

Science and technology

[Science](#)



Science and technology We live in the fascinating and challenging world of science. It is a world that more and more over the ages, and especially in the 20th century has come to affect so much of our lives. It is involved with the way we travel, the homes we live in and the clothes we wear, how we become ill and how medicine can make us better, and has given us fantastic means of communicating and exploring. The word science comes from the Latin "scientia," meaning knowledge. How do we define science? According to Webster's New Collegiate Dictionary, the definition of science is "knowledge attained through study or practice," or "knowledge covering general truths of the operation of general laws, esp. as obtained and tested through scientific method [and] concerned with the physical world." What does that really mean? Science refers to a system of acquiring knowledge. This system uses observation and experimentation to describe and explain natural phenomena. The term science also refers to the organized body of knowledge people have gained using that system. Less formally, the word science often describes any systematic field of study or the knowledge gained from it. What is the purpose of science? Perhaps the most general description is that the purpose of science is to produce useful models of reality. Most scientific investigations use some form of the scientific method. You can find out more about the scientific method here. Science as defined above is sometimes called pure science to differentiate it from applied science, which is the application of research to human needs. Fields of science are commonly classified along two major lines: - Natural sciences, the study of the natural world, and - Social sciences, the systematic study of human behavior and society. 2. The present age is the age of science. Science has influenced every walk of life. Today man cannot live even for a <https://assignbuster.com/science-and-technology-2/>

while without the use of one or the other of its inventions. Science has provided us with all possible comforts and has increased our happiness. Let us here discuss some of the most important of its wonders. Science has provided us with swift means of communication. The simple villagers still consider the railways as the work of gods. The railways have removed all those dangers and difficulties that man had to face during a journey in the past. By the steamship man has acquired complete mastery over the wild oceans. In the aeroplane, he can fly like birds. Science has conquered time and space. Still more wonderful is the invention of the wireless. It is now possible to talk to a person at a distance of thousands of kilometers. Through the Radio we can enjoy songs, dialogues, stories, etc. We can listen to news from every corner of the world. We have not to go anywhere; we have simply to turn the switch of our radio. Through the television we can also see the face of the singer or the speaker. The wireless has proved a great blessing for mankind and is serving humanity in various ways. Electricity is another wonder of science. It has turned night into day. In the winter it heats our rooms and in the summer it cools them. It moves our fans and other machines. Our cinemas, radio and TV sets are all worked by it. Even trains are now running by it. It is impossible to describe in full the manifold services of the wonders of science. Science has also achieved wonders in the field of medicine. There is now a cure for almost all kinds of diseases. Vaccines check the spread of infections as Cholera, Smallpox, etc. Penicillin and Streptomycin have proved to be a boon for humanity. Through the X-ray and cat scanners we can see the inner parts of the human body. Soon, it will become possible to cure cancer and AIDS also. Heart surgery has already become a matter of routine. Medical science has conquered pain and

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suffering and lengthened human life. It has given eyes to the blind, cars to the deaf, voice to the dumb, and hand and feet to the crippled. Computer is another recent wonder of science. Computer is a machine which processes information and preserves memory. Computer makes calculations at very fast rate, Computer are being used in every field e. g., medicine, communication, space research, predicting weather, banks, industry, business and scientific research etc. The computer is most honest and humble servant of humanity. It does not get involved in corrupt practices and favoritism. Being a machine, a computer does not suffer from the human traits of tiredness and lack of concentration and other weaknesses. It is not possible to enumerate all the wonders of modern science. Every day we hear of a new wonder. Some years ago the atom was broken and its energy was used to produce the dreadful Atom bomb. It is hoped that the peaceful uses of this tremendous energy would bring in an age of peace and prosperity, such as the world has never seen before. The latest of its wonders is the man-made moon or " sputnik". Scientists have succeeded in sending man into outer space and in bringing him back alive to earth. Man has even come out of his spaceship and taken a walk in space. He has already set his feet on the moon and walked on its surface for hours. It is now hoped that man would soon be able to reach other planets also. he science in the period of Independence The science was always an important factor and the precondition of education and culture development, improvement of labour quality. The effective market economy cannot simply develop without powerful scientific base. Before Ukraine gained its independence its culture was too focused on requirements of military-industrial complex. It prevented the development of all its branches. In the first years of independence it was

