leaning tower of pisa history

On December 15, 2001, Italy’s Leaning Tower of Pisa reopens after a team of experts spent 11 years and $27 million to fortify the tower without eliminating its famous lean.

In the 12th century, construction began on the bell tower for the cathedral of Pisa, a busy trade center on the Arno River in western Italy, some 50 miles from Florence. While construction was still in progress, the tower’s foundation began to sink into the soft, marshy ground, causing it to lean to one side. Its builders tried to compensate for the lean by making the top stories slightly taller on one side, but the extra masonry required only made the tower sink further. By the time it was completed in 1360, modern-day engineers say it was a miracle it didn’t fall down completely.

Though the cathedral itself and the adjoining baptistery also leaned slightly, it was the Torre Pendente di Pisa, or Leaning Tower of Pisa, that became the city’s most famous tourist attraction. By the 20th century, the 190-foot-high white marble tower leaned a dramatic 15 feet off the perpendicular. In the year before its closing in 1990, 1 million people visited the old tower, climbing its 293 weathered steps to the top and gazing out over the green Campo dei Miracoli (Field of Miracles) outside. Fearing it was about to collapse, officials appointed a group of 14 archeologists, architects and soil experts to figure out how to take some–but not all–of the famous tilt away.

Though an initial attempt in 1994 almost toppled the tower, engineers were eventually able to reduce the lean by between 16 and 17 inches by removing earth from underneath the foundations. When the tower reopened on December 15, 2001, engineers predicted it would take 300 years to return to its 1990 position. Though entrance to the tower is now limited, hordes of tourists can still be found outside, striking the classic pose—standing next to the tower pretending to hold it up—as cameras flash.

**About Leaning Tower of Pisa**

The Leaning Tower of Pisa, also known as the Tower of Pisa or ‘Torre pendente di Pisa’ in Italian, is one of the world’s most famous buildings due to its leaning stance, which leaves it forever appearing to be toppling over.

**Leaning Tower of Pisa history**

Originally construction of the Leaning Tower of Pisa was begun in 1174, with the intention of it being a freestanding bell tower for [Pisa’s cathedral](https://www.historyhit.com/locations/pisa-cathedral-complex/). Located in the Field of Miracles or ‘Campo del Miracoli’, the tower began to lean very early on in its construction, apparently around the time of the construction of its third floor.

The [reason for the lean](https://www.historyhit.com/why-does-the-leaning-tower-of-pisa-lean/) is that the ground on which it was built is sandy and unstable and the foundations used for the tower were insufficient to cope with this.

In 1185, a long period commenced in which construction of the Tower of Pisa ceased, the halt in progress usually being attributed to the fact that the Pisans were preoccupied with a succession of wars such as with [Florence](https://www.historyhit.com/who-were-the-medicis-the-family-that-ruled-florence/). Giovanni di Simone continued work on the tower in 1260 and, while there was a further pause in construction along the way, the Tower of Pisa was finally completed in 1360.

Since that time, the tower’s lean has continued to increase, leading to fears that it would indeed fulfil its promise to topple. Until 1990 the tower was leaning at a 10 degree angle. However, following an extensive and highly complex project, the Leaning Tower of Pisa is now stable.

**Leaning Tower of Pisa today**

Today, visitors can admire the ornate white marble structure that stands 60 metres tall and climb to the top of the Leaning Tower of Pisa up a staggering 300 steps. Be aware, if you want to get up close to the tower you will need to book tickets in advance as this is undoubtedly the city’s most popular tourist destination.

Of course, any visit to Pisa would not be complete without a photograph of yourself appearing to prop up the leaning tower.

