**Answer NO-01**

Renaissance is a [period](https://en.wikipedia.org/wiki/Periodization). It’s a [period](https://en.wikipedia.org/wiki/Periodization) in [European history](https://en.wikipedia.org/wiki/History_of_Europe). Which marking the transition from the [Middle Ages](https://en.wikipedia.org/wiki/Middle_Ages) to [modernity](https://en.wikipedia.org/wiki/Modernity) and covering the 15th and 16th centuries, characterized by an effort to revive and surpass ideas and achievements of [classical antiquity](https://en.wikipedia.org/wiki/Classical_antiquity). It occurred after the [Crisis of the Late Middle Ages](https://en.wikipedia.org/wiki/Crisis_of_the_Late_Middle_Ages) and was associated with great [social change](https://en.wikipedia.org/wiki/Social_change). In addition to the standard periodization, proponents of a "long Renaissance" may put its beginning in the 14th century and its end in the 17th century. It’s a fervent period of European cultural, artistic, political and economic “rebirth” following the Middle Ages. Generally described as taking place from the 14th century to the 17th century, the Renaissance promoted the rediscovery of classical philosophy, literature and art. Renaissance means "rebirth" in French, typically refers to a period in European history from A.D. 1400 to A.D. 1600. Many historians, however, assert that it started earlier or ended later, depending on the country. It bridged the periods of the Middle Ages and modern history, and, depending on the country, overlaps with the Early Modern, Elizabethan and Restoration periods. The Renaissance is most closely associated with Italy, where it began in the 14th century, though countries such as Germany, England and France went through many of the same cultural changes and phenomena. Some of the greatest thinkers, authors, statesmen, scientists and artists in human history thrived during this era, while global exploration opened up new lands and cultures to European commerce. The Renaissance is credited with bridging the gap between the Middle Ages and modern-day civilization. It symbolised the beginning of a new era of art, rebirthing the classical models of Ancient Greek and [Rome](https://www.sightseeingtoursitaly.com/rome-attractions/) periods while using the modern techniques. **The Renaissance also saw the discovery and exploration of new territories, the replacement of the Ptolemaic system of astronomy with the Copernican system, the decline of feudalism and the rise of commerce, and the invention or application of potentially powerful innovations such as paper, printing, the mariner’s the compass and gunpowder. However, it was essentially a moment of the resurgence of classical learning and wisdom for intellectuals and thinkers of the day, following a lengthy period of cultural decline and stagnation.** The Renaissance had a profound impact on European cultural history as a new era of learning that led to advancements in new ideas and through them some of the most important moments in Human history. Chief among them was the Age of Discovery that led to the discovery of the North American continent and the French Revolution that changed the political landscape of Europe. However, while the Renaissance brought about some positive changes for Europe, the geographical exploration that flourished during this time led to devastation for the people of the Western Hemisphere as European conquest and colonization brought [plagues](https://www.livescience.com/55259-the-plague.html) and slavery to the Indigenous people living there. In Africa, it also brought about the birth of the trans-Atlantic slave trade that saw Black people shipped from Africa to the Western Hemisphere to work as slaves on European colonies. Many historians, including U.K.-based historian and writer Robert Wilde, prefer to think of the Renaissance as primarily an intellectual and cultural movement rather than a historical period. Interpreting the Renaissance as a time period, though convenient for historians, "masks the long roots of the Renaissance," Wilde told Live Science. During this time, interest in classical antiquity and philosophy grew, with some Renaissance thinkers using it as a way to revitalize their [culture](https://www.livescience.com/21478-what-is-culture-definition-of-culture.html). They expanded and interpreted these Classical ideas, creating their own style of art, philosophy and scientific inquiry. Some major developments of the Renaissance include developments in astronomy, humanist philosophy, the printing press, vernacular language in writing, painting and sculpture technique, world exploration and, in the late Renaissance, Shakespeare's works. The term Renaissance was not commonly used to refer to the period until the 19th century, when Swiss historian Jacob Burckhardt popularized it in his classic, "[The Civilization of Renaissance Italy](https://target.georiot.com/Proxy.ashx?tsid=74387&GR_URL=https%3A%2F%2Famazon.com%2Fdp%2F0486475972%3Ftag%3Dhawk-future-20%26ascsubtag%3Dlivescience-row-1237920077396214500-20)". Contrary to popular belief, classical texts and knowledge never completely vanished from Europe during the Middle Ages. Charles Homer Haskins wrote in "[The Renaissance of the Twelfth Century](https://target.georiot.com/Proxy.ashx?tsid=74387&GR_URL=https%3A%2F%2Famazon.com%2Fdp%2F0674760751%3Ftag%3Dhawk-future-20%26ascsubtag%3Dlivescience-row-8765727386954317000-20)" that there were three main periods that saw resurgences in the art and philosophy of antiquity: the Carolingian Renaissance, which occurred during the reign of Charlemagne, the first emperor of the Holy [Roman Empire](https://www.livescience.com/roman-empire) in eighth and ninth centuries, the Ottonian Renaissance, which developed during the reigns of emperors Otto I, Otto II and Otto III and the 12th century Renaissance. The 12th century Renaissance was especially influential on the later Renaissance, said Wilde. Europeans at the time studied on a larger scale Classical Latin texts and Greek science and philosophy; they also established early versions of universities. The [Crusades](https://www.livescience.com/what-were-the-crusades) played a role in ushering in the Renaissance, Philip Van Ness Myers wrote in "Medieval and Modern History". While crusading, Europeans encountered advanced Middle Eastern civilizations, which had made strides in many cultural fields. Islamic countries kept many classical Greek and [Roman](https://www.livescience.com/ancient-rome) texts that had been lost in Europe, and they were reintroduced through returning crusaders. The fall of the [Byzantine Empire](https://www.livescience.com/42158-history-of-the-byzantine-empire.html) at the hands of the Ottomans also played a role. "When the Ottomans sacked Constantinople in 1453, many scholars fled to Europe, bringing classical texts with them," Susan Abernethy, a Colorado-based historian and writer, told Live Science. "Conflict in Spain between the Moors and Christians also caused many academics to escape to other areas, particularly the Italian city-states of Florence, Padua and others. This created an atmosphere for a revival in learning." The [Black Death](https://www.livescience.com/what-was-the-black-death.html) helped set the stage for the Renaissance, [wrote Robert S. Gottfried](https://target.georiot.com/Proxy.ashx?tsid=74387&GR_URL=https%3A%2F%2Famazon.com%2FBlack-Death-Natural-Disaster-Medieval%2Fdp%2F0029123704%3Ftag%3Dhawk-future-20%26ascsubtag%3Dlivescience-row-1253522275433457000-20) in "The Black Death". Deaths of many prominent officials caused social and political upheaval in Florence, where the Renaissance is considered to have begun. The Medici family moved to Florence in the wake of the plague and over the centuries produced business and political leaders as well as four popes. The Medici's, and many others, took advantage of opportunities for greater social mobility. Becoming patrons of artists was a popular way for such newly powerful families to demonstrate their wealth. Some historians also argue that the Black Death caused people to question the church's emphasis on the afterlife and focus more on the present moment, which is an element of the Renaissance's humanist philosophy. Many historians consider Florence to be the Renaissance's birthplace, though others widen that designation to all of Italy. From Italy, Renaissance thought, values and artistic technique spread throughout Europe, according to Van Ness Myers. Military invasions in Italy helped spread ideas, while the end of the Hundred Years War between France and England allowed people to focus on things besides conflict. The development and growth of the [printing press](https://www.livescience.com/43639-who-invented-the-printing-press.html) was perhaps the most important technical achievement of the Renaissance. Johannes Gutenberg developed it in 1440, although the technology was used in China centuries earlier. It allowed Bibles, secular books, printed music and more to be made in larger quantities and reach more people. "The demand for perfect reproductions of texts and the renewed focus on studying them helped trigger one of the biggest discoveries in the whole of human history: printing with movable type. For me, this is the easiest and single greatest development of the Renaissance and allowed modern culture to develop," said Wilde. Wilde said one of the most significant changes that occurred during the Renaissance was the "evolution of Renaissance humanism as a method of thinking. This new outlook underpinned so much of the world then and now." Renaissance humanism, Wilde said, involved "attempts by man to master nature rather than