# Chapter-1:

Science in everyday life

Science very efficiently plays the role of being a faithful servant of man. In every walk of life, science is there to serve us. We require the benefits of science whether in our home, in office, in a factory, or outside.

Gone are the days when only wealthy people could afford luxuries. Science has made many luxurious items of the past cheaper in price and has brought them within the reach of everybody.

Computer [technology](https://www.toppr.com/guides/essays/essay-on-technology/) is one huge benefit of science. Nowadays, it would be unimaginable to consider living without computing technology.

A huge number of professions now rely totally on the computer and the internet. Besides, the computer and the [internet](https://www.toppr.com/guides/essays/essay-on-uses-of-internet/) have become our biggest source of entertainment in our everyday life.

Automobiles, an important scientific invention, has made our lives easy by significantly reducing everyday commuting time. The air conditioner is another scientific invention that has made our lives bearable and comfortable in the face of extreme weather conditions. Also, in the field of medical science, high-quality medicines are available that quickly remove any ailment that can happen in everyday life like headache, sprain, cough, allergy, stomach ache, fatigue etc.

**Dark Side of Science**

In spite of its tremendous benefits, there is a negative side to science. Science, unfortunately, has also done some disservice to humanity due to some of its inventions.

One of the biggest harms that science has brought to humanity is in the field of armament. Although some hail the invention of gunpowder as a great achievement, humanity must rue the day when this invention happened.

Steadily and relentlessly, the use and perfection of gunpowder have taken place in many new and more destructive weapons. As such, humanity now suffers due to weapons like shells, bombs, artillery, and guns. Such weapons threaten the everyday life of all individuals.

Another disservice of science has been the emission of pollution. A huge amount of radioactive pollution is emitted in various parts of the world where nuclear energy production happens. Such pollution is very dangerous as it can cause cancer, radioactive sickness, and cardiovascular disease.

Of course, who can ignore the massive amount of [air pollution](https://www.toppr.com/guides/chemistry/pollution-of-air-and-water/air-pollution-and-what-can-be-done/) caused by automobiles, another scientific invention. Furthermore, automobiles are an everyday part of our lives that emit unimaginable levels of carbon monoxide in the air every year. Consequently, this causes various lung diseases and also contributes to global warming and acid rain.

Chapter-2

Albert Einstein

Albert Einstein was born in [Ulm](https://en.wikipedia.org/wiki/Ulm),[[19]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-Bio-20) in the Kingdom of Württemberg in the German Empire, on 14 March 1879.[[20]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-21) His parents, secular [Ashkenazi Jews](https://en.wikipedia.org/wiki/Ashkenazi_Jews), were [Hermann Einstein](https://en.wikipedia.org/wiki/Hermann_Einstein), a salesman and engineer, and [Pauline Koch](https://en.wikipedia.org/wiki/Pauline_Koch). In 1880, the family moved to [Munich](https://en.wikipedia.org/wiki/Munich)'s borough of [Ludwigsvorstadt-Isarvorstadt](https://en.wikipedia.org/wiki/Ludwigsvorstadt-Isarvorstadt" \o "Ludwigsvorstadt-Isarvorstadt), where Einstein's father and his uncle Jakob founded Elektrotechnische Fabrik J. Einstein & Cie, a company that manufactured electrical equipment based on [direct current](https://en.wikipedia.org/wiki/Direct_current).[[19]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-Bio-20) He often related a formative event from his youth, when he was sick in bed and his father brought him a [compass](https://en.wikipedia.org/wiki/Magnetic_compass). This sparked his lifelong fascination with [electromagnetism](https://en.wikipedia.org/wiki/Electromagnetism). He realized that "Something deeply hidden had to be behind things."[[21]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-22)

Albert attended St. Peter's [Catholic elementary school](https://en.wikipedia.org/wiki/Catholic_school) in Munich from the age of five. When he was eight, he was transferred to the [Luitpold Gymnasium](https://en.wikipedia.org/wiki/Luitpold_Gymnasium), where he received advanced primary and then secondary school education.[[22]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-FOOTNOTEStachel2002[httpsbooksgooglecombooksidOAsQ_hFjhrACpgPA59_59%E2%80%9361]-23)

