Science continually seeks to gain increased understanding and, where appropriate, the possibility for control of many specific aspects of the physical world. Its successes in achieving this goal stem directly from its ability to elucidate the foundational mechanisms, which underlie nature’s processes. The underlying goal or purpose of science to society and individuals is to produce useful models of reality. By analyzing a number of related hypotheses, scientists can form general theories. These theories benefit society or human individuals who make use of them. The social sciences allow us to predict (with limited accuracy for now) things like economic turbulence and also to understand human behavior better. **Fields of science**. Science is broadly subdivided into the categories of natural and social sciences. There are also related disciplines that are grouped into interdisciplinary and applied sciences, such as engineering and health science. Within these categories are specialized scientific fields that can include elements of other scientific disciplines but often possess their own terminology and body of expertise. **Scientific method**. The scientific method seeks to explain the events of nature in a reproducible way, and to use these reproductions to make useful predictions. It is done through observations of natural phenomena, and/or through experimentation that tries to simulate natural events under controlled conditions. It provides an objective process to find solutions to problems in a number of scientific and technological fields. A hypothesis is a contention that has been neither well supported nor yet ruled out by experiments. A theory, in the context of science, is a logically self-consistent model or framework for describing the behavior of certain natural phenomena.

**2**

We are living in the era of advanced technology. Every part of our daily life is related to technology in one or other way. All industries and different sectors of society are developing new technologies according to their needs and requirements. The medical advancements have helped us develop vaccines and treatment for diseases which were previously lethal. Technological progress has allowed developing new techniques for diagnosis and mitigation of diseases. Scientific research has improved our understanding of nutrition and contributed to healthier lifestyles. Technology has allowed humans to travel faster and trade goods all over the world. Thanks to technology, we can have holidays in remote locations and capture these moments through pictures. Industrial societies heavily rely on technological progress. We can feed a fast growing world population thanks to the continuous innovation in production techniques. New inventions help foster the production, storage, treatment and transportation of goods. The people in technologically advanced societies live more comfortable lives. Genetically modified foods (GMO) may help fight hunger and ensure that world population continues to be fed. Genetic modification techniques contribute to produce more food and to maintain agricultural production at affordable prices. The Internet, computers and mobile phones illustrate the role of technology in improving society. Efficiency has skyrocketed thanks to these inventions. People can now work from home and collaborate with teams located in other towns, countries or even continents. We can keep a fluid communication and relationship with friends and family living abroad. News of events crosses the globe in seconds. Without technological progress it would be difficult to envisage a green future in which the problem of climate change could be kept under control. Scientific advancements are making electric cars more affordable and enhancing the effectiveness and efficiency of solar energy, as well as hydropower. Technology is altering our lifestyle and will alter the cognitive and social development of current and future generations. Technological progress is to be blamed for the negative effects of global warming and climate change.

**3**

Science is systemized knowledge derived through experimentation, observation, and study. The scientists are more interested in doing scientific work than in defining it. We say that the work is unscientific if it is inexact, badly arranged and jumps to conclusions without evidence. “Science is organized knowledge” (Jules-Henry Poincare). “Scientific work must have no object except to find out the truth” (Miguel de Unamuno). They build up theories, perform experiments, explore, carry out researches, discover and invent. Among the earliest inventions we can’t but mention the invention of the early steam engine by Hero of Alexandria in AD 100; the invention of paper by the Chinese in AD 105. Isaac Newton developed the theory of Gravity in 1687. The discovery of blood circulation and its mechanism by William Harvey, Robert Boyle and Robert Hooke in 1628 led to great advances in medicine and in the study of the human body. Among them are the discovery of the law of chemical elements by Dmitry Mendeleev in 1869; of the invention of the telephone by Alexander Bell in 1876; the invention of the electric light bulb by Thomas Edison in 1879; the invention of a petrol driven car by Karl Benz in 1885; the discovery of radium made by Marie Curie in 1911; the invention of radio by Alexander Popov; the first practical helicopter built up by Igor Sikorski; the invention of television in 1926; the discovery of penicillin by Alexander Fleming in 1928; the discovery of nuclear fission by Lise Meitner in 1939 and many others. The telephone could be considered the most important invention in the history of communication. The telephone was thought of by Alexander Bell. The first conversation happened in 1876, when Bell was working upstairs in his laboratory. The first exchange, with operators connecting callers, was opened in Connecticut in 1887.