develop religious piety." Renaissance humanism looked to classical Greek and Roman texts to change contemporary thought, allowing for a new mindset after the Middle Ages. Renaissance readers understood these classical texts as focusing on human decisions, actions and creations, rather than unquestioningly following the rules set forth by the Catholic Church as "God's plan." Though many Renaissance humanists remained religious, they believed God gave humans opportunities, and it was humanity's duty to do the best and most moral beings. Renaissance humanism was an "ethical theory and practice that emphasized reason, scientific inquiry and human fulfilment in the natural world," said Abernethy. Renaissance art was heavily influenced by classical art, wrote Virginia Cox in "[A Short History of the Italian Renaissance](https://target.georiot.com/Proxy.ashx?tsid=74387&GR_URL=https%3A%2F%2Famazon.com%2FHistory-Italian-Renaissance-I-B-Tauris-Histories%2Fdp%2F1784530778%3Ftag%3Dhawk-future-20%26ascsubtag%3Dlivescience-row-8977571359917024000-20)". Artists turned to Greek and Roman sculpture, painting and decorative arts for both inspiration and the fact that the techniques meshed with Renaissance humanist philosophy. Both classical and Renaissance art focused on human beauty and nature. People, even when in religious works, were depicted living life and showing emotion. Perspective, as well as light and shadow techniques improved; and paintings looked more three-dimensional and realistic. Patrons made it possible for successful Renaissance artists to work and develop new techniques. The Catholic Church commissioned most artwork during the Middle Ages, and while it continued to do so during the Renaissance, wealthy individuals also became important patrons, according to Cox. The most famous patrons were the Medici family in Florence, who supported the arts for much of the 15th and 16th centuries. The Medici family supported artists such as Michelangelo, Botticelli, da Vinci and Raphael. Florence was the initial epicentre of Renaissance art, but by the end of the 15th century, Rome had overtaken it. Pope Leo X ambitiously filled the city with religious buildings and art. This period, from the 1490s to the 1520s, is known as the High Renaissance. Renaissance music was characterized by its humanist traits. Composers read classical treatises on music and aimed to create music that would touch listeners emotionally. They began to incorporate lyrics more dramatically into compositions and considered music and poetry to be closely related, according to the Metropolitan Museum of Art. Renaissance literature, too, was characterized by humanist themes and a return to classical ideals of tragedy and comedy, according to the [Brooklyn College English Department](http://academic.brooklyn.cuny.edu/english/melani/cs6/ren.html). Shakespeare's works, especially "Hamlet," are good examples of this. Themes like human agency, life's non-religious meanings and the true nature of man are embraced, and Hamlet is an educated Renaissance man. The printing press allowed for popular plays to be published and re-deformed around Europe and the world. A play's popularity often determined whether publishers chose to print the script, wrote Janet Clarke, an emeritus professor of Renaissance Literature at the University of Hull, U.K., in her book "Shakespeare's Stage Traffic". "Publishers invested in plays that were popular as theatre traffic as much as they invested in the authors" wrote Hull. The most prevalent societal change during the Renaissance was the fall of feudalism and the rise of a capitalist market economy, said Abernethy. Increased trade and the labour shortage caused by the Black Death gave rise to something of a middle class. Workers could demand wages and good living conditions, and so serfdom ended. "Rulers began to realize they could maintain their power without the church. There were no more knights in service to the king and peasants in service to the lord of the manor," said Abernethy. Having money became more important than your allegiances. This shift frustrated popes. The "Peace of Westphalia," a series of treaties signed in 1648, made it harder for the pope to interfere in European politics. Pope Innocent X responded that it was "null, void, invalid, iniquitous, unjust, damnable, reprobate, inane, and devoid of meaning for all time." "Perhaps most important, the invention of the printing press allowed for the dissemination of the Bible in languages other than Latin," Abernethy continued. "Ordinary people were now able to read and learn the lessons of Scripture, leading to the Evangelical movement." These early Evangelicals emphasized the importance of the scriptures rather than the institutional power of the church and believed that salvation was personal conversion rather than being determined by indulgences or building works of art or architecture. The fracturing of Christians in western Europe into different groups led to conflicts, sometimes called the "wars of religion," that lasted for centuries in Europe. These conflicts sometimes led groups of people to leave Europe in hopes of avoiding persecution. One of these groups would become known as the Pilgrims when they came to Plymouth in 1620. Thirsty to learn more about the world and eager to improve trade routes, explorers sailed off to chart new lands. [Columbus](https://www.livescience.com/23748-christopher-columbus.html) "discovered" the New World in 1492, and [Ferdinand Magellan](https://www.livescience.com/42788-ferdinand-magellan.html) became the first person to successfully circumnavigate the globe in the early 1500s. For the people of the Western Hemisphere, the European exploration and colonization that occurred was disastrous. With little or no immunity to the diseases Europeans brought over, the Indigenous population was ravaged by plagues, with death rates in some areas estimated as high as 90%. The Spanish conquered the [Aztec](https://www.livescience.com/34660-tenochtitlan.html) and [Inca](https://www.livescience.com/41346-the-incas-history-of-andean-empire.html) Empires, forcing the native survivors to work as slaves. European powers also explored more of Africa, starting to conquer and colonize parts of the continent. As their strength in Africa grew, Europeans began to take people from Africa to work as slaves in some cases sending them to work on colonies in the Caribbean and South America this trans-Atlantic slave trade eventually expanding to what is now the United States. As scholars studied classical texts, they "resurrected the ancient Greek belief that creation was constructed around perfect laws and reasoning," Abernethy said. "There was an escalation in the study of astronomy, anatomy and medicine, geography, alchemy, [mathematics](https://www.livescience.com/38936-mathematics.html)and architecture as the ancients studied them." One of the major scientific discoveries of the Renaissance came from Polish mathematician and astronomer [Nicolaus Copernicus](http://www.space.com/15684-nicolaus-copernicus.html). In the 1530s, he published his theory of a heliocentric [solar system](https://www.livescience.com/our-solar-system.html). This places the sun, not the Earth, at the centre of the [solar system](https://www.livescience.com/tag/solar-system). It was a major breakthrough in the history of science, though the Catholic Church banned the printing of Copernicus' book. [Galileo Galilei](http://www.space.com/15589-galileo-galilei.html) was a major Renaissance scientist persecuted for his scientific experiments. Galileo improved the telescope, discovered new celestial bodies and found support for a heliocentric solar system. He conducted motion experiments on pendulums and falling objects that paved the way for [Isaac Newton's discoveries](https://www.livescience.com/20296-isaac-newton.html) about [gravity](https://www.livescience.com/37115-what-is-gravity.html). The Catholic Church forced him to spend the last nine years of his life under house arrest. While the term "Renaissance festival" typically refers to modern-day festivals that celebrate the art and culture of the Renaissance, there were festivals that took place during the Renaissance itself. For instance, Henri II, who was king of France between 1547 and 1559, held festivals periodically throughout his reign that included stages of performers and lengthy parades. The festivals included the arrivals of the king into the city or town where the festival was being held, wrote Richard Cooper, an emeritus professor of French at the University of Oxford, in a paper published in the book "Court Festivals of the European Renaissance". Henri II sometimes held these festivals to make an important event such as the coronation of his queen or a military victory, wrote Cooper. "The Renaissance was a time of transition from the ancient world to the modern and provided the foundation for the birth of the Age of Enlightenment," said Abernethy. The developments in science, art, philosophy and trade, as well as technological advancements like the printing press, left lasting impressions on society and set the stage for many elements of our modern culture. However, while the Renaissance had some positive impact for Europe, it had devastating impacts for people of the Western Hemisphere, as plagues decimated Indigenous populations and the survivors often found themselves enslaved and under the rule of European colonizers. This system of conquest, colonization and slavery also repeated itself in Africa as European power grew. Today, the ramifications of European colonization and slavery are still felt and hotly debated around the world.

