

Name _____ Date _____

Thomas Edison & Grit

"A Great Innovator"

Learn more about this topic! Each section gives more detail on one of the lyrics from the song. Read each section, and then respond by answering the question or taking notes on key ideas.

1. Thomas Alva Edison was born on February 11, 1847, in Milan, Ohio. Early in his life, Edison suffered ear infections and a fever that damaged his hearing. In 1854, his family moved to Port Huron, Michigan. Because Edison had trouble concentrating in school, his mother decided to teach him at home. Edison loved to read, and he read books on all different topics. He became an independent learner, which helped him succeed as an inventor. When he was 12, Edison began selling newspapers to train passengers on a nearby railroad line. One day, Edison saved a child from being run over by a train. As a reward, the child's father taught Edison to use a new device: the telegraph.

Notes

2. The telegraph was developed in the 1800s. It is a device that can send and receive messages across long distances. Though it would later be replaced by the telephone, fax and internet, the telegraph revolutionized communication at the time. Messages were sent by telegraph with electrical signals in Morse code. In Morse code, a set of dots and dashes correspond to each letter of the English alphabet. At the age of 15, Thomas Edison began working as a telegraph operator. This sparked his lifelong interest in communication and technology. (In fact, Edison's oldest children were nicknamed "Dot" and "Dash"!)

Notes

3. Today, Thomas Edison is well known for his inventions. But he was also a businessman. He envisioned not only new products, but also the markets where those products would sell. He was a hard worker, too, and always strived to improve things. Many of his most important contributions were not new inventions at all. Instead, they were modifications to existing technologies. Edison believed if there was a better way to do something, it was his job to find it. In his lab, a sign stated this motto for his employees to remember: "There's a better way; find it."

Notes

4. Edison traveled around the United States as a telegrapher for many years. During this time, improvements were made to the telegraph so that messages came in as sounds. Edison was partially deaf, and the work became harder for him. He started to focus more on inventing. In 1869, he left his job as a telegrapher to pursue inventing full-time. In 1877, Edison invented a device that improved the sound of the telephone. He also invented the phonograph, a device that recorded sounds and could play them back. People loved the phonograph, and it made a great deal of money. Edison's lab during these years was in Menlo Park, New Jersey. He became known in the newspapers as "The Wizard of Menlo Park."

Notes

5. One of Edison's patents was for the quadruplex telegraph system. This improvement to the telegraph let it transmit four messages at once. Previously, it could only send two. Edison held 1,093 patents in his life. A patent gives a person or team the rights to what they invent. It allows them to sell it. Patents often prevent other people, teams or companies from making money from someone else's idea. Edison's patented devices contributed to many different parts of life, including typewriting, storage batteries and motion pictures (also known as movies).

Notes

6. There are many famous sayings attributed to Thomas Edison. In one quote, he defines genius as 1% inspiration and 99% perspiration. Perspiration is sweating, so this means that being a "genius" means sometimes having a good idea and, more importantly, working very hard. Versions of this saying were around before Edison popularized it. But whether or not he "invented" the saying, he certainly lived by it. Edison worked incredibly hard and saw failures as opportunities to try something else. He didn't always succeed, but he never gave up. And, according to some sources, he only slept four hours a night!

Notes

7. Many people think that Thomas Edison discovered electricity or that he built the first light bulb. He did not, but his inventions did revolutionize the way electricity shaped people's lives. The light bulbs that existed before Edison's were not practical for most people to use inside their homes. His incandescent light bulb was affordable and reliable. It used less power than existing models and became a commercial success. There were other people working on light bulbs at the time, and this is where Edison's skills as a businessman came in. He made some of those inventors his partners or bought the rights to their designs. He also created a system to supply electrical power into people's homes: direct current. One of Edison's biggest rivals was working on a competing system: alternate current. That rival was also a famous inventor named Nikola Tesla.

Notes

8. In his lab, Edison did not work alone. Edison employed many assistants, and his inventions were often the work of teams. Admiring Edison's perseverance, his employees also worked long hours to achieve their goals. Edison wanted his inventions to solve problems people had. He once said, "I find out what the world needs. Then I go ahead and try to invent it." He believed that success meant being useful and that one sign of being useful was if a product sold. If people bought his products, he would know that they were a success.

Notes

9. Edison had a vision for what success would look like, but he did not always succeed. Failure did not make him give up. On the contrary, failure made him try harder. He believed he could not know what would work until he discovered what would not, and failure was part of the process of experimentation. It took thousands of tries, for example, before he found the right material to use in his light bulb, and Edison learned from each of them. When asked once about his light bulb experiments, Edison responded, "I have not failed. I've just found 10,000 ways that won't work."

Notes

10. By the time of Edison's death in 1931, his inventions had dramatically changed people's lives. Electricity became a staple in people's homes. In tribute to him, electric lights were dimmed for one minute a few days after his death. Edison contributed to a range of fields. Many of his inventions were aimed at improving communication. His phonograph was a huge development in recorded audio, and his kinetograph and kinetoscope were some of the earliest moving images. His ideas would go on to inspire inventors for years to come.

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