In 1905, he published [four groundbreaking papers](https://en.wikipedia.org/wiki/Annus_mirabilis_papers), sometimes described as his [*annus mirabilis*](https://en.wikipedia.org/wiki/Annus_mirabilis) (miracle year).[[11]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-FOOTNOTEGalison2000377-12) These papers outlined a theory of the photoelectric effect, explained [Brownian motion](https://en.wikipedia.org/wiki/Brownian_motion), introduced his special theory of relativity, and demonstrated that if the special theory is correct, mass and energy are equivalent to each other. In 1915, he proposed a [general theory of relativity](https://en.wikipedia.org/wiki/General_theory_of_relativity) that extended his system of mechanics to incorporate [gravitation](https://en.wikipedia.org/wiki/Gravitation). A cosmological paper that he published the following year laid out the implications of general relativity for the modeling of the structure and evolution of the [universe](https://en.wikipedia.org/wiki/Universe) as a whole.[[12]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-Nobel-13)[[13]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-NYT-20151124-14) In 1917, Einstein wrote a paper which laid the foundations for the concepts of both [laser](https://en.wikipedia.org/wiki/Laser) and [maser](https://en.wikipedia.org/wiki/Maser), and contained a trove of information that would be beneficial to developments in physics later on.[[14]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-15) A joint paper in 1935, with [Nathan Rosen](https://en.wikipedia.org/wiki/Nathan_Rosen), introduced the notion of a [wormhole](https://en.wikipedia.org/wiki/Wormhole).[[15]](https://en.wikipedia.org/wiki/Albert_Einstein#cite_note-FOOTNOTEEinsteinRosen1935-16)

Chapter-3:

Sir Isaac Newton

**Sir Isaac Newton** (25 December 1642 – 20 March 1726/27[[a]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-OSNS-4)) was an English [polymath](https://en.wikipedia.org/wiki/Polymath) active as a [mathematician](https://en.wikipedia.org/wiki/Mathematician), [physicist](https://en.wikipedia.org/wiki/Physicist), [astronomer](https://en.wikipedia.org/wiki/Astronomer), [alchemist](https://en.wikipedia.org/wiki/Alchemist), [theologian](https://en.wikipedia.org/wiki/Theologian), and author who was described in his time as a [natural philosopher](https://en.wikipedia.org/wiki/Natural_philosophy).[[6]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-:1-7) He was a key figure in the [Scientific Revolution](https://en.wikipedia.org/wiki/Scientific_Revolution) and the [Enlightenment](https://en.wikipedia.org/wiki/Age_of_Enlightenment) that followed.[[7]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-8) Newton's book [*Philosophiæ Naturalis Principia Mathematica*](https://en.wikipedia.org/wiki/Philosophi%C3%A6_Naturalis_Principia_Mathematica) (*Mathematical Principles of Natural Philosophy*), first published in 1687, achieved the [first great unification in physics](https://en.wikipedia.org/wiki/Unification_of_theories_in_physics#Unification_of_gravity_and_astronomy) and established [classical mechanics](https://en.wikipedia.org/wiki/Classical_mechanics).[[8]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-:32-9)[[9]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-10) Newton also made seminal contributions to [optics](https://en.wikipedia.org/wiki/Optics), and [shares credit](https://en.wikipedia.org/wiki/Leibniz%E2%80%93Newton_calculus_controversy) with German mathematician [Gottfried Wilhelm Leibniz](https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz) for formulating [infinitesimal calculus](https://en.wikipedia.org/wiki/Calculus), though he developed calculus years before Leibniz.[[10]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-11)[[11]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-:3-12) He contributed to and refined the [scientific method](https://en.wikipedia.org/wiki/Scientific_method), and his work is considered the most influential in bringing forth modern science.[[12]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-13)[[13]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-14)[[14]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-15)[[15]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-16)[[16]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-17)