There is not an exact date of the beginning of the Renaissance period, but it was rumoured to begin in the period from 1350 until the year 1400. Starting in [Florence](https://www.sightseeingtoursitaly.com/florence-attractions/), Italy, before spreading out to the rest of the country. Prior to the Renaissance period, in the middle ages, people thought life should and always be hard. It was a world filled with war and hard work, with citizens working themselves into the ground until they perished. However, by the 1300s, the people of Florence began to think differently. Studying the past lives of the Greeks and Romans, they realised that life could be done in another way, which introduced the new way of thinking called humanism. Using the comforts of life, reawakening art, culture, science, technology, and music to bring more joy into life. As Italy was a considerably wealthy country at the time, it was easy for them to extravagantly spend their money on the finer things of life, cultivating humanism quickly. Wealthy merchants hired artisans and craftspeople more frequently. As well as competitions among artists and thinkers occurring more frequently. Art began to flourish, and new thoughts began to emerge. With the entire continent spending more and more money on the fine arts. This began the foundation for the European age of exploration, which soon led to Europe’s global power. The end of the Renaissance period ties in directly with Florence’s decline. It first began with the invasion of Florence by France in 1494, as well as Italy, breaking into warfare between its city-states. The introduction of the Renaissance gave birth to many political and intellectual movements, with the era having a large backlash. By the 1550s, many of the artworks and literature that helped developed the Renaissance were banned. And by the mid-1550s, the Renaissance was over completely in Italy. However, it was live alive across Europe, with other country’s growing this era even after Italian’s end. The Renaissance period cultivated a new change in art, knowledge, and culture. It changed the way the citizens thought, with first the rediscovery of classical philosophy, literature, and art, as well as the new discoveries in travel, invention, and style. This era was so important has it changed the way the world thought, with new inventions, styles, and explorations that are still influential and occurring to this day. The term ‘Renaissance Man’ refers to the highly influential people who shaped this period of time. They were masters of invention, engineering, creatively and travel, with some of their discoveries and inventions still used widely to this day. The Renaissance paintings and sculptures can be found throughout Europe and elsewhere, spread out now due to their demand. However, a large majority still remain within their birth country, namely in [Vatican City](https://www.sightseeingtoursitaly.com/attractions/vatican-city/). The city is home to one of the biggest art collections in existence, named the Vatican Museums. This doesn’t just refer to a couple buildings but in fact 54 separate galleries, comprising of over 1400 rooms. At of the 70,000 artwork pieces displayed in these museums, a large number of them are from the Renaissance period.

