

The wheel is arguably the most important invention of all time. The solid wooden disk wheel is thought to have been invented about 6,500 years ago, in the late Neolithic Period.

WORLD OF WONDER Exploring the realms of history, science, nature and technology

A timeline of VENTIONS 1

People have been inventing things since prehistoric times. But the last 600 years have been remarkable in the impact inventions have had on civilization. This page is too small

to show all the major inventions. Maybe you can think of some we missed. Flint tools Magnetic compass Stone Age **Plow** c. 300 B.C. if you can read this you can do anything 5000-3000 B.C. **Paper** Movable c. 100 B.C. type printing Bi Sheng, A.D. 1010 Compound microscope Steam pump Hans and Zacharias Thomas Savery, 1698 Jansen, c. 1590 Telescope Food canning Hans Hot-air balloon Steamboat Nicolas Appert, Lippershey, Joseph and Étienne Robert Fulton, Peter Durand, 1608 Montgolfier, 1783 1787-1807 1795-1809 **Friction match** Modern sewing John Walker, machine 1826 John Fisher, 1844 **Pencil** Nicolas-Jacques Conté, Hypodermic syringe c. 1795 Telegraph Alexander Wood, 1853 **Photography** Samuel Steam locomotive Joseph Nicéphore Richard Trevithick, 1802 Morse, 1837 Niépce, 1826 First practical lightbulb **Barbed wire** Joseph Swan, **Telephone** Lucien B. Smith, Alexander 1878 Commercial 1867 Graham Bell, Phonograph NOTE: Edison perfected **Typewriter** electric motor 1876 Christoper Shole, Thomas A. Edison, and marketed the practical Michael Faraday, 1873 lightbulb a year later. 1873 1877 **Motion pictures** Liquid rocket fuel Safety **Zipper** Thomas Edison, Robert Goddard, bicycle Whitcomb 1890s James 1926 Judson, Starley, 1893 1885 Radar Airplane Robert Orville and Gasoline Watson-**Television** Wilbur Wright, automobile Watt and Radio Philo 1903 Carl Benz, Guglielmo Arnold Farnsworth, 1885-1886 Wilkins, Marconi, 1927 1935 Polio vaccine

By Definition

Invention is the creation of a new device, process or product. Invention is different from discovery in that an invention is the making of something new that never existed before, while discovery is when something that exists in nature is observed or recognized for the first time. Humans discovered fire, but they invented the match to light a fire.

An innovation is not an invention, but a new way of doing something that had traditionally been done another way. Henry Ford did not invent the automobile, but he used innovations like the assembly line to make more cars at affordable prices.

Motivations

There are many motivations to invent. Some people hope to make money; others invent because of the creative urge or curiosity. There is an old saying: "Necessity is the mother of invention." In many ways, this is true. If an invention does not satisfy a need, it won't be successful. But just because we want or need something doesn't mean it will automatically be invented. Invention takes knowledge, technical ability and creativity.

Inspiration

A surprising number of inventions seem to have been inspired by science fiction. American inventor Simon Lake was inspired by Jules Verne's idea of a submarine.

The "Star Trek" science fiction crew used a "communicator" that bears a striking resemblance to modern cellphones. Sadly, we are still waiting for a matter transport system similar to the one on that show.

In 1964, the science fiction writer Isaac Asimov predicted self-driving "robot-brain" cars would be a reality in 50 years — and today we have self-driving cars.

You can probably make a long list of other science-fictioninspired inventions.

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Newspapers

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Artificial

satellite

Jonas Salk,

1952-1955

Nuclear

reactor

1950s

Leo Szilard and

SOURCES: World Book Encyclopedia, World Book Inc.; The World Almanac for Kids; Invention, Eyewitness Books

Enrico Fermi,

Dispatch

Jet engine aircraft

Hans von Ohain,

1939

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Compact disc

Theodore

H. Maiman,

Laser

1960

James Russell, 1965

Genetic engineering

Laptop

computer

Sir Clive

Sinclair,

1987

Stan Cohen and

Herb Boye, 1970s



Smartphone

IBM, 1992

Robot vacuum cleaner

James Dyson, 1996

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Pinal County's Daily Newspaper