

## IMPACT OF TECHNOLOGY

### Performance Standards (18B/18C).J

Show how advancements in technology have both hurt and helped individuals accordingly:

- *Knowledge*: describe the key ideas and concepts that are associated with the positive and negative affects of technology;
- *Reasoning*: analyze the impact of the technology in a logical and reasoned manner; and
- *Communication*: write an essay that is well-organized, well-focused and well-detailed; express all ideas in a way that provides evidence of knowledge and reasoning processes.

### Procedures

1. ***In order to understand the roles and interactions of individuals and groups in society (18B), and understand how social systems form and develop over time (18C)***, students should experience sufficient learning opportunities to develop the following:
  - Assess the effect of technology on the status and role of individuals, and
  - Analyze the positive and negative impact of modernization on cultural and physical environments.
2. Have students review and discuss the following assessment task and how the rubric will be used to evaluate their work.
3. Facilitated by the teacher, students should brainstorm a few examples of positive and negative technological influences. For example, Eli Whitney's cotton gin resulted in increased cotton production for planters. However, the cotton gin also created a need for more slaves to work the fields, thus perpetuating and even strengthening the institution of slavery and widening the division between the North and the South:
4. After selecting a teacher-approved topic, students should individually conduct research on the impacts of their topic.
5. Write a summary that includes the following:
  - Background information showing the development of the teacher approved topic.
  - Demonstrate how the technology both positively and negatively impacted society and the environment by using relevant examples.
6. Evaluate each student's work using the Social Science Rubric as follows and add the scores to determine the performance level:
  - *Knowledge*: the description a definition of key concepts and facts associated with positive and negative impacts of technology are complete and accurate.
  - *Reasoning*: the analysis of the impact of the technology was logical and well-reasoned.
  - *Communication*: the writing was well-focused, well-organized and well-detailed; the knowledge and reasoning were completely and effectively communicated.

### Examples of Student Work follow

#### Time Requirements

- Two 45-minute periods
- One period for brainstorming and starting research, the other to complete the research
- The summary should be composed outside of class time

### Resources

- Primary and secondary resources that define and give examples of a particular technology and its influence on individuals.
- Notebook paper
- Pen or pencil
- Social Science Rubric

# The Miracle Machine

It's 1896, and though the rest of the country is pursuing imperialism, inventor Henry Ford is creating a miracle machine; the combustion engine powered automobile. He may have had some idea, but never could he have fathomed the whole of what would come of this new, historic invention. After years of horse and train transportation, the first true piece of modern machinery would make everything easier and open endless doors leading into anything imaginable. The possibilities of what could unfold from this technological feat were immeasurable.

The Ford Motor Company laid the foundation of the automobile industry, in 1903. The first operating car was called the Quadricycle. It was a buggy that moved on its own with a combustion engine. The next attempt was the Model K, which was an utter failure, but was quickly followed by the Model T, which changed the history of transportation. After its production was jolted by the perfection of the assembly line, millions of cars began to pour out of the factory. By 1927, 15 million Model T's had been sold, and at the close of the decade, almost every family in the United States owned at least one car.

With the introduction of the car in to typical family life, everything ran smoother. The working family no longer needed to live so close to their work place because they could arrive in even less time living further away. Moms and homemakers could run errands with greater ease, and in turn had more time for personal pleasure. In fact everyone had extra time for more recreation and entertainment because of the simple efficiency of the automobile. Extended family could much easier be reached, courtesy, of the car, pleasantly improving home and family life in the 20's and for all of time to come. Possibly the most positive consequence of the automobile was the economic response. Because of the increased productivity of the Model T, a ripple effect of economic boom in the U.S. was instigated by the need for components, and roads to drive on. Every business began to produce to provide for the new craze. Profits went up, and life improved.

In those times, there were few effects generated by the automobile that weren't positive. Possibly the most negative effect was the sheer amount of cars on the road.

Because so many people had a car, and it was so new and wonderful, everyone drove, all the time. In the big cities, it created the world's first traffic jams. The positive efficiency of the automobile that created the extra time for recreation, such as shopping, inversely created the traffic problems in the cities; not to mention the new noises to disrupt peace and quiet of times before. Maybe not noticed too much except by those who committed them, but a new way for crimes to be committed was also introduced with the automobile.

Who knows what would have resulted, if not for Henry Ford and his Model T. It seems this invention must have been bound to happen. There really isn't another way to accomplish the things the automobile has, paving the way for every conceivable modern form of transportation. Some say that its effects are the greatest of any machine in history, yet greatest or not, the automobile has inevitably changed the world, and the way people will live in it through the end of time.

It was the "Roaring Twenties", and America was growing in prosperity. People were being freed of daily burdens, due to the numerous inventions that were introduced at the time. For the first time, Americans were experiencing the financial freedom that could buy them these revolutionary products. One product in particular was becoming the hottest trend in America, the automobile. This invention, that had been slowly introduced to the average American, would shake the foundation of life in the United States.

It all started in 1885 when the first automobiles were made in Germany by Karl Benz and Gottlieb Daimler. However, they were undependable and unperfected. The first models were high in price, and only practical for the rich. As the years passed, the automobile became advanced. Then came a revolutionary man named Henry Ford who made the automobile available to the average American in the 1920's. His Model-T was the most affordable vehicle, at times selling for \$500. Even lower class workers could afford to buy Ford's vehicles. The economy was booming, and people had more money to buy luxuries as such. The demand for the automobile was enormous, and spurred a revolutionary idea from Henry Ford: the assembly line. The theory behind it was that every worker

would have a specific job, to make productivity more efficient. Ford took this idea, perfected it, and reaped the rewards. His plants were suddenly able to produce a car every ten seconds, versus the hours it took before. The automobile industry soon followed, and America was never the same. Through the decades, cars have become an even greater dependence in our every day lives. Now in America, almost every family owns one or more vehicles.

Due to the invention of the automobile, American lives were made easier. People were more free to travel as they pleased, making the quality of life much better. The modern conveniences of being able to travel into town within minutes, or going to see family in another state were made possible. The invention also allowed citizens to move across long distances, expanding the United States. The new industry, was called a key industry, meaning it not only profited in itself, but helped other industries to thrive as well. The assembly of an automobile requires numerous parts, such as rubber for tires, oil, steel, glass, you name it. The demand for cars, meant a demand for the ingredients of a car, making all other industries prosper. The oil industry was in trouble until the automobile saved it. This new demand, gave people jobs, and gave the American economy what it needed to be prosperous. It was an amazing advancement in our industry.

Although the automobile did allow for an easier way of life, it has brought some negative consequences. At the time of their invention, paved roadways were scarce. A completely new traffic system had to be created. New laws and regulations had to be passed in order to keep traffic under control, creating a huge project for the American government. As more cars entered American homes, noise and pollution became a problem. Emissions of nitrogen oxides, a very toxic pollutant, increased 690 percent between 1900 and 1970 due to the fuel-burning in automobiles. Car accidents have also been ranked among the leading causes of death throughout the world. The demand for oil that cars require are decreasing our natural resources as well. Oil will not last forever, so cars will eventually have to find a new source of fuel. The consequences of the automobile can be seen as easily as its benefits.

Industry was changed forever with the invention of the automobile. Throughout history, it has brought the world positive and negative consequences alike. However, it is certain that the automobile industry will continue to affect our daily lives, for better or worse.