The [Renaissance](https://www.historycrunch.com/renaissance.html) was an important event in European history that stretched from the 14th century to the 17th century.  It was preceded by the [Middle Ages](https://www.historycrunch.com/middle-ages.html) in Europe and eventually led to the major events of the [Age of Enlightenment](https://www.historycrunch.com/age-of-enlightenment.html).  In historical terms the Renaissance is important because it led to a major shift in European thought and worldview.  While the Renaissance is considered to have begun in the [city-states of the Italian peninsula](https://www.historycrunch.com/renaissance-city-states.html) in the 14th century, the main ideas of the movement eventually spread to all of Europe by the 16th century.  The most significant changes that emerged as a result of the Renaissance can be seen in European architecture, art, literature, mathematics, music, philosophy, politics, religion and science.  Historians have identified several causes for the emergence of the Renaissance following the Middle Ages, such as: increased interaction between different cultures, the rediscovery of ancient Greek and Roman texts, the emergence of [humanism](https://www.historycrunch.com/renaissance-humanism.html), different artistic and technological innovations, and the impacts of conflict and death.

**The first and foremost factor of renaissance was the decline of feudalism. The feudal way virtually disappeared from western European countries by the 1500 A.D. The middle class comprising of traders and businessmen provided financial support to the kings and thereby enabled them to reduce their dependence on the feudal lords. Moreover, the development of trade  
and commerce caused inflation which greatly benefited the craftsmen, merchants and cultivators. However, the feudal lords could not increase their rents and they were forced to depend on usurers. Finally, the feudal lords were not able to repay the debts and were compelled to sell off their lands. This gave a serious blow to feudalism and memorial system. Such developments contributed to the growth of individualism and fostered fast the cause of Renaissance. There were many religious wars in between the Christians and Muslims in 11th and 14th century. The wars ended in the victory of the Muslims. As a result of which the western scholars came in contact with the East which was more civilized and polished. A number of western scholars went to the universities of Cairo, Cardona etc. and learned many new ideas which they subsequently spread in Europe. New ideas and scientific orientations greatly enriched the western mind to give place to Renaissance. The church dominated the medieval society. However, the Church suffered a setback in the thirteenth and fourteenth centuries. A number of strong monarchs challenged the temporal power of the Church. For instance, in 1296 A.D. King Phillip IV of France got the pope arrested and made him a prisoner. This gave a serious blow to the power and prestige of the pope. Even Church lost faith of common people due to rise of various rituals. The people gave importance on present rather than future. Some progressive rulers, popes and nobles adopted a lot of measures to boost in the ushering of the Renaissance. Rulers like Francis-I of France, Henry VIII of England, Charles V of Spain, Christian II of Denmark etc. gave patronage to scholars and caused the revival of Greco-Roman classics. Furthermore, popes like Nicholas- V and Leo X etc. encouraged the study of ancient Greek and Roman classical and patronized classical art, sculpture, music etc. In short, certain kings, popes and nobles patronized literary men, artists and scientists and thereby contributed towards Renaissance. Geographical voyage was a potent factor of Renaissance. The invention of mariners’ compass encouraged the sea adventurers. It enabled them to know the exact direction in which they were sailing. The notions about the shape and size of the world in vogue were also challenged. Later on, with the discovery of telescope people were able to scan the sky and started the study of astronomy. They also got knowledge on the real position of earth in the solar system. All this knowledge went against the Church and contributed a lot in the weakening of the authority of the ecclesiastical system. There was remarkable progress in trade and commerce during 12th and 13th centuries. This greatly helped in the growth of wealth and prosperity of the people in Europe. So, a wealthy class of traders, bankers and manufactures emerged. This class patronized artists and scholars. The class also provided security and protection to the artists and encouraged them to produce  
outstanding works, which helped in the emergence of renaissance. The invention of printing machine was responsible for Renaissance. In 1454 printing machine printed letters and printed books. William Caxton brought this machine to England in 1477 A.D. With the march of time; printing machines were established in Italy, France, Belgium and other European countries. Thus, books could be published very easily with a short span of time. People could easily get books and learnt many things. This galvanized Renaissance. The main cause of Renaissance was the fall of Constantinople. For long it served as the centre of education and culture. Of course, it was under the clutches of the Christians However, many Greek scholars and Latin Pandits were very famous in teaching Greek language and literature to the people. In the year 1453 A.D. Muhammad-II of Ottoman Empire occupied Constantinople and devasted it. Out of fear, the Greek and Latin pundits left Constantinople and entered into different cities of Italy like Verztia, Milan, Nepol, Sicily, Rome etc. They taught mathematics, history, geography, philosophy, astronomy, medicine etc. to the people of Italy and thus they paved the way for Renaissance.**

