



San Diego Museum of Man

YOU CAN'T STOP PROGRESS
Exploring Technology Through the Ages
A Study Guide for the Time Tunnel

OBJECTIVE: Completion of any or all of the following exercises will allow students to better understand the evolution of technology and the contributions of the fields of engineering to human life.

EXERCISES:

-Choose 3 - 5 related inventions from different years and explain how the earlier one(s) led to the invention of the later one(s). For example: Radios and Television

-Most inventions have some effect on the environment. Choose two inventions and explain their effect on the environment. Consider picking one invention that you think had a minor environmental effect and another that seems to have had a major environmental effect.

-Look around your home, school, or community and make a list of 10 inventions that make your life easier or more enjoyable. What type(s) of engineering do you think these inventions were a result of.

-Civil engineering projects (for example: bridges, tunnels, and highways) usually take several years to complete. Research one of the civil engineering projects listed in the time tunnel and find out *how long it took, *how many workers were needed, *what tools or machines were used, and *if the workers suffered any injuries or deaths. Then look around your community and select a recently completed civil engineering project and do the same.

-Choose an invention that is more than 100 years old. How has this invention made your life easier or more enjoyable?

-Choose an invention from the year 1000 or later. Do research to learn who the inventor(s) was (were) and what series of events or steps led to the invention.

-Choose an invention from the year 999 or earlier and make up a story about who the inventor(s) may have been and what series of events or steps could have led to the invention.

SO WHAT: Everyone knows that engineering exists as a viable career but many have difficulty understanding or describing what engineers actually do and their importance to human life. Completion of these exercises should increase the student's understanding of engineering and then possibly consider engineering as a career path for them themselves.

From an Engineer's Perspective

Engineering is applying math and science to find solutions to real problems.

Engineers are innovators and inventors striving to improve life.

1,300,000 B.C.E. Hand Axes	1926 Liquid Fuel Rocket
380,000 B.C.E. Brushwood Shelters	1937 Golden Gate Bridge Opens
250,000 B.C.E. Red Ochre Paint	1937 Jet Engine
12,000 B.C.E. First Pottery	1938 Teflon
6-5,000 B.C.E. Fishing with Harpoons	1939 Helicopter
4,000 B.C.E. Glass	1942 Computer (UNIX)
4,000 B.C.E. Simple Plow	1943 Aqualung
3,500-3,001 B.C.E. Potter's Wheel	1945 Microwave Oven
3,000-2,501 B.C.E. Cheops Pyramid	1947 Cell Phone
1,700 B.C.E. Horse-drawn Chariot	1947 Transistor
1,400-1,200 B.C.E. Woven Wool	1955 Atomic Power
1,000-800 B.C.E. Papyrus Manufacture	1955 Fiber Optics
221-210 B.C.E. Great Wall of China	1955 Video Tape Recording
200 B.C.E. Use of Gears	1956 Artificial Intelligence
193 B.C.E. Invention of Concrete	1957 Sputnik I & II
200 - 300 Wheel Barrows	1959 Office Copier
200 - 300 Armored Cavalry	1960 Aluminum Cans
400 - 500 Iron Nails	1961 Electric Typewriters
800 - 850 Gunpowder	1961 Communications Satellite
1290 Eye Glasses	1966 FAX Machine
1326 Cannons	1967 Hand Held Calculator
1370 Steel Crossbow	1968 Virtual Reality
1521 Manufacture of Silk	1969 Video Recorder
1530 Spinning Wheel	1969 Internet
1592 Windmills	1970 Floppy Disk
1608 Telescope	1971 Computer Microchip
1775 Steam Engine	1972 Compact Disc
1793 Cotton Gin	1973 Mountain Bikes
1807 Paddle Steamer	1974 MRI (patented)
1816 Stethoscope	1976 Personal Computer
1832 Friction Matches	1978 GPS
1834 McCormick Reaper	1981 MS-DOS
1839 Camera	1981 Columbia, the First Space Shuttle
1851 Sewing Machine	1985 CD-ROM
1857 Elevator	1986 MIR Space Station
1859 Steamroller	1992 World Wide Web
1862 Solar Energy	1993 Pentium Chip
1875 Submarine	1994 Channel Tunnel
1876 Telephone	2001 Battery Powered Mechanical Heart
1877 Phonograph	
1880 Electric Lights	
1893 Automobile	
1893 Zipper	
1895 Radio Telegraph	
1903 Powered Plane	
1907 Radio	
1914 Panama Canal Opens	
1923 Television	

This guide was developed by Laura Meldrum as an educational project of the Society of Women Engineers - San Diego County Section