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obvious, that the system of information is very weak in Ukraine, without what it cannot be reconstructed as the state and, the most important thing, can't join the world countries commonwealth, having an information society. After USSR disintegration, Ukraine had good starting possibilities for information and creation of postindustrial society. However in 1991-1995 almost no shifts in information direction were made. Moreover, that period was marked by considerable branch backlog from many countries. Long years ago in Ukraine the system of information service and documentary sources was extremely backward and did not give possibility to organise effective provision of scientists and experts with magazines, book production, compact optical disks, access to foreign databases. In Ukraine there were no abstract magazines (except medical), there was no "Express information", no analytical reviews of various science and technical branches were published, the amount of scientific magazines was sharply reduced. There were no electronic catalogues of bibliographic information. All bodies of scientific, technical, patent and other information created in the USSR, remained in Russia. Annals of journal and newspaper articles became more and more thin. There was no centralised cataloguing of all editions printed in Ukraine. National rails of philosophical, historical, cultural science went slowly. Political science was in a little bit better condition, it was a new science for us, which on the wave of revolutionary shocks in society outstripped other humanities by its applied results. And that occurred in spite of the fact that earlier our higher educational institutions did not prepare political scientists. Representatives of adjacent sciences came to politics. However Ukrainian scientists already developed and confirmed the program "Terminology" which provided working out of concept and functioning of

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Ukrainian scientific and technical terminology, its rationing and computerisation standardization process - databank formation on scientific and technical terminology and its analysis. The international conferences on Ukrainian terminology were held, the examination of more than 300 standards on scientific and technical terminology, 200 dictionaries of different kinds were prepared for the edition. It is known, that for the years of "unprecedented blossoming of native languages" Ukrainian proper names of Latin alphabet were reproduced only in Russian transcription. For example, it was translated "Kiev", instead of "Kyiv", "Lvov", instead of "Lviv", etc. In connection with that, Ministry of Foreign Affairs published the order "About reproduction of Ukrainian proper names by the Latin alphabet" (1996) (surnames, names, place names, untranslatable names of legal bodies, etc.). It is noticed in the order, that reproduction of Ukrainian proper names by Latin at filling of passports (that, unfortunately, can't be said about the internal passport), making authentic texts of contracts on foreign languages, making various consular documents, filling of registration forms and procurement of visas registration, in musical correspondence, while translating texts on other languages, etc. are performed by means of transliteration of Ukrainian language (literal writing by means of Latin alphabet). The corresponding decree was sent to embassies of foreign states and representations of international organisations, which informed about developed "Standard table..." and rules of Ukrainian proper names reproduction. So, one more important step on the way to the statement of Ukrainian state language had been made. Scientists of higher educational institutions also received a number of results of the world level in priority directions of science and technics development, which testify

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about the powerful mental potential in Ukraine. The state awards of Ukraine in the field of science and technics were awarded to the big group of scientists, among whom there were the leading scientists of Dnepropetrovsk, Kharkiv, Lviv universities, National technical university (KPU).

1. The Telephone The telephone is an instrument that converts voice and sound signals into electrical impulses for transmission by wire to a different location, where another telephone receives the electrical impulses and turns them back into recognizable sounds. In 1875, Alexander Graham Bell built the first telephone that transmitted electrically the human voice.

3. Television In 1884, Paul Nipkow sent images over wires using a rotating metal disk technology with 18 lines of resolution. Television then evolved along two paths, mechanical based on Nipkow's rotating disks, and electronic based on the cathode ray tube. American Charles Jenkins and Scotsman John Baird followed the mechanical model while Philo Farnsworth, working independently in San Francisco, and Russian émigré Vladimir Zworykin, working for Westinghouse and later RCA, advanced the electronic model.

4. The Automobile In 1769, the very first self-propelled road vehicle was invented by French mechanic, Nicolas Joseph Cugnot. However, it was a steam-powered model. In 1885, Karl Benz designed and built the world's first practical automobile to be powered by an internal-combustion engine. In 1885, Gottlieb Daimler took the internal combustion engine a step further and patented what is generally recognized as the prototype of the modern gas engine and later built the world's first four-wheeled motor vehicle.

5. The Cotton Gin Eli Whitney patented the cotton gin on March 14, 1794. The cotton gin is a machine that separates seeds, hulls and other unwanted materials from cotton after it has been picked.

