## A Timeline of Technology

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| 10 million years ago. | Humans make the first tools from stone, wood, antlers, and bones. |
| 1-2 million years ago | Humans discover fire. |
| 10,000 BCE | Earliest boats are constructed. |
| 8000-9000 BCE | Beginnings of human settlements and agriculture. |
| 6000-7000 BCE | Hand-made bricks first used for construction in the Middle East. |
| 4000 BCE | Iron used for the first time in decorative ornaments. |
| 3500 BCE | Humans invent the wheel. |
| c1700 BCE | Semites of the Mediterranean develop the alphabet. |
| 0-1500 BCE | Ancient societies invent some of the first machines for moving water and agriculture. |
| 1000 BCE | Iron Age begins: iron is widely used for making tools and weapons in many parts of the world. |
| c.150-100 BCE | First gear-driven, precision clockwork machine (the Antikythera mechanism) is developed. |
| c.50 BCE | Roman engineer Vitruvius perfects the modern, vertical water wheel. |
| 62 CE | Hero of Alexandria, a Greek scientist, pioneers steam power. |
| 105 CE | Ts'ai Lun makes the first paper in China. |
| 27 BCE-395 CE | Romans develop the first, basic concrete called pozzolana. |
| ~600 CE | Windmills are invented in the Middle East. |
| 700-900 CE | Chinese invent gunpowder and fireworks. |
| 1000 CE ?? | Chinese develop eyeglasses by fixing lenses to frames that fit onto people's faces. |
| 1450 | Johannes Gutenberg pioneers the modern printing press, using rearrangeable metal letters called movable type. |
| 1590 | A Dutch spectacle maker named Zacharias Janssen makes the first compound microscope. |
| ~1600 | Galileo Galilei designs a basic thermometer. |
| 16th century | Antoni van Leeuwenhoek and Robert Hooke independently develop microscopes. |
| 1600 | William Gilbert publishes his great book *De Magnete* describing how Earth behaves like a giant magnet. It's the beginning of the scientific study of magn |
| 1609 | Galileo Galilei builds a practical telescope and makes new astronomical discoveries. |
| 1643 | Galileo's pupil Evangelista Torricelli builds the first mercury barometer for measuring air pressure. |

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| 1650s | Christiaan Huygens develops the pendulum clock (using Galileo's earlier discovery that a swinging pendulum can be used to keep time). |
| 1687 | Isaac Newton formulates his three laws of motion. |
| 1700s | Bartolomeo Cristofori invents the piano. |
| 1703 | Gottfried Leibniz pioneers the binary number system now used in virtually all computers. |
| 1712 | Thomas Newcomen builds the first practical (but stationary) steam engine. |
| 1700s | Christiaan Huygens conceives the internal combustion engine, but never actually builds one. |
| 1757 | John Campbell invents the sextant, an improved navigational device that enables sailors to measure latitude. |
| 1730s-1770s | John Harrison develops reliable chronometers (seafaring clocks) that allow sailors to measure longitude accurately for the first time. |
| 1769 | Wolfgang von Kempelen develops a mechanical speaking machine: the world's first speech synthesizer. |
| 1783 | French Brothers Joseph-Michel Montgolfier and Jacques-Étienne Montgolfier make the first practical hot-air balloon. |
| 1800 | Italian Alessandro Volta makes the first battery (known as a Voltaic pile). |
| 1801 | Joseph-Marie Jacquard invents the automated cloth-weaving loom. The punched cards it uses to store patterns help to inspire programmable computers. |
| 1803 | Henry and Sealy Fourdrinier develop the papermaking machine. |
| 1806 | Humphry Davy develops electrolysis into an important chemical technique and uses it to identify a number of new elements. |
| 1814 | George Stephenson builds the first practical steam locomotive. |
| 1816 | Robert Stirling invents the efficient Stirling engine. |
| 1820s-1830s | Michael Faraday builds primitive electric generators and motors. |
| 1827 | Joseph Niepce makes the first modern photograph. |
| 1830s | William Sturgeon develops the first practical electric motor. |
| 1830s | Louis Daguerre invents a practical method of taking pin-sharp photographs called Daguerreotypes. |
| 1830s | William Henry Fox Talbot develops a way of making and printing photographs using reverse images called negatives. |
| 1830s-1840s | Charles Wheatstone and William Cooke, in England, and Samuel Morse, in the United States, develop the electric telegraph (a forerunner of the telephone |
| 1836 | Englishman Francis Petit-Smith and Swedish-American John Ericsson independently develop propellers with blades for ships. |
| 1839 | Charles Goodyear finally perfects a durable form of rubber (vulcanized rubber) after many years of unsuccessful experimenting. |
| 1840s | Scotsman Alexander Bain invents a primitive fax machine based on chemical technology. |
| 1849 | James Francis invents a water turbine now used in many of the world's hydropower plants. |
| 1850s | Henry Bessemer pioneers a new method of making steel in large quantities. |
| 1850s | Louis Pasteur develops pasteurization: a way of preserving food by heating it to kill off bacteria. |
| 1850s | Italian Giovanni Caselli develops a mechanical fax machine called the pantelegraph. |
| 1860s | James Clerk Maxwell figures out that radio waves must exist and sets out basic laws of electromagnetism. |
| 1860s | Fire extinguishers are invented. |
| 1867 | Joseph Monier invents reinforced concrete. |