**Answer NO-02**

There is differentiation between the nature of scientific and industrial revolution.

The Scientific Revolution was a series of events that marked the [emergence](https://en.wikipedia.org/wiki/Emergence) of [modern science](https://en.wikipedia.org/wiki/History_of_science) during the [early modern period](https://en.wikipedia.org/wiki/Early_modern_period), when developments in [mathematics](https://en.wikipedia.org/wiki/History_of_mathematics#Mathematics_during_the_Scientific_Revolution), [physics](https://en.wikipedia.org/wiki/History_of_physics#Scientific_Revolution), [astronomy](https://en.wikipedia.org/wiki/History_of_astronomy#Renaissance_Period), [biology](https://en.wikipedia.org/wiki/History_of_biology#Renaissance_and_early_modern_developments) and [chemistry](https://en.wikipedia.org/wiki/History_of_chemistry#17th_and_18th_centuries:_Early_chemistry) transformed the views of society about nature. The Scientific Revolution took place in Europe in the second half of the [Renaissance](https://en.wikipedia.org/wiki/Renaissance) period, with the 1543 [Nicolaus Copernicus](https://en.wikipedia.org/wiki/Nicolaus_Copernicus) publication [De revolutionibus orbium coelestium](https://en.wikipedia.org/wiki/De_revolutionibus_orbium_coelestium) often cited as its beginning. The scientific revolution emphasized systematic experimentation as the most valid research method, resulted in developments in mathematics, physics, astronomy, biology and chemistry. These developments transformed the views of society about nature. The scientific revolution was the emergence of modern science during the early modern period, when developments in mathematics, physics, astronomy, biology including human anatomy and chemistry transformed societal views about nature. The scientific revolution began in Europe toward the end of the Renaissance period and continued through the late 18th century, influencing the intellectual social movement known as the Enlightenment. While its dates are disputed, the publication in 1543 of Nicolaus Copernicus’s De revolutionibus orbium coelestiumOn the Revolutions of the Heavenly Spheresis often cited as marking the beginning of the scientific revolution. The scientific revolution was built upon the foundation of ancient Greek learning and science in the Middle Ages, as it had been elaborated and further developed by Roman/Byzantine science and medieval Islamic science. The Aristotelian tradition was still an important intellectual framework in the 17th century, although by that time natural philosophers had moved away from much of it. Key scientific ideas dating back to classical antiquity had changed drastically over the years, and in many cases been discredited. The ideas that remained for example, Aristotle’s cosmology, which placed the Earth at the centre of a spherical hierarchic cosmos, or the Ptolemaic model of planetary motion were transformed fundamentally during the scientific revolution. The change to the medieval idea of science occurred for four reasons. Under the scientific method that was defined and applied in the 17th century, natural and artificial circumstances were abandoned, and a research tradition of systematic experimentation was slowly accepted throughout the scientific community. The philosophy of using an inductive approach to nature to abandon assumption and to attempt to simply observe with an open mind what was in strict contrast with the earlier, Aristotelian approach of deduction, by which analysis of known facts produced further understanding. In practice, many scientists and philosophers believed that a healthy mix of both was needed the willingness to both question assumptions, and to interpret observations assumed to have some degree of validity. During the scientific revolution, changing perceptions about the role of the scientist in respect to nature, the value of evidence, experimental or observed, led towards a scientific methodology in which empiricism played a large, but not absolute, role. The term British empiricism came into use to describe philosophical differences perceived between two of its founders Francis Bacon, described as empiricist, and René Descartes, who was described as a rationalist. Bacon’s works established and popularized inductive methodologies for scientific inquiry, often called the Baconian method, or sometimes simply the scientific method. His demand for a planned procedure of investigating all things natural marked a new turn in the rhetorical and theoretical framework for science, much of which still surrounds conceptions of proper methodology today. Correspondingly, Descartes distinguished between the knowledge that could be attained by reason alone, as for example, in mathematics, and the knowledge that required experience of the world, as in physics. Thomas Hobbes, George Berkeley and David Hume were the primary exponents of empiricism, and developed a sophisticated empirical tradition as the basis of human knowledge. The recognized founder of the approach was John Locke, who proposed in An Essay Concerning Human Understanding that the only true knowledge that could be accessible to the human mind was that which was based on experience. Many new ideas contributed to what is called the scientific revolution. Some of them were revolutions in their own fields.