6. The Camera In 1814,

Joseph Nicéphore Niépce created the first photographic image with a camera obscura, however, the image required eight hours of light exposure and later faded. Louis-Jacques-Mandé Daguerre is considered the inventor of the first practical process of photography in 1837.

7. The Steam Engine Thomas Savery was an English military engineer and inventor who in 1698, patented the first crude steam engine. Thomas Newcomen invented the atmospheric steam engine in 1712. James Watt improved Newcomen's design and invented what is considered the first modern steam engine in 1765.

8. The Sewing Machine The first functional sewing machine was invented by the French tailor, Barthelemy Thimonnier, in 1830. In 1834, Walter Hunt built America's first (somewhat) successful sewing machine. Elias Howe patented the first lockstitch sewing machine in 1846. Isaac Singer invented the up-and-down motion mechanism. In 1857, James Gibbs patented the first chain-stitch single-thread sewing machine. Helen Augusta Blanchard patented the first zig-zag stitch machine in 1873.

9. The Light Bulb Contrary to popular belief, Thomas Alva Edison didn't "invent" the light bulb, but rather he improved upon a 50-year-old idea. In 1809, Humphry Davy, an English chemist, invented the first electric light. In 1878, Sir Joseph Wilson Swan, an English physicist, was the first person to invent a practical and longer-lasting electric lightbulb (13.5 hours) with a carbon fiber filament. In 1879, Thomas Alva Edison invented a carbon filament that burned for forty hours.

10. Penicillin Penicillin was discovered by Alexander Fleming in 1928. Andrew Moyer patented the first method of industrial production of penicillin in 1948. The atomic bomb was invented during World War II in the famous Manhattan Project led by scientist Robert Oppenheimer. It was first tested on July 16, 1945 in Los Alamos, New Mexico. The blast was so bright, a blind girl

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miles away claimed to see it, and it caused a mushroom cloud of radioactive vapor to hover at 30, 000 feet. This ushered in the Atomic Age, and led to the bombings of Hiroshima and Nagasaki a month later, killing 66, 000 and 39, 000 respectively. The nuclear fallout of the blasts led to radiation poisoning, illness, disease, and leukemia in many survivors. The atomic bomb has only been used these two times, so far at least. Hopefully the world will keep it that way. The Guillotine was invented in 1791 by a group led by Joseph-Ignace Guillotin, a Parisian anatomy professor. This execution device used a lunette to immobilize a victim's neck and a crescent blade to chop off the head. It was thought to be a humane method of execution, but led to more violence, including France's *Reign of Terror* from 1793 to 1794 when as many as 40, 000 were executed by the Guillotine. It continued to be used as a method of public execution until 1977, and was retired as France's main form of execution in 1981 when France abolished the death penalty. A dirty bomb is a weapon that combines radioactive material with explosives. Because they do not cause immediate death, dirty bombs are not classified as Weapons of Mass Destruction. However, radiation exposure from a dirty bomb can cause severe illness or death. Dirty bombs are therefore classified as psychological weapons designed to create panic and terror. Although no dirty bombs have actually been used, unexploded ones have been developed, and there is a fear of terrorists getting their hands on dirty bombs. It is difficult to say the exact impact a dirty bomb would have, since one has never been exploded, but most likely it would be devastating both economically and psychologically. A Flame tank is a type of tank equipped with a flamethrower, most commonly used to supplement combined arms attacks against fortifications or other obstacles. The type

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only reached significant use in the Second World War, during which the United States, Soviet Union, Germany, Italy, Japan and the United Kingdom (including members of the British Commonwealth) all produced flamethrower-equipped tanks. A number of methods of production were used. Flamethrowers were either modified versions of existing infantry flame weapons (Flammpanzer I and II) or specially designed (Flammpanzer III). They were mounted externally (Flammpanzer II), replaced existing machine gun mounts, or replaced the tank's main armament (Flammpanzer III). Ammunition for the flame weapon was either carried inside the tank, in armoured external storage, or in some cases in a special trailer behind the tank (Churchill Crocodile). Flame tanks are generally considered obsolete. Today, thermobaric weapons such as the Russian TOS-1 are considered to be the successor to flame tanks. ~Wikipedia. org