



Year Level: Year 8/9
Genre: Historical Report

Anyone for Pisa?

The Leaning Tower of Pisa was not supposed to lean at all. Situated behind the Cathedral, it was constructed as a freestanding bell tower or 'campanile' for the Italian town of Pisa, to notify locals when to attend church. The eight storey, 296 step noble, white marble tower was built in three stages spanning 177 years during a time of Pisa's golden age, which was marked by a period of military glory, thriving trade and the pinnacle of its artistic achievement.

Construction began in 1173 but by the time builders had reached the third level they noticed that the tower had started to subside and was leaning by four centimetres. Unfortunately, engineer Bonanno Pisano did not consider the ramifications of designing a mere three metre (10 ft.) thick stone foundation to support a 56 metre (185 ft.) tall tower weighing over 160,000 tonnes. His design was further flawed as the tower rested on unstable subsoil made of soft sand, rubble and clay, which was constantly shifting and sinking.

In an attempt to correct the lean, masons wedged stones into the base but this only made the tower lean the other way. Work on the tower halted for almost one hundred years during which time Pisa was engaged in many battles. This gave the soil time to settle and engineers time to explore more viable solutions for the tower's lean. Work resumed in 1275, with three uneven levels added and tilted to counterbalance the tower's lean. Construction was again halted in 1284 following Pisa's defeat by Genoa.

Architect Tommaso di Andrea Pisano completed the seventh floor of the tower in 1319. Many credit him for the construction of the lopsided belfry in 1372 which served to harmonise the Gothic elements of the bell-chamber with the Romanesque style of the tower. Seven bells were added in total - one for each musical scale. By the late twentieth century, the weight of the bells caused the structure to lean more than five metres (17 ft.) towards the south.

The Leaning Tower of Pisa was declared a UNESCO World Heritage Site in 1987. Engineers and mathematicians from around the world feared that the Leaning Tower of Pisa would be permanently destroyed if they did not stabilise the tilt. One of the stabilisation solutions was to remove the heavy bells and place eight hundred tonnes of lead counterweights to the elevated base.

Following twenty years of stabilisation studies, the tower was closed to visitors for twelve years, from 1990 to 2002 while experts began restorative work to correct the tower's five metre (17 ft.) tilt towards the south. Locals living in apartments and houses in the path of the Leaning Tower of Pisa were asked to vacate for their own safety. Tonnes of soil was removed from the raised end to straighten the tower. The lean was reduced by more than 45 centimetres (18 inches) and declared safe for several centuries to follow.

After an intensive phase of corrective reconstruction and stabilisation, the Leaning Tower of Pisa was reopened for visitors to marvel at this iconic Italian landmark. Many believe that it is a building of unparalleled beauty and one worth saving. Consistent efforts towards gradual surface restoration will help repair visual damage caused by corrosion and blackening due to its age and exposure to the elements. With such ongoing care, the Leaning Tower of Pisa is sure to preserve its place as one of the most popular tourist attractions in the world. Hopefully generations of visitors can delight in posing for photographs pretending to hold up or straighten the leaning tower.

QUESTIONS:

Author's Purpose (AP)

1) The author's intention was to...

- a) describe an event.
- b) entertain and amuse.
- c) provide historical information.
- d) explain a process.

Conclusions and Inferences (CI)

2) Pisa was a thriving metropolis during the 12th century.

- a) True
- b) False

Fact and Detail (FD)

3) What happened soon after construction first began in 1173?

- a) The tower started to crumble.
- b) The tower began to noticeably lean.
- c) Extra floors were added.
- d) Soil and concrete were added to strengthen the foundations.

Cause and Effect (CE)

4) Early on builders realised that the tower was leaning because...

- a) it was too heavy and built on soft ground with inadequate foundations.
- b) the tower was constructed using marble, limestone and lime mortar which are too brittle.
- c) the bells were too heavy for the tower.
- d) it had decayed because of its age.

Fact and Detail (FD)

5) What was the tower's intended use?

- a) A tower to place prisoners.
- b) A tower which could be used as a look out post during war.
- c) An architectural work of art to decorate the nearby castle.
- d) A bell tower that would ring to tell people to come to church.

Word in Context (WC)

6) Something that is of 'unparalleled beauty' is something that is...

- a) unable to be produced by humans.
- b) highly unusual or rare.
- c) possessing qualities known to others.
- d) unmatched in its magnificence.

Sequencing (S)

7) Which of the following accurately details the stages of the tower's reconstruction?

- a) masons inserted stones into the base; three uneven levels were added between 1275 and 1284; a lopsided belfry was added in 1372; extensive stabilisation and reconstruction work occurred in the late 20th century to correct the tower's lean; and recent surface restoration work has addressed the effects of corrosion and blackening
- b) construction began in 1172 but was halted due to engineering malfunctions; the fifth floor was completed and a Gothic belfry added in 1732; then the tower underwent significant restorative work to stabilise its lean
- c) it was listed as a UNESCO World Heritage Site in 1272; three uneven levels and a belfry were added 1372; tonnes of soil were removed from the lower end to straighten the tower; the bells were removed and counterweights used to elevate the base
- d) tonnes of soil was removed from the base to stabilise the tower's lean; lead counterweights were added to the base in 1275; a lopsided belfry was added in 1372; all seven bells were removed; surface restoration began to repair corrosion damage

Word in Context (WC)

8) A word that means campanile is...

- a) cathedral.
- b) building.
- c) obelisk.
- d) bell tower