

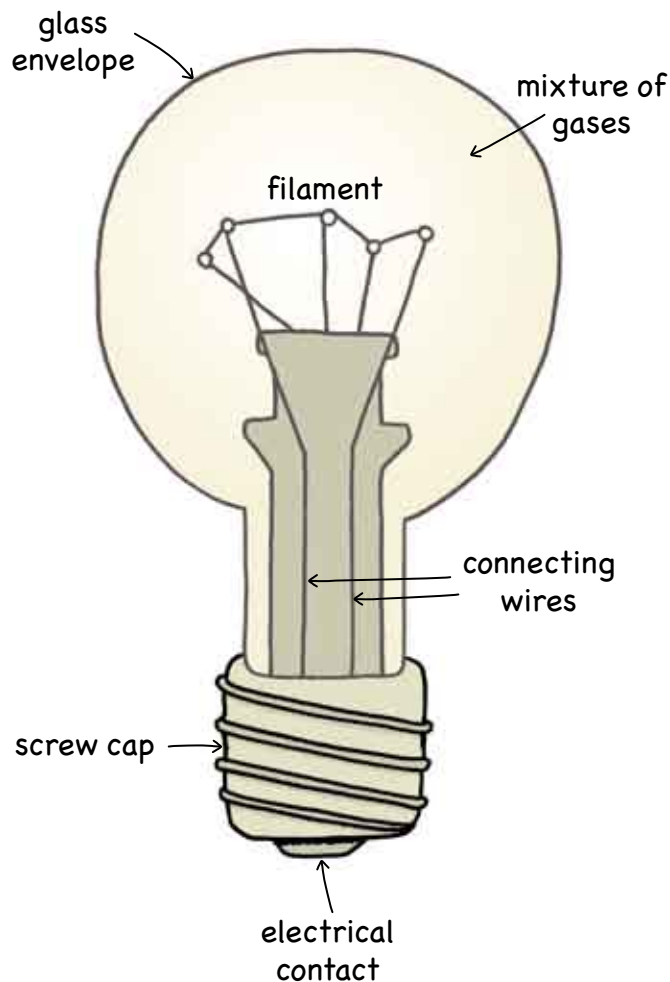
The history of the light bulb

The first electric light was made by Humphry Davy in 1800. Humphry Davy was an English *scientist* and he experimented with electricity. He invented an electric battery and then connected wires to the battery and to a piece of *carbon*. Carbon is a black material that burns. The piece of carbon in his experiment turned red when it became hot and produced light.

In 1860, the English *physicist* Sir Joseph Wilson Swan found out that he could produce light with a carbon paper thread, called a *filament*. This worked well, but the filament burned up quickly. He demonstrated his new electric lamps in Newcastle, England in 1878.

At the same time, an American called Thomas Alva Edison experimented in the USA with thousands of different filaments. He wanted to find the materials that glowed best and that lasted a long time before they burned up.

In 1879, Edison produced an oxygen-free light bulb with a carbon filament that glowed but didn't burn up for 40 hours. He later made a bulb that could glow for over 1500 hours.



<i>scientist</i>	Wissenschaftler
<i>carbon</i>	Kohlenstoff, der brennt
<i>physicist</i>	Physiker
<i>filament</i>	Glühfaden

The inventors of the light bulb

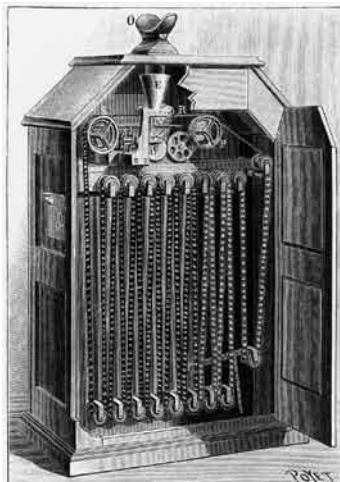
Thomas Alva Edison



Edison is one of the most creative inventors in history. He had 1097 *patents* in the U.S. and many patents in England, France and Germany as well.

He was born on February 11th, 1847 in Ohio, USA. He was the youngest of seven children. Edison had difficulties following the lessons in his school because he couldn't hear very well. But he loved reading. At the age of 10, he built a laboratory in the basement of the house. When he was 12 years old, he already worked for the railroad selling sweets and newspapers on the train. One day he saved the life of the son of one of the station employees. The boy fell onto the railway tracks just before a train arrived. This

changed his career. The boy's father taught Edison how to use the *telegraph*. From then on, Edison worked as a telegrapher. During this time he began developing a telegraphic repeating instrument. This instrument made it possible to send messages automatically. His inventions were so successful that he began a career of full-time inventing and became a businessman. In 1877, Edison invented the *tin foil phonograph*. This was the first machine that could record and reproduce sound. This was a real sensation and Edison became famous all over the world. Edison was also a pioneer in the film business.



He produced the *kinetoscope*, which was an early version of the film projector.

He was also the inventor of the *storage battery*. This was a battery that saved electricity to use later.



