the British Royal Navy from moving into firing range of St. Petersburg during the Crimean war (1853-1856). Immanuel Nobel was also a pioneer in arms manufacture and in designing steam engines. A painting by Immanuel Nobel demonstrating his sea or naval mines to the Tsar of Russia.

Successful in his industrial and business ventures, Immanuel Nobel was able, in 1842, to bring his family to St. Petersburg. There, his sons were given a first class education by private teachers. The training included natural sciences, languages and literature. By the age of 17 Alfred Nobel was fluent in Swedish, Russian, French, English and German. His primary interests were in English literature and poetry as well as in chemistry and physics. Alfred's father sent him abroad for further training in chemical engineering to widen Alfred's horizons. During a two year period Alfred Nobel visited Sweden, Germany, France and the United States. In Paris, the city he came to like best, he worked in the private laboratory of Professor T. J. Pelouze, a famous chemist. There he met the young Italian chemist Ascanio Sobrero who, three years earlier, had invented nitroglycerine, a highly explosive liquid. Alfred Nobel became very interested in nitroglycerine and how it could be put to practical use in construction work. He also realized that the safety problems had to be solved and a method had to be developed for the controlled detonation of nitroglycerine. Together with his father he performed experiments to develop nitroglycerine as a commercially and technically useful explosive.

He found that mixing nitroglycerine with *kieselguhr* would turn the liquid into a paste which could be shaped into rods of a size and form suitable for insertion into drilling holes. In 1867 he patented this material under the name of dynamite. To be able to detonate the dynamite rods he also invented a detonator (blasting cap) which could be ignited by lighting a fuse.



Alfred Nobel's laboratory in Bofors, Sweden.

The market for dynamite and detonating caps grew very rapidly and Alfred Nobel also proved himself to be a very skillful entrepreneur and businessman. By 1865 his factory in Krümmel near Hamburg, Germany, was exporting nitroglycerine explosives to other countries in Europe, America and Australia. Over the years he founded factories and laboratories in some 90 different places in more than 20 countries.

Intensive work and travel did not leave much time for a private life. At the age of 43 he was feeling like an old man. At this time he advertised in a newspaper "Wealthy, highly-educated elderly gentleman seeks lady of mature age, versed in languages, as secretary and supervisor of household." The most qualified applicant turned out to be an Austrian woman, Countess Bertha Kinsky. After working a very short time for Nobel she decided to return to Austria to marry Count Arthur von Suttner. In spite of this Alfred Nobel and Bertha von Suttner remained friends and kept writing letters to each other for decades. Over the years Bertha von Suttner became increasingly critical of the arms race. She wrote a famous book, *Lay Down Your Arms* and became a prominent figure in the peace movement. No doubt this influenced Alfred Nobel when he wrote his final will which was to include a Prize for persons or organizations who promoted peace.



Bertha von Suttner.

Alfred Nobel's greatness lay in his ability to combine the penetrating mind of the scientist and inventor with the forward-looking dynamism of the industrialist. Nobel was very interested in social and peace-related issues and held what were considered radical views in his era. He had a great interest in literature and wrote his own poetry and dramatic works. The Nobel Prizes became an extension and a fulfillment of his lifetime interests.

Alfred Nobel died in San Remo, Italy, on December 10, 1896. When his will was opened it came as a surprise that his fortune was to be used for Prizes in Physics, Chemistry, Physiology or Medicine, Literature and Peace. The executors of his will were two young engineers, Ragnar Sohlman and Rudolf Lilljequist. They set about forming the Nobel Foundation as an organization to take care of the financial assets left by Nobel for this purpose and to coordinate the work of the entrepreneur -Awarding Institutions.

2. Compare the facts known to you and new information. Discuss this information in pairs.
3. Fill in the cluster with the most important facts from the Alfred Nobel biography. The cluster should contain the key words you can find in the text.