The Industrial Revolution was a period of global transition of [human](https://en.wikipedia.org/wiki/Human) [economy](https://en.wikipedia.org/wiki/Economy) towards more efficient and stable manufacturing processes that succeeded the [Agricultural Revolution](https://en.wikipedia.org/wiki/British_Agricultural_Revolution), starting from Great Britain, [continental Europe](https://en.wikipedia.org/wiki/Continental_Europe), and the United States, that occurred during the period from around 1760 to about 1820–1840. This transition included going from [hand production methods](https://en.wikipedia.org/wiki/Craft_production) to [machines](https://en.wikipedia.org/wiki/Machine); new [chemical manufacturing](https://en.wikipedia.org/wiki/Chemical_industry) and [iron production](https://en.wikipedia.org/wiki/Puddling_(metallurgy)) processes; the increasing use of [water power](https://en.wikipedia.org/wiki/Hydropower) and [steam power](https://en.wikipedia.org/wiki/Steam_engine); the development of [machine tools](https://en.wikipedia.org/wiki/Machine_tool); and the rise of the [mechanized](https://en.wikipedia.org/wiki/Mechanization) [factory system](https://en.wikipedia.org/wiki/Factory_system). Output greatly increased, and a result was an unprecedented rise in population and in the rate of [population growth](https://en.wikipedia.org/wiki/Population_growth). The [textile industry](https://en.wikipedia.org/wiki/Textile_industry) was the first to use modern production methods and [textiles](https://en.wikipedia.org/wiki/Textile) became the dominant industry in terms of employment, value of output and [capital](https://en.wikipedia.org/wiki/Capital_(economics)) invested. The Industrial Revolution was a period of major mechanization and innovation that began in Great Britain during the mid-18th century and early 19th century and later spread throughout much of the world. The British Industrial Revolution was dominated by the exploitation of coal and iron. The American Industrial Revolution, sometimes referred to as the Second Industrial Revolution, began in the 1870s and continued through World War II. The era saw the mechanization of agriculture and manufacturing and the introduction of new modes of transportation including steamships, the automobile, and airplanes. The Industrial Revolution was a period of scientific and technological development in the 18th century that transformed largely rural, agrarian societies especially in Europe and North America into industrialized, urban ones. Goods that had once been painstakingly crafted by hand started to be produced in mass quantities by machines in factories, thanks to the introduction of new machines and techniques in textiles, iron making and other industries. The Industrial Revolution, also known as the First Industrial Revolution. Though a few innovations were developed as early as the 1700s, the Industrial Revolution began in earnest by the 1830s and 1840s in Britain, and soon spread to the rest of the world, including the United States. Modern historians often refer to this period as the First Industrial Revolution, to set it apart from a [second period of industrialization](https://www.history.com/news/second-industrial-revolution-advances) that took place from the late 19th to early 20th centuries and saw rapid advances in the steel, electric and automobile industries.

It has long been a common sensical notion that the rise of modern [science](https://www.britannica.com/science/science) and the Industrial Revolution were closely connected. It is difficult to show any direct effect of scientific discoveries upon the rise of the textile or even the metallurgical industry in Great Britain, the home of the Industrial Revolution, but there certainly was a similarity in attitude to be found **in science and**[**nascent**](https://www.merriam-webster.com/dictionary/nascent)**industry. Close observation and careful generalization leading to practical utilization were characteristic of both industrialists and experimentalists alike in the 18th century. In general, the Industrial Revolution proceeded without much direct scientific help. Yet the potential influence of science was to prove of fundamental importance.** The scientific revolution is about the 1500–1800A.D. change in human relationships, where the scientific method gained sufficient approval in society to be regarded as autonomous. That went from a typical exchange over it with the Inquisition’s question’s and trials of researchers into political and theological implications, all the way to the experience of Simon De Laplace. This was when he presented the future Emperor, Napoleon, with his book “Celestial Mechanics”, and Napoleon interrogated him with “Monsieur, I am told that your book contains no mention of God, yes?” All Laplace had to reply was “I found no need for that hypothesis”, without the slightest attempt at retribution by the State, or the Church. This was basically accomplished by 1800. Like the continuing industrial revolution, the scientific revolution is seeing reactions against its necessary intellectual freedoms of action due to political demands that hypothesis and results \*not\* be allowed if they thwart political doctrine. Scientific Revolution refers to the great intellectual achievements from 16th-17th century marking a radical change in the assumptions, attitudes and methods in scientific inquiry. Industrial Revolution Considered as the most fundamental transformations of human life in history.