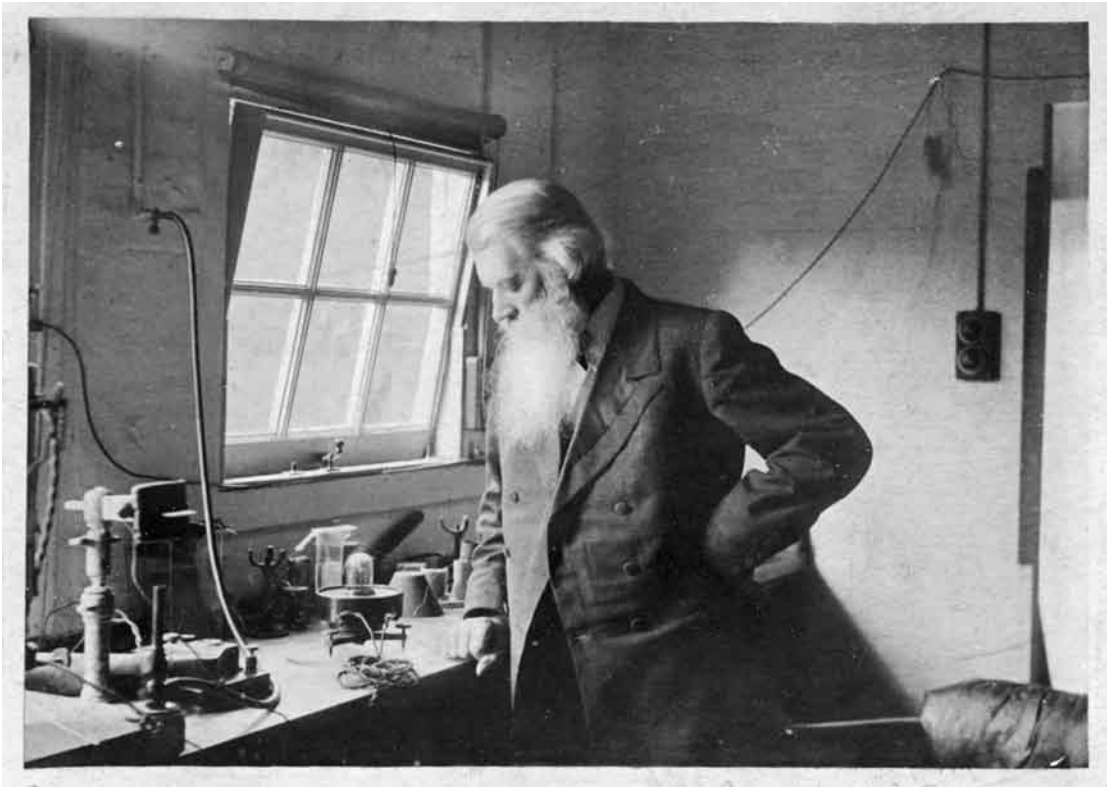
He invented the *electric pen* and the *mimeograph*, which were the first copying machines.



Thomas Alva Edison died in New Jersey on October 18th, 1931.

<i>patent</i>	Patent, ein Recht zur alleinigen Nutzung einer Erfindung.
<i>telegraph</i>	Telegraf, eine Maschine, die Texte übermittelt.
<i>tin foil phonograph</i>	Phonograph, ein Gerät, das Töne aufnehmen und wiedergeben konnte.
<i>kinetoscope</i>	Kinetoskop, ein Vorläufer der heutigen Filmprojektoren.
<i>storage battery</i>	Akku, eine Batterie, die elektrische Energie speichern kann.
<i>electric pen</i>	eine Art erste Kopiermaschine: Eine spitze Feder stach wie die Nadel einer Nähmaschine Buchstaben in ein Papier. Das Papier wurde in eine Presse gelegt und von einer Seite her mit Tinte besprüht. Die Tinte floss durch die Löcher und die Schrift erschien auf einem neuen Papier.
<i>mimeograph</i>	Mimeograph, die erste Vervielfältigungsmaschine, welche identische Kopien zustande brachte.

Joseph Wilson Swan



Sir Joseph Wilson Swan was an English *physicist* and *chemist*. He's most famous for the development of the light bulb. He was born on October 31, 1828 in Sunderland.

He worked as a *pharmacist* and in 1850, he began working on a light bulb. He used *carbonised paper* in an *evacuated* glass bulb. Because he couldn't create a proper *vacuum* and a good electric source, the bulbs didn't give enough light and they only had a short lifetime.

In 1875, Swan started working on the light bulb again and he received a British *patent* for it in 1878. This was about one year before Thomas Edison. He first demonstrated his working lamp in a lecture in Newcastle. After that, he installed light bulbs in homes in England.

In 1881, he started his own company, The Swan Electric Company. Later, Edison and Swan became a team and used the trademark Edi-Swan for their products.

Swan died on May 27th, 1914.

<i>physicist</i>	Physiker
<i>chemist</i>	Chemiker
<i>pharmacist</i>	Apotheker
<i>carbonised paper</i>	Kohlepapier
<i>evacuated</i>	luftleer
<i>vacuum</i>	luftleerer Raum
<i>patent</i>	Patent, ein Recht zur alleinigen Nutzung einer Erfindung.

Further development

Lewis Howard Latimer, a member of Edison's research team, improved the light bulb by inventing a *carbon filament*. He *patented* his method of making the carbon filaments.

In 1903, Willis Witney invented a way to treat the filament so that it wouldn't darken the inside of the bulb when it glowed.

In 1910, William David Coolidge invented the *tungsten* filament which lasted even longer than the carbon filament. Tungsten is a kind of metal.

In February 2007, Australia announced plans to ban traditional light bulbs. They should be replaced by compact *fluorescent bulbs*. This would cut Australia's greenhouse gas emissions by four million tons a year by 2015.

Question:

What kind of light bulbs do you use at home or in your school? Are they similar to the ones that Edison and Swan invented?



<i>carbon</i>	Kohlenstoff, der brennt.
<i>filament</i>	Glühfaden
<i>patent</i>	Patent, ein Recht zur alleinigen Nutzung einer Erfindung.
<i>tungsten</i>	Wolfram, ein chemisch sehr widerstandsfähiges Metall.
<i>fluorescent bulb</i>	Leuchtstofflampe