**Isaac Newton** Isaac Newton was one of the world’s greatest scientists. He did research in mathematics, physics, astronomy and many other fields. Newton was born in 1642. Isaac Newton was very ambitious young scientist who carried out his experiments very accurately. His main theory was that everything in nature could be explained through mathematics. Newton was an astronomer, who studied the Earth, the planets and stars. He became well-known for theories of gravity, in which he claimed that all objects of the universe have a gravitational force that pulled other objects towards them. He also showed that planets move around the sun in ellipses. He used prisms to break up light into a rainbow of colors. Newton invented a new kind of telescope that used lenses. In his book “The Mathematical Principles” Newton describes the three laws of motion:

1. Every moving object keeps moving until something stops it. An object that lies on the ground continues to lie there until a force sets it in motion.
2. Acceleration happens when a force acts on a mass. The greater the mass the more force must be applied to move the object.
3. For every action there is an equal and opposite reaction.

Newton also devoted a great deal of his life to alchemy. Newton wanted to keep these studies to himself; therefore, he did not publish any of his alchemist works. At that time alchemy was a much discussed topic that not everyone accepted. Newton was not only theorist but a great inventor, too: he invented a mirror telescope.

**Albert Einstein** Albert Einstein was a famous scientist who completely changed the way that people saw our world and the universe. Einstein created many theories which proved that things like gravity, light, energy and matter were connected with each other. One of the most famous equations ever written came from Albert Einstein: E = mc2. This equation shows that mass can be turned to energy. The problem is how to get the energy out of the mass. This equation led to the building of the atomic bomb. According to Einstein all objects followed curved paths and get attracted by the gravity of an object. There are many applications of Einstein’s work. The waves are a facet of Einstein’s theory of general relativity. Gravitational lensing: this is a phenomenon by which a massive object (like a galaxy cluster or a black hole) bends light around it. Astronomers looking at that region through a telescope can then see objects directly behind the massive object, due to the light being bent. A famous example of this is Einstein’s Cross, a quasar in the constellation Pegasus. A galaxy roughly 400 million light-years away bends the light of the quasar so it appears four times around the galaxy.

**Adam Smith** Scottish social philosopher and political economist Adam Smith wrote “The Wealth of Nations” and achieved the first comprehensive system of political economy. In 1759, Smith published his first work. “The Theory of Moral Sentiments”, sold by co-publishers Andrew Millar of London and Alexander Kincaid of Edinburgh. Rather than viewing “The Theory of Moral Sentiments” and “The Wealth of Nations” as presenting incompatible views of human nature, some Smith scholars regard the works as emphasizing different aspects of human nature that vary depending on the situation. Smith proposed that a nation’s wealth should be judged not by this metric but by the total of its production and commerce – today known as gross domestic product (GDP). He also explored theories of the division of labor, an idea dating back to Plato, through which specialization would lead to a qualitative increase in productivity. In time, “The Wealth of Nations” won Smith a far-reaching reputation, and the work, considered a foundational work of classical economics, is one of the most influential books ever written.

**William Caxton** Until the latter part of the 15th century all books had to be written by hand. The printing press is thought to have been invented in Germany by Johannes Gutenberg around 1450 and by the end of the century printed books were available in London. The first person to bring printing to England was William Caxton. However, the major turn in his career came when he visited Cologne, where he learnt the art of printing. Impressed by the German printing technology and realizing its commercial potential, he introduced printing press to England. Returning to Bruges he set up a press and in 1474–1475 published his translation of “The Recuyell of the Histories of Troy”, the first book printed in English. In 1476 he returned to England where he set up a press beside Westminster Abbey. He became the first English person to work as a printer and also the first English retailer of printed books. He is greatly responsible for standardizing English language through printing. Although he was based at Westminster, many of his customers were the merchants of the City of London. Customs records show that in 1488 alone he imported over one thousand books within a two month period.

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