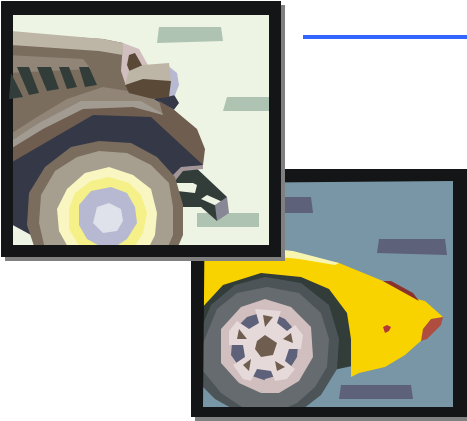


#3566



AUTOMOBILES

Grade Levels: 4-8
24 minutes
OAKLEAF PRODUCTIONS

DESCRIPTION

Ms. Jennings and her students begin a study of automobiles in a car museum, using the vintage vehicles as a backdrop for a history lesson. A visit to a manufacturing plant shows how the step-by-step process uses robots, people, and conveyors. After following a car through the plant to its final inspection, students learn other historical facts about today's most common form of transportation.

ACADEMIC STANDARDS

Subject Area: Science

- ◆ Standard: Understands motion and the principles that explain it
 - Benchmark: Knows the relationship between the strength of a force and its effect on an object (e.g., the greater the force, the greater the change in motion; the more massive the object, the smaller the effect of a given force)
 - Benchmark: Knows that when a force is applied to an object, the object either speeds up, slows down, or goes in a different direction

Subject Area: Historical Understanding

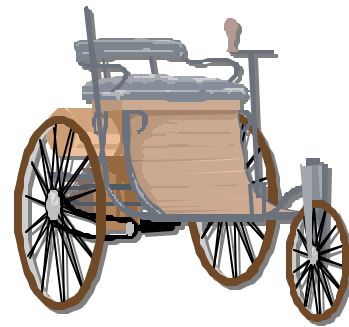
- ◆ Standard: Understands and knows how to analyze chronological relationships and patterns
 - Benchmark: Knows how to construct time lines in significant historical developments that mark at evenly spaced intervals the years, decades, and centuries
 - Benchmark: Knows how to identify patterns of change and continuity in the history of the community, state, and nation, and in the lives of people of various cultures from times long ago until today

AFTER SHOWING

1. How long did it take to build the first cars? Mass production made it possible to produce a car in _____ hours?
2. How do they get the parts of the car to stick together?
3. How many robots does it take to make a car?
4. Before windshield wipers, how did they clean the windows on a car?
5. How many cars are on the world's highways?
6. How many computers does it take to make a car?
7. What are some of the problems Mrs. Benz had on her trip to her hometown?

SUMMARY

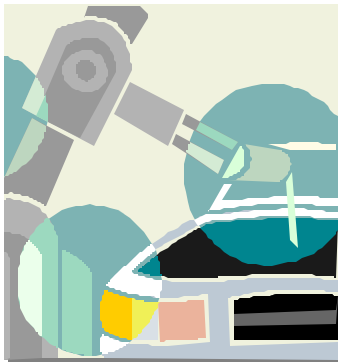
In 1885, Karl Benz invented what people called the first "motorcar." The motorcar looked like a giant tricycle. It was powered by an internal combustion engine and it went 9 miles per hour. Mr. Benz felt his invention would end the horse and buggy on the highway. The auto was the beginning of the end for the horse and buggy. However, it took until 1915 before the horse really began to be replaced. No one really believed this peculiar-looking machine was here to stay. After all, everyone already had a horse and buggy and for long trips they could take the train.



The first cars weren't anything like riding in a modern car. The early cars had no tops or windshields. Since most of the roads were dirt, it was very dusty, or if it rained, muddy. It was very cold, too, because early cars had no heaters. You couldn't just drive away in your car either, because you had to crank the engine to get it started. The first cars had brakes that were only connected to the rear wheels and they had to be operated by hand. The cars were expensive, because they were made one at a time, by hand. In 1908, the first Model T cost \$850.00.

Eventually, cars began to be mass-produced. Mass production made it possible for more people to own cars. Instead of one or two people making one car at a time, workers on the assembly line would add just one part. The next person in the line added another part. Many cars could be produced this way. More cars were being made in a shorter time and for less money; by 1920 a car cost only \$250.00.





Ninety years ago the automobile was a very rare sight. Today, millions of cars are manufactured every year. Cars take us where we want to go, when we want to go. There are many different kinds of cars to choose from. Today's car factories are highly mechanized and they can build as many as 2,700 cars a day. Robots and computers do a great deal of work.

RELATED RESOURCES



Captioned Media Program

- The Development of Transportation (Third Edition) #2373
- Otto the Auto on Being Seen in Traffic #3386
- Otto the Auto on Wearing Safety Belts #3388
- Trucks #3673
- Vehicles #7872

World Wide Web



The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid-safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

• CARS AND HISTORY AT THE SLOAN MUSEUM

<http://www.ipl.org/exhibit/sloan/>

Two tours available: Cars from 1902-1983, and Historic Car-Making. Great pictures. Easy-to-skim text for each. Friendly navigation.

• RICHARD PETTY



<http://www.pettyracing.com/richard/>

The official Richard Petty site includes his biography, his career highlights, and lots of photographs of cars.

- **HENRY FORD MUSEUM & GREENFIELD VILLAGE**

<http://www.hfmgv.org/index2.html>



"An astounding collection of Americana that depicts the ever-changing worlds of transportation, manufacturing, home life, entertainment and technology." Tour the museum and the surrounding Greenfield Village.

- **SO YOU WANT TO MAKE A CAR?**

<http://www.ipl.org/autou/>



Clickable photographic tour of an automobile factory.

- **INNER AUTO**

<http://www.innerauto.com/innerauto/htm/auto.html>

Automotive systems, individual parts, and a comprehensive search engine to locate anything and everything inside the car. Pop the hood, and click away! Loads of closeup hand-drawn graphics, videos, and animations.