

## RESOURCES

### Activity 1

#### A Dull Boy's Story

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If Thomas Edison were a young man today, he would surely be carrying the label “computer geek” or “techie nerd.” As it was, he was born in 1847, when the Age of Telegraphy began to change the face of the world. Ten years earlier, Samuel Morse had invented the telegraph. The telegraph and Morse code revolutionized the world in the same way that the computer and the internet are changing the world today. As a very young man, Edison was on the cutting edge of this fundamental change in the way people lived and communicated with one another.

Tom was born in Milan, Ohio, the seventh and last child of Edward and Nancy Edison. When Tom was 7, his father, a carpenter, moved the family to Port Huron, Michigan. His parents put him in the local school, which quickly led to trouble. The school was a one-room school with 38 other students of various ages. Tom had so much energy, was so overactive, and asked so many questions that the teacher soon soured on him. He reported to the Edisons that Tom was a dull boy and ill-suited for school. After a month of school, his mother and the teacher decided enough was enough, and Tom was removed from school.

Tom's mother took over his education. In the home-school setting, Tom discovered reading and he took off. His father urged him to read the classics, promising him a dime for every book he read. Tom settled down and found whole new worlds by quietly reading books either at home or in the local library. But it was not until he was 11 that Tom found his life's passion: science. He read the World Dictionary of Science, and he was hooked.

Reading difficult scientific works, having to do particularly with chemistry and mathematics, Tom acquired the habit of stick-to-itiveness, or perseverance. He would stay with a scientific concept, trying to understand how it worked in the real world, until he mastered it. Then he would go on to the next problem. He developed a reputation for mental stamina.

About this time, Tom convinced his parents to let him start working. He got a job on the local railroad and traveled back and forth between Michigan towns. Tom sold newspapers, candy, sandwiches, and cold drinks to passengers and did quite well. He spent his money on chemicals and equipment and set up a small laboratory in the cellar of his home. This lasted until he created a particularly smelly concoction and his mother strongly urged him to move his lab someplace else.

Ever creative, Tom realized that he could set up his lab in his locker in the train's baggage car. This worked fine until one very bumpy train ride. A stick of phosphorous fell, landed on the floor, and ignited. Soon the entire baggage car was engulfed in smoke and flames. Tom and the conductor were able to put out the fire, but the conductor was furious with him. In his anger, he whacked Tom hard on the side of his head. This blow, coupled with a case of scarlet fever a few years after, was the cause of Tom's gradual hearing loss, a problem that greatly affected him. (In fact, by the end of his life he was almost completely deaf.) It was clear to the now 14-year-old Tom that any hope of formal classroom education

was gone. But with his characteristic grit and determination, Tom kept reading and learning.

Although he was fired from his train job, Tom created another job for himself by setting up a small newspaper, really more like a newsletter, and selling it to railroad passengers. The newspaper was a huge success, and Tom became widely known in the area as a bright and aggressive young man. But then something happened, a freak occurrence that altered not only his life but also the progress of science in the United States. Tom, now 15, was hanging around the railroad station, as he usually did, when the stationmaster's young son toddled onto the tracks and into the direct path of an oncoming boxcar. Without hesitating at all, Tom leaped into the path of the boxcar, snatching up the child and rolling with him to safety. While they were both scuffed up, neither had serious injuries.

The stationmaster, who handled the telegraph machine, was so thankful that he agreed to teach young Tom how to operate the machine as well as the language of telegraphy, Morse code. Almost immediately, Tom became consumed by this still-young invention. He mastered the code and the machine and soon started working as a telegrapher. He worked long hours sending and transcribing messages and spent hours and hours tinkering with his new toy. Very soon he was developing improvements that became widely accepted in the new industry.

During those years, Tom traveled around in a rather carefree manner as one of the leaders of a new band of telegraphers. He was young and single and had a very marketable skill. However, he gave away most of his improvements and telegraphic inventions. Everything was going fine until 1868, when he received word that his mother was suffering from mental illness and that his father was out of work. With the realities of life confronting him, Tom decided to seriously pursue a career as a profitable inventor. When his mother died, he and his father moved to the East, which at that time was the center of scientific discovery and invention.

While Tom made several important improvements in telegraphy, he became more and more interested in the then largely untapped possibilities of electricity. During this time, he married, became the father of three children, and eventually settled down in Menlo Park, New Jersey. There, he built a laboratory and machine shop, staffed with about 60 workers. From these facilities poured one invention and new application of electricity after another. By the turn of the century, Thomas Edison was famous throughout the world as "The Wizard of Menlo Park." He had over 1,000 patents on his discoveries.

Before he died in 1931 at age 84, this man with one month of schooling had changed the world. Until the very end, Thomas Edison kept working and inventing useful things. Among his inventions are the automatic telegraph; carbon-button transmitters, which are still used in telephone speakers and microphones; the phonograph; the storage battery; mimeograph machines; and the first talking motion pictures. Of course, his most revolutionary invention—and one that brought him great wealth—is the electric light bulb.

Not a bad record for someone his teacher said was too dull for the classroom!