In the *Principia*, Newton formulated the [laws of motion](https://en.wikipedia.org/wiki/Newton%27s_laws_of_motion) and [universal gravitation](https://en.wikipedia.org/wiki/Newton%27s_law_of_universal_gravitation) that formed the dominant scientific viewpoint for centuries until it was superseded by the [theory of relativity](https://en.wikipedia.org/wiki/Theory_of_relativity). He used his mathematical description of [gravity](https://en.wikipedia.org/wiki/Gravity) to derive [Kepler's laws of planetary motion](https://en.wikipedia.org/wiki/Kepler%27s_laws_of_planetary_motion), account for [tides](https://en.wikipedia.org/wiki/Tide), the [trajectories](https://en.wikipedia.org/wiki/Trajectory) of [comets](https://en.wikipedia.org/wiki/Comet), the [precession of the equinoxes](https://en.wikipedia.org/wiki/Axial_precession) and other phenomena, eradicating doubt about the [Solar System](https://en.wikipedia.org/wiki/Solar_System)'s [heliocentricity](https://en.wikipedia.org/wiki/Heliocentrism).[[17]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-18) Newton solved the [two-body problem](https://en.wikipedia.org/wiki/Two-body_problem), and introduced the [three-body problem](https://en.wikipedia.org/wiki/Three-body_problem).[[18]](https://en.wikipedia.org/wiki/Isaac_Newton#cite_note-19) He demonstrated that the [motion of objects](https://en.wikipedia.org/wiki/Dynamics_(mechanics)) on Earth and [celestial bodies](https://en.wikipedia.org/wiki/Astronomical_object) could be accounted for by the same principles. Newton's inference that the Earth is an [oblate spheroid](https://en.wikipedia.org/wiki/Spheroid#Oblate_spheroids) was later confirmed by the geodetic measurements of [Maupertuis](https://en.wikipedia.org/wiki/Pierre_Louis_Maupertuis" \o "Pierre Louis Maupertuis), [La Condamine](https://en.wikipedia.org/wiki/Charles_Marie_de_La_Condamine), and others, convincing most European scientists of the superiority of Newtonian mechanics over earlier systems.

Chapter-4

Galileo Galilei

**Galileo di Vincenzo Bonaiuti de' Galilei** (15 February 1564 – 8 January 1642), commonly referred to as **Galileo Galilei** ([/ˌɡælɪˈleɪoʊ ˌɡælɪˈleɪ/](https://en.wikipedia.org/wiki/Help:IPA/English), [US](https://en.wikipedia.org/wiki/American_English) also [/ˌɡælɪˈliːoʊ -/](https://en.wikipedia.org/wiki/Help:IPA/English); Italian: [[ɡaliˈlɛːo ɡaliˈlɛːi]](https://en.wikipedia.org/wiki/Help:IPA/Italian)) or mononymously as **Galileo**, was a Florentine [astronomer](https://en.wikipedia.org/wiki/Astronomer), [physicist](https://en.wikipedia.org/wiki/Physicist) and engineer, sometimes described as a [polymath](https://en.wikipedia.org/wiki/Polymath). He was born in the city of [Pisa](https://en.wikipedia.org/wiki/Pisa), then part of the [Duchy of Florence](https://en.wikipedia.org/wiki/Duchy_of_Florence).[[3]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-3) Galileo has been called the father of [observational astronomy](https://en.wikipedia.org/wiki/Observational_astronomy),[[4]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-4) modern-era classical physics,[[5]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-5) the [scientific method](https://en.wikipedia.org/wiki/Scientific_method),[[6]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-6) and [modern science](https://en.wikipedia.org/wiki/Modern_science).[[7]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-7)

