SYNOPSIS:

Advances in science, technology and engineering will make cars and roads safer to drive in the new millennium. The size and shape of cars are all likely to change. Likewise how cars are designed and built in the future will also change. Much of the new technology in future cars will come from the aerospace industry. This program examines the kinds of cars that drivers in the next century might be parking in their driveways.

CURRICULUM UNITS:

Aeronautics
Computer Science
Electronics
Engineering

CAREER OPPORTUNITIES:

Car Design
City Planner
Human Factors Engineer
Mechanic
Mechanical Engineer
Safety Tester

PROGRAM OVERVIEW:

This program explores how computers are likely to be used more and more for designing, building and testing new cars. Students see how computer software helps engineers by showing them what will happen if they change the design and learn how technology will change what cars look like.

ISSUES AND CRITICAL THINKING:

1) After showing the program, ask your students the following questions:
   a) What are some possible design features and technologies that may allow drivers to drive cars without using their hands?
   b) What is likely to be the main tool for designing and building cars in the 21st century?
   c) What industry is likely to influence car design more than any other?
   d) What type of power source is likely to provide an alternative to the gasoline-powered engine?

2) Ask students to list ideas for a public transportation system in a nearby major U.S. city. The system has to be efficient, affordable and environmentally sound.

ALLOYS- Substances composed of two or more metals, or of a metal and a non-metal united, usually by being fused together and dissolving in each other when molten.

CARBON FIBRE- An extremely strong, thin fiber made by heating synthetic fibers. It is used to make high-strength composites.

HUB- the center part of a wheel.

SOLAR CELL- A unit in a device that converts light into electrical energy and which is used as a power source.

ULTRASONIC SENSORS- Devices that receive and respond to acoustic frequencies above the range audible to the human ear.

WIND TUNNEL- A chamber through which air is forced at controlled speeds in order to study the effects of aerodynamic flow around objects.

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