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| 1868 | Christopher Latham Sholes invents the modern typewriter and QWERTY keyboard. |
| 1876 | Alexander Graham Bell patents the telephone, though the true ownership of the invention remains controversial even today. |
| 1870s | Thomas Edison develops the phonograph, the first practical method of recording and playing back sound on metal foil. |
| 1877 | Thomas Edison invents his sound-recording machine or phonograph—a forerunner of the record player and CD player. |
| 1880 | Thomas Edison patents the modern incandescent electric lamp. |
| 1880s | Thomas Edison opens the world's first power plants. |
| 1883 | Charles Eastman invents plastic photographic film. |
| 1884 | Charles Parsons develops the steam turbine. |
| 1885 | Karl Benz builds a gasoline-engined car. |
| 1886 | Josephine Cochran invents the dishwasher. |
| 1888 | Nikola Tesla patents the alternating current (AC) electric induction motor and, in opposition to Thomas Edison, becomes a staunch advocate of AC power |
| 1890s | French brothers Joseph and Louis Lumiere invent movie projectors and open the first movie theater. |
| 1890s | German engineer Rudolf Diesel develops his diesel engine—a more efficient internal combustion engine without a sparking plug. |
| 1895 | German physicist Wilhelm Röntgen discovers X rays. |
| 1895 | American Ogden Bolton, Jr. invents the electric bicycle. |
| 1901 | Guglielmo Marconi sends radio-wave signals across the Atlantic Ocean from England to Canada |
| 1901 | The first electric vacuum cleaner is developed. |
| 1903 | Brothers Wilbur and Orville Wright build the first engine-powered airplane. |
| 1905 | Albert Einstein explains the photoelectric effect. |
| 1905 | Samuel J. Bens invents the chainsaw. |
| 1906 | Willis Carrier pioneers the air conditioner. |
| 1906 | Mikhail Tswett discovers chromatography. |
| 1907 | Leo Baekeland develops Bakelite, the first popular synthetic plastic. |
| 1907 | Alva Fisher invents the electric clothes washer. |
| 1908 | American industrialist and engineer Henry Ford launches the Ford Model T, the world's first truly affordable car. |
| 1909 | German chemists Fritz Haber and Zygmunt Klemensiewicz develop the glass electrode, enabling very precise measurements of acidity. |
| 1912 | Hans Geiger develops the Geiger counter, a detector for radioactivity. |
| 1919 | Francis Aston pioneers the mass spectrometer and uses it to discover many isotopes. |
| 1920s | John Logie Baird develops mechanical television. |
| 1920s | Philo T. Farnsworth invents modern electronic television. |
| 1920s | German engineer Gustav Tauschek and American Paul Handel independently develop primitive optical character recognition (OCR) scanning systems. |
| 1921 | Karel Capek and his brother coin the word "robot" in a play about artificial humans. |