**Getting to the Leaning Tower of Pisa**

Within Pisa’s historic centre, the tower is hard to miss on foot and is easily reached via public transport. Buses E3 and Linea 21 stop at Contessa Matilde just across the road while E25 stops on the other side of the Piazza del Duomo. For those driving, there is plenty of parking nearby

# **10 Fascinating Facts About the World Famous Leaning Tower of Pisa**

The Leaning Tower of Pisa is a bell tower, built to ring out the rituals of medieval Catholicism. With eight colonnaded stories containing 207 marble columns, the structure stands 56.67 meters (185.9 feet) at its highest point and contains 251 steps leading to the top through via spiraling staircases. While any building project of this magnitude takes time, repeated wars interrupted the tower's construction. Over its construction, the tower passed through multiple generations of architects.

In medieval times, unified Italy did not exist; Pisa was a city-state vying for power with its neighbors. After a successful military expedition, Pisa decided to build a magnificent cathedral known as the **Duomo di Pisa**. The complex of buildings was constructed in Romanesque marble and contains a domed baptistery and a cloistered cemetery, in addition to the cathedral. The campanile (bell tower) has since become the most famous building of the complex for its dramatic lean.

Many people assume that the Leaning Tower of Pisa leans because of age. However, the tower actually began to lean as early as 1178—when only three stories had been built. Unfortunately, the choice of location had something to do with it. It was anchored upon shifting clay and sandy soil which was not ideal for a 14-ton structure.

The architects of the tower tried to compensate by adding stories shorter on one side (to correct the lean), but this did not work. “Over the next 800 years, it became clear the 55-meter tower wasn’t just learning but was actually falling at a rate of one to two millimeters per year.”

Legend has it that scientist [Galileo Galilei](https://mymodernmet.com/galileo-galilei-facts/), a Pisa-local, experimented with gravity from atop the tower. He dropped two equal-sized cannonballs of different masses to clock their impact. Galilei was investigating the old wisdom that heavier objects fall faster, but this we now know to be untrue when other factors are equal.

For a leaning tower, one might assume a large earthquake would be fatal. But surprisingly, the tower is still standing after at least four significant quakes. In 2018, a team of engineers sought to understand why the tower never fell. Their [published findings](https://www.sciencedaily.com/releases/2018/05/180509105004.htm) claim the sinking structure has dynamic soil-structure interaction. This means that the soft soil below the tower actually prevents the structure from reverberating as much as it might if built on more solid ground. George Mylonakis, the paper's co-author, commented, “Ironically, the very same soil that caused the leaning instability and brought the Tower to the verge of collapse, can be credited for helping it survive these seismic events.”

[**Height**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+height&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdNSzE620k8sSs7ILElNLiktStUvLikqBbOsMlIz0zNKFrHK5KQm5mXmpSuU5JenFinkpykUZBYnKkCkAfl4y2JOAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECGIQAg)**:**57 m

[**Construction started**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+construction+started&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdPSz0620k8sSs7ILElNLiktStUvLikqBbOskvPzIJzM_DyF4pLEopLUlEWsWjmpiXmZeekKJfnlqUUK-WkKBZnFiQrYFAMA2ThrLGoAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECGoQAg)**:**August 9, 1173

[**Architects**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+architects&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdNSyU620k8sSs7ILElNLiktStUvLikqBbOs4MKLWBVyUhPzMvPSFUryy1OLFPLTFAoyixMV4CqKAauxu8NVAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECHAQAg)**:**[Diotisalvi](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=Diotisalvi&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMVPiArGMM3KyjbO0VLKTrfQTi5IzMktSk0tKi1L1i0uKSsEsK7jwIlYul8z8kszixJyyzB2sjLvYmTgYAU01Z7BTAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQmxMoAXoECHAQAw), [Guglielmo](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=Guglielmo&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMVPi1U_XNzRMK7csyE3KNtFSyU620k8sSs7ILElNLiktStUvLikqBbOs4MKLWDndS9NzMlNzcvN3sDLuYmfiYAQAz88YeVUAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQmxMoAnoECHAQBA)

[**Opened**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+opened&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdNSzE620k8sSs7ILElNLiktStUvLikqBbOs8gtS81JTFrHK5KQm5mXmpSuU5JenFinkpykUZBYnKkCkAUMtOUdOAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECG0QAg)**:**1372

[**Province**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+province&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdOSy0620s_JT04syczPgzOsCoryyzLzklMXscrlpCbmZealK5Tkl6cWKeSnKRRkFicqwBQAAO-xoEdNAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECG4QAg)**:**[Province of Pisa](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=Province+of+Pisa&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMVPiBLFMjc2Lc7XkspOt9HPykxNLMvPz4AyrgqL8ssy85NRFrAIBUKZCfppCQGZx4g5Wxl3sTBwMADf0uSdSAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQmxMoAXoECG4QAw)

[**Materials**](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=leaning+tower+of+pisa+materials&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMdNSyii30k_Oz8lJTS7JzM_Tz8lPTgQxiq1yE0tSizITc4oXscrnpCbmZealK5Tkl6cWKeSnKRRkFicqwFUAADDUtAtSAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQ6BMoAHoECGgQAg)**:**[Marble](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=Marble&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMVMCs0xKUjK0lDLKrfST83NyUpNLMvPz9HPykxNBjGKr3MSS1KLMxJziRaxsvolFSTmpO1gZd7EzcTACAJO9ZlJLAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQmxMoAXoECGgQAw), [Rock](https://www.google.com/search?sxsrf=APq-WBtXapbQ0UzMWzscdMy9ev-U3t_Qyw:1650800579032&q=Rock&stick=H4sIAAAAAAAAAOPgE-LQz9U3SM4zMVPiBLEMk5OqCrWUMsqt9JPzc3JSk0sy8_P0c_KTE0GMYqvcxJLUoszEnOJFrCxB-cnZO1gZd7EzcTACAG1uGJBKAAAA&sa=X&ved=2ahUKEwjVu-6wz6z3AhUpxoUKHZV_DwQQmxMoAnoECGgQBA)

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| Leaning Tower of Pisa in 2013 | |
| **Religion** | |
| [**Affiliation**](https://en.wikipedia.org/wiki/List_of_religions_and_spiritual_traditions) | [Catholic Church](https://en.wikipedia.org/wiki/Catholic_Church) |
| [**Ecclesiastical or organizational status**](https://en.wikipedia.org/wiki/Ecclesiastical_polity) | Active |
| **Location** | |
| **Location** | [Pisa](https://en.wikipedia.org/wiki/Pisa), [Italy](https://en.wikipedia.org/wiki/Italy) |
| [**Geographic coordinates**](https://en.wikipedia.org/wiki/Geographic_coordinate_system) | [43°43′23″N 10°23′47″E](https://geohack.toolforge.org/geohack.php?pagename=Leaning_Tower_of_Pisa&params=43_43_23_N_10_23_47_E_type:landmark_region:IT-PI)[Coordinates](https://en.wikipedia.org/wiki/Geographic_coordinate_system): [43°43′23″N 10°23′47″E](https://geohack.toolforge.org/geohack.php?pagename=Leaning_Tower_of_Pisa&params=43_43_23_N_10_23_47_E_type:landmark_region:IT-PI) |
| **Architecture** | |
| [**Architect(s)**](https://en.wikipedia.org/wiki/Architect) | [Bonanno Pisano](https://en.wikipedia.org/wiki/Bonanno_Pisano) |
| [**Style**](https://en.wikipedia.org/wiki/Architectural_style) | [Romanesque](https://en.wikipedia.org/wiki/Romanesque_architecture) |
| **Groundbreaking** | 1173 |
| **Completed** | 1372 |
| **Specifications** | |
| **Height (max)** | 55.86 m (183 ft 3 in) |
| [**Materials**](https://en.wikipedia.org/wiki/Building_material) | * [marble](https://en.wikipedia.org/wiki/Marble) * [stone](https://en.wikipedia.org/wiki/Rock_(geology)) |