Galileo studied [speed](https://en.wikipedia.org/wiki/Speed) and [velocity](https://en.wikipedia.org/wiki/Velocity), [gravity](https://en.wikipedia.org/wiki/Gravity) and [free fall](https://en.wikipedia.org/wiki/Free_fall), the [principle of relativity](https://en.wikipedia.org/wiki/Principle_of_relativity), [inertia](https://en.wikipedia.org/wiki/Inertia), [projectile motion](https://en.wikipedia.org/wiki/Projectile_motion) and also worked in [applied science](https://en.wikipedia.org/wiki/Applied_science) and technology, describing the properties of the [pendulum](https://en.wikipedia.org/wiki/Pendulum) and "[hydrostatic](https://en.wikipedia.org/wiki/Hydrostatic) balances". He was one of the earliest Renaissance developers of the [thermoscope](https://en.wikipedia.org/wiki/Thermoscope)[[8]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-8) and the inventor of various [military compasses](https://en.wikipedia.org/wiki/Sector_(instrument)). With an improved [telescope](https://en.wikipedia.org/wiki/Telescope) he built, he observed the stars of the [Milky Way](https://en.wikipedia.org/wiki/Milky_Way), the [phases of Venus](https://en.wikipedia.org/wiki/Phases_of_Venus), the [four largest satellites](https://en.wikipedia.org/wiki/Galilean_moons) of [Jupiter](https://en.wikipedia.org/wiki/Jupiter), [Saturn's rings](https://en.wikipedia.org/wiki/Saturn%27s_rings), [lunar craters](https://en.wikipedia.org/wiki/Lunar_craters) and [sunspots](https://en.wikipedia.org/wiki/Sunspot). He also built an early [microscope](https://en.wikipedia.org/wiki/Microscope).

Galileo's championing of [Copernican heliocentrism](https://en.wikipedia.org/wiki/Copernican_heliocentrism) was met with opposition from within the [Catholic Church](https://en.wikipedia.org/wiki/Catholic_Church) and from some astronomers. The matter was investigated by the [Roman Inquisition](https://en.wikipedia.org/wiki/Roman_Inquisition) in 1615, which concluded that his opinions contradicted accepted Biblical interpretations.[[9]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTEHannam2009329%E2%80%93344-9)[[10]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTESharratt1994127%E2%80%93131-10)[[11]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTEFinocchiaro201074-11)

Galileo later defended his views in [*Dialogue Concerning the Two Chief World Systems*](https://en.wikipedia.org/wiki/Dialogue_Concerning_the_Two_Chief_World_Systems) (1632), which appeared to attack and ridicule [Pope Urban VIII](https://en.wikipedia.org/wiki/Pope_Urban_VIII), thus alienating both the Pope and the [Jesuits](https://en.wikipedia.org/wiki/Jesuits), who had both strongly supported Galileo up until this point.[[9]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTEHannam2009329%E2%80%93344-9) He was tried by the Inquisition, found "vehemently suspect of heresy", and forced to recant. He spent the rest of his life under house arrest.[[12]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTEFinocchiaro199747-12)[[13]](https://en.wikipedia.org/wiki/Galileo_Galilei#cite_note-FOOTNOTEHilliam200596-13) During this time, he wrote [*Two New Sciences*](https://en.wikipedia.org/wiki/Two_New_Sciences) (1638), primarily concerning [kinematics](https://en.wikipedia.org/wiki/Kinematics) and the [strength of materials](https://en.wikipedia.org/wiki/Strength_of_materials)

Chapter-5

Contents

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Invention story of cricket

There is a consensus of expert opinion that cricket may have been invented during Saxon or Norman times by children living in the Weald, an area of dense woodlands and clearings in south-east England. The first reference to cricket being played as an adult sport was in 1611, and in the same year, a dictionary defined cricket as a boys' game. There is also the thought that cricket may have derived from bowls, by the intervention of a batsman trying to stop the ball from reaching its target by hitting it away.

Village cricket had developed by the middle of the 17th century and the first English “county teams” were formed in the second half of the century, as “local experts” from village cricket were employed as the earliest professionals. The first known game in which the teams use county names is in 1709.