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| 1921 | John Larson develops the polygraph ("lie detector") machine. |
| 1928 | Thomas Midgley, Jr. invents coolant chemicals for air conditioners and refrigerators. |
| 1928 | The electric refrigerator is invented. |
| 1930s | Peter Goldmark pioneers color television. |
| 1930s | Laszlo and Georg Biro pioneer the modern ballpoint pen. |
| 1930s | Maria Telkes creates the first solar-powered house. |
| 1930s | Robert Watson Watt oversees the development of radar. |
| 1931 | Harold E. Edgerton invents the xenon flash lamp for high-speed photography. |
| 1932 | Arne Olander discovers the shape memory effect in a gold-cadmium alloy. |
| 1938 | Chester Carlson invents the principle of photocopying (xerography). |
| 1938 | Roy Plunkett accidentally invents a nonstick plastic coating called Teflon. |
| 1939 | Igor Sikorsky builds the first truly practical helicopter. |
| 1940s | English physicists John Randall and Harry Boot develop a compact magnetron for use in airplane radar navigation systems. |
| 1942 | Enrico Fermi builds the first nuclear chain reactor at the University of Chicago. |
| 1945 | US government scientist Vannevar Bush proposes a kind of desk-sized memory store called Memex, which has some of the features later incorporated int electronic books and the World Wide Web (WWW). |
| 1947 | John Bardeen, Walter Brattain, and William Shockley invent the transistor, which allows electronic equipment to made much smaller and leads to the mo |
| 1949 | Bernard Silver and N. Joseph Woodland patent barcodes—striped patterns that are initially developed for marking products in grocery stores. |
| 1950s | Charles Townes and Arthur Schawlow invent the maser (microwave laser). Gordon Gould coins the word "laser" and builds the first optical laser in 1958. |
| 1950s | Stanford Ovshinksy develops various technologies that make renewable energy more practical, including practical solar cells and improved rechargeable l |
| 1950s | Percy Spencer accidentally discovers how to cook with microwaves, inadvertently inventing the microwave oven. |
| 1954 | Indian physicist Narinder Kapany pioneers fiber optics. |
| 1956 | First commercial nuclear power is produced at Calder Hall, Cumbria, England. |
| 1957 | Soviet Union (Russia and her allies) launch the Sputnik space satellite. |
| 1959 | IBM and General Motors develop Design Augmented by Computers-1 (DAC-1), the first computer-aided design (CAD) system. |
| 1963 | Ivan Sutherland develops Sketchpad, one of the first computer-aided design programs. |
| 1964 | IBM helps to pioneer e-commerce with an airline ticket reservation system called SABRE. |
| 1965 | Frank Pantridge develops the portable defibrillator for treating cardiac arrest patients. |
| 1966 | Stephanie Kwolek patents a super-strong plastic called Kevlar. |
| 1969 | Long before computers become portable, Alan Kay imagines building an electronic book, which he nicknames the Dynabook. |
| 1969 | Willard S. Boyle and George E. Smith invent the CCD (charge-coupled device): the light-sensitive chip used in digital cameras, webcams, and other mod optical equipment. |

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| 1969 | Astronauts walk on the Moon. |
| 1960s | Douglas Engelbart develops the computer mouse. |
| 1960s | James Russell invents compact discs. |
| 1971 | Electronic ink is pioneered by Nick Sheridon at Xerox PARC. |
| 1971 | Ted Hoff builds the first single-chip computer or microprocessor. |
| 1973 | Martin Cooper develops the first handheld cellphone (mobile phone). |
| 1973 | Robert Metcalfe figures out a simple way of linking computers together that he names Ethernet. Most computers hooked up to the Internet now use it. |
| 1974 | First grocery-store purchase of an item coded with a barcode. |
| 1975 | Whitfield Diffie and Martin Hellman invent public-key cryptography. |
| 1975 | Pico Electronics develops X-10 home automation system. |
| 1976 | Steve Wozniak and Steve Jobs launch the Apple I: one of the world's first personal home computers |
| 1970s-1980s | Scientists including Charles Bennett, Paul Benioff, Richard Feynman, and David Deutsch sketch out how quantum computers might work. |
| 1980s | Japanese electrical pioneer Akio Morita develops the Sony Walkman, the first truly portable player for recorded music. |
| 1981 | Stung by Apple's success, IBM releases its own affordable personal computer (PC). |
| 1981 | The Space Shuttle makes its maiden voyage. |
| 1981 | Patricia Bath develops laser eye surgery for removing cataracts. |
| 1983 | Compact discs (CDs) are launched as a new way to store music by the Sony and Philips corporations. |
| 1989 | Tim Berners-Lee invents the World Wide Web. |
| 1991 | Linus Torvalds creates the first version of Linux, a collaboratively written computer operating system. |
| 1994 | American-born mathematician John Daugman perfects the mathematics that make iris scanning systems possible. |
| 1994 | Israeli computer scientists Alon Cohen and Lior Haramaty invent VoIP for sending telephone calls over the Internet. |
| 1995 | Broadcast.com becomes one of the world's first online radio stations. |
| 1995 | Pierre Omidyar launches the eBay auction website. |
| 1996 | WRAL-HD broadcasts the first high-definition television (HDTV) signal in the United States. |
| 1997 | Electronics companies agree to make Wi-Fi a worldwide standard for wireless Internet. |
| 2001 | Apple revolutionizes music listening by unveiling its iPod MP3 music player. |
| 2001 | The Wikipedia online encyclopedia is founded by Larry Sanger and Jimmy Wales. |
| 2001 | Bram Cohen develops BitTorrent file-sharing. |
| 2002 | iRobot Corporation releases the first version of its Roomba® vacuum cleaning robot. |
| 2004 | Electronic voting plays a major part in a controversial US Presidential Election. |
| 2004 | Andre Geim and Konstantin Novoselov discover graphene. |
| 2005 | A pioneering low-cost laptop for developing countries called OLPC is announced by MIT computing pioneer Nicholas Negroponte. |
| 2007 | Amazon.com launches its Kindle electronic book (e-book) reader. |
| 2007 | Apple introduces a touchscreen cellphone called the iPhone. |
| 2010 | Apple releases its touchscreen tablet computer, the iPad. |

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| 2010 | 3D TV starts to become more widely available. |

Modified version of list compiled by science writer Chris Woodford