**I feel that, the nature of scientific Revolution was more of step to help prepare for the Industrial Revolution. I think that they both worked together hand and hand.**

**Answer NO-04**

The 19th century was a revolutionary period for European history and a time of great transformation in all spheres of life. Human and civil rights, democracy and nationalism, industrialisation and free market systems, all ushered in a period of change and chance. The 19th century saw unprecedented economic growth in Europe, accompanied by immense social and political upheavals. In the nineteenth century Europe changed more rapidly and more radically than during any prior period. These six specially commissioned chapters by eminent historians offer the student and general reader a unique approach to understanding one of the most complex periods of modern history, addressing all the major issues in Europe's political, social, economic, cultural, international, and Imperial history. Histories of European international politics are punctuated by turning points. Typically, these watersheds have been connected to major wars. What do such histories have to tell us about nineteenth century Europe? What, if anything, is left out in the telling? My purposes in posing these questions are, first, to suggest that these histories focus too narrowly on war and, second, to propose an alternative perspective on modern European politics. This perspective does not dispute the importance of war in European history. Rather, it frames the phenomenon of war in a particular way. Thus, I discuss what I term ‘the long nineteenth century’ a phase of European history that is initiated with the French Revolution and that ends with the military defeat of fascism. Such a perspective offers an alternative to other accounts of European history. First of all, it picks out different dates, 1789 and 1945. The analysis does not begin in 1800, a chronologically convenient turning point, or in 1815. And this phase of European history does not end in 1914, or in 1918. So, war counts in this story but not in the typical way, since I treat the long nineteenth century as a protracted phase of democratization in Europe. There are four parts to this essay. In the next section, I consider two important arguments about war and change in European society that pick out the Congress of Vienna and the Concert system as a decisive watershed in European and international politics. In the second section, I emphasize the revolutionary background to the Congress and Concert. This discussion includes an analysis of the strategic structure of revolution when democratic republicanism is introduced into a social system composed of dynastic states. In the third section, I continue the discussion of democratic republicanism and its impact in France and Europe. In the final section, I consider a different republican experiment, conducted under different conditions, and its consequences for democratic development in Europe at the end of the long nineteenth century. A frequently invoked turning point in the nineteenth century is the Congress of Vienna. This is often also considered a watershed in a longer sequence of development that begins in 1648 with the Treaty of Westphalia. European international politics, according to the authoritative work of Paul Schroeder, was transformed in the years 1813–1815. ‘A fundamental change occurred in the governing rules, norms and practices of international politics. The rules, norms and practices of the balance of power gave way to those of ‘political equilibrium’. 1 Ikenberry, as well, associates the Vienna settlement with an emergent historical pattern. ‘Beginning with the 1815 settlement and increasingly after 1919 and 1945, the leading state [after major war] has resorted to institutional strategies as mechanisms to establish restraints on indiscriminate and arbitrary state power and ‘lock-in’ a favourable and durable post-war order’. 2 Moreover, these three moments are linked parts of a larger dynamic in both accounts; they are not independent events. To study the meaning of 1815, 1914 and 1945 is not to study a random sample of events; there is serial correlation among these dates. By the end of the century Europe had reached the peak of its global power. Social and national tensions as well as international rivalries festered however - all exploding in conflict at the beginning of the 20th century.

