

TECHNOLOGY AND CHANGE

Performance Standard (16EW/17C).F

Write a paragraph explaining how a technological innovation in a region of the world has affected the region accordingly:

- *Knowledge:* identify the approximate time period when the technological innovation emerged;
- *Reasoning:* evaluate the overall worth of the technological innovation and explain how it has affected the people and the environment in their region
- *Communication:* write a paragraph 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 Illinois, United States and world environmental history (16E), and understand relationships between geographic factors and society (17C)***, students should experience sufficient learning opportunities to develop the following:
 - Analyze the effects of a significant invention or technological innovation on the physical and cultural environment of one of the world's regions (e.g., invention of the wheel, canals, and railroads).
 - Evaluate effects of technological change on transportation, communications, and resource use in Illinois, the United States, and the world.
2. Have the students choose a technological innovation and a region of the world from the list provided with this assessment.
3. Students should be familiar with different major technological innovations that have emerged throughout history and know different regions of the world where the innovation was used. They should understand both the positive and negative aspects of different technological innovations. For example, the automobile has increased our mobility, but has added to air pollution, especially in large cities.
4. Have the students write a paragraph explaining how this innovation has affected the people and the environment of the region. Be sure to have students identify the approximate time period when the innovation emerged and cite two ways it has helped and two ways that it has harmed people and the environment.
5. In the closing sentence of the paragraph, have students take a position on whether the people and the environment in the region are better off or worse off as a result of the technological innovation.
6. Use the Social Science Scoring Rubric.
7. Evaluate each student's work using the Social Science Rubric as follows and add the scores to determine the performance level:
 - *Knowledge:* the identification of the emergence of a technological innovation is accurate.
 - *Reasoning:* the analysis shows the two effects of the innovation on the region and if the people of the region are better or worse off as a result is logical, well-reasoned and accurate.
 - *Communication:* the writing is well-organized, well-focused and well-detailed; the knowledge and reasoning were completely and effectively communicated.

Examples of Student Work follow

Time Requirements

- One class period

Resources

- A list of technological innovations and regions of the world
- Pen or pencil
- Writing pad
- Social Science Rubric

List of Technological Innovations and Regions of the World

- | | |
|-----------------------|--------------------------|
| 1. Canals | Europe |
| 2. Railroads | United States |
| 3. Transistor Radio | Asia |
| 4. Computer | United States |
| 5. Automobile | United States |
| 6. Irrigation Systems | Middle East/North Africa |

In today's world you can't say you haven't rode in a car before. Cars are good and bad and heres reason why.

One reason cars are good for people is it helps to transport goods from place to place when planes nor trains can transport the good. The other good reason cars have for people is it gives a quick way to travel.

There is bad reasons against the automobile. Automobiles cause deaths because of many reasons such as a brake doesn't work. Automobiles also assist criminals in escaping. Criminals know how easy it is to escape in a car compared to on foot.

Cars are also good for the environment. Cars help move goods from place to place like cars move animals to a better environment. Cars also help to transport trees to replant a rainforest.

Dad parts about cars and the

environment is that for one thing cars pollute the air that is around.

By pollution cars make the air worse to breathe. Automobiles also are using up the oil supply. Oil is precious so when it runs out a major source of energy and heat will be gone.

My opinion is life is better off now because automobiles have many advantages compared to the disadvantages.

The first automobile was actually put together and running in 1896. The car was later introduced to the public in 1903. All cars at that time they were hand constructed. Untill in 1908 when cars were made with machines. Cars then were produced by thousands and sold.

I think the automobile has affected the environment and people in good ways and bad ways. A few good ways that it has helped people would be one that it makes transportation quicker and eaiser. Before cars people had to hitch up a horse, climb into their buggy and drive. This could be very complicated if you have a horse or mule that would act up. Another reason the car has helped people was by providing jobs for American's. The car goes through many steps in being manufactured and after it is manufactured. For example there are people who engineer the car, build the car, and sell the car. After the car is sold it's owner will need to provide gas for the car. This provides more American's with jobs at a gas station. Another job is that it would need an oil change, a tire change, and occasional check-ups. There for an Auto service would be needed. That would also provide more jobs for Americans. A bad point for a car to people would be the care for it. A horse and carrige wouldn't cost as much as a car. A car has to have gas, oil, and tires. This can cost thousands of dollars.

Another way it hurts people is that people have to give their car gas. When they do that then they are inhaling the toxic fumes of gas. This is bad for people because toxic fumes can kill brain cells.

An automobile has also affected the environment. It has helped it in positive ways and negative ways. It helps the environment by letting people locate their homes. If a town got over crowded and too many animals, and trees were being used up the automobile would allow a family to move out to where there was more room. Another positive point would be the help of transportation. If a heavy object needed to be carried somewhere you could put it in the automobile to carry. There are also negative points to the environment. One would be pollution to the air. This is caused by the car releasing harmful substances and breaks down the environment. A second negative point to the environment is the fact that it takes up many resources. For example a car needs oil. So it is pumped and pumped from the ground. It also needs tires. And the tires have to be made with trees. Those are negative points to the environment.

I think the United States is better with the car. I think this because it has helped people move, and provide jobs for other citizens. If we didn't have an automobile

then it would take a long time to get where you need to go and it would leave many American's jobless.

So the car is great for the U.S.A!