**Answer NO-05**

World War I an international conflict that in 1914–18 embroiled most of the nations of [**Europe**](https://www.britannica.com/place/Europe) along with [**Russia**](https://www.britannica.com/place/Russia), the[**United States**](https://www.britannica.com/place/United-States), the [**Middle East**](https://www.britannica.com/place/Middle-East), and other regions. The [**war**](https://www.britannica.com/topic/war) pitted the [**Central Powers**](https://www.britannica.com/topic/Central-Powers). It was a deadly global conflict that originated in Europe. It was fought between the Allied Powers and the Central Powers. It was lasted from 28 July 1914 to 11 November 1918. The main members of the Allied Powers were France, Russia, and Britain. The United States also fought on the side of the Allies after 1917. The main members of the Central Powers were Germany, Austria-Hungary, the Ottoman Empire, and Bulgaria. **World War I** also called**First World War. It is also known** as the Great War. In short it’s called WWI. It known as the "war to end all wars". It was virtually unprecedented in the slaughter, carnage, and destruction it caused. It was one of the great watersheds of 20th-century geopolitical history. It led to the fall of four great imperial [dynasties](https://www.merriam-webster.com/dictionary/dynasties) in [Germany](https://www.britannica.com/place/German-Empire), [Russia](https://www.britannica.com/place/Russian-Empire), Austria-Hungary, and [Turkey](https://www.britannica.com/place/Ottoman-Empire). Resulted in the [Bolshevik Revolution](https://www.britannica.com/topic/October-Revolution-Russian-history) in Russia, and, in its destabilization of European society, laid the groundwork for [World War II](https://www.britannica.com/event/World-War-II). It started in 1914 after the assassination of Archduke Franz Ferdinand of Austria. His murder catapulted into a war across Europe that lasted until 1918. During the four-year conflict, Germany, Austria-Hungary, Bulgaria and the Ottoman Empire the Central Powers fought against Great Britain, France, Russia, Italy, Romania, Canada, Japan and the United States the Allied Powers. Thanks to new military technologies and the horrors of trench warfare, World War I saw unprecedented levels of carnage and destruction. By the time the war was over and the Allied Powers had won, more than 16 million people soldiers and civilians alike were dead. Over 30 nations declared war between 1914 and 1918. The majority joined on the side of the Allies, including Serbia, Russia, France, Britain, Italy and the United States. They were opposed by Germany, Austria-Hungary, Bulgaria and the Ottoman Empire, who together formed the Central Powers. What began as a relatively small conflict in southeast Europe became a war between European empire. Britain and its Empire’s entry into the war made this a truly global conflict fought on a geographical scale never seen before. Fighting occurred not only on the Western Front, but in eastern and southeast Europe, Africa and the Middle East. The First World War was not inevitable or accidental, but began as a result of human actions and decisions. Over 65 million men volunteered or were conscripted to fight in mass citizen armies. Millions of civilians also contributed to the war effort by working in industry, agriculture or jobs left open when men enlisted. Victory depended on popular support. Some nations were forced to surrender as their people, pushed to their physical and emotional limits, lost the will to continue fighting. The First World War was also a war against people. Invading armies committed atrocities against civilians in the areas they occupied. Attacks on civilians became increasingly common as each nation tried to break their opponents’ home morale and diminish popular support for the war. Propaganda demonised entire nations and attacked the ‘national characters’ of enemy peoples. National resources were mobilised as each combatant nation raced to supply its armed forces with enough men and equipment. In Britain, early failures in munitions manufacturing led to full government intervention in war production. These controls helped its industry produce nearly 4 million rifles, 250,000 machine guns, 52,000 aeroplanes, 2,800 tanks, 25,000 artillery pieces and over 170 million rounds of artillery shells by 1918. Advances in weaponry and military technology provoked tactical changes as each side tried to gain an advantage over the other. The introduction of aircraft into war left soldiers and civilians vulnerable to attacks from above for the first time. Major innovations were also made in manufacturing, chemistry and communications. Medical advances made the First World War the first major conflict in which British deaths in battle outnumbered deaths caused by disease. The First World War left an estimated 16 million soldiers and civilians dead and countless others physically and psychologically wounded. The war also forever altered the world’s social and political landscape. It accelerated changes in attitudes towards gender and class and led to the collapse of the Russian, Austro-Hungarian and Ottoman empires. The cost of waging total war - and of rebuilding afterwards - ravaged the national economies of both the victorious European Allies and the defeated Central Powers. The human cost of the First World War for Britain saw the creation of a new language of remembrance, which remains to this day. It can be seen in war memorials in cities, towns, schools, places of worship and workplaces, as well as in rituals such as Remembrance Sunday and the two-minute silence at 11am each 11 November. By the end of the war, over 17 million people had been killed, including over 100,000 American troops. While the [causes of the war](https://www.thoughtco.com/origins-of-wwi-quiz-4156391) are infinitely more complicated than a simple timeline of events, and are still debated and discussed to this day, the list below provides an overview of the most frequently-cited events that led to war. World War I occurred between July 1914 and November 11, 1918. By the end of the war, over 17 million people would be killed including over 100,000 American troops. The reason why war erupted is actually much more complicated than a simple list of causes. While there was a chain of events that directly led to the fighting, the actual root causes are much deeper and part of continued debate and discussion. This list is an overview of the most popular reasons that are cited as the root causes of World War 1. There was no single event that led to World War I. The war happened because of several different events that took place in the years building up to 1914. In the background there were many conflicts between European nations. Nations grouped among themselves to form military alliances as there were tension and suspicion among them. Countries like Germany and Austria-Hungary wanted colonies in Africa and Asia, while Britain wanted to protect its Empire and control India. Austria-Hungary, Germany, and Italy allied called the Triple Entente because they wanted to counter British power in Europe.

The causes of the First World War were:

* The new international expansionist policy of Germany: In 1890 the new emperor of Germany, Wilhelm II, began an international policy that sought to turn his country into a world power. Germany was seen as a threat by the other powers and destabilized the international situation.
* Mutual Defence Alliances: Countries throughout Europe made mutual defence agreements. These treaties meant that if one country was attacked, allied countries were bound to defend them. Like the **Triple Alliance 1882** linking Germany with Austria-Hungary and Italy. The Triple Entente, which was made up of Britain, France, and Russia, concluded by 1907. Thus, there were two rival groups in Europe.
* Imperialism: Before World War I, Africa and parts of Asia were points of contention among the European countries because of their raw materials. The increasing competition and desire for greater empires led to an increase in the confrontation that helped push the world into World War I.
* Militarism: As the world entered the 20th century, an arms race had begun. By 1914, Germany had the greatest increase in military build-up. Great Britain and Germany both greatly increased their navies in this time period. This increase in militarism helped push the countries involved into war.
* Nationalism: Much of the origin of the war was based on the desire of the Slavic peoples in Bosnia and Herzegovina to no longer be part of Austria Hungary but instead be part of Serbia. In this way, nationalism led to the War.
* Assassination of Archduke Franz Ferdinand: In June 1914, Archduke Franz Ferdinand, the heir to the throne of Austria-Hungary, was shot while he was visiting Sarajevo in Bosnia. He was killed by a Serbian person, who thought that Serbia should control Bosnia instead of Austria. Because its leader had been shot, Austria-Hungary declared war on Serbia. As a result: Russia got involved as it had an alliance with Serbia. Then Germany declared war on Russia because Germany had an alliance with Austria-Hungary and Britain declared war on Germany because of its invasion of neutral Belgium Britain had agreements to protect both Belgium and France.
* Some of the major battles during the war included the First Battle of the Marne, Battle of the Somme, Battle of Tannenberg, Battle of Gallipoli, and the Battle of Verdun.

World War I saw a change in warfare, from the hand-to-hand style of older wars to the inclusion of weapons that used technology and removed the individual from close combat. The war had extremely high casualties over 15 million dead and 20 million injured. The face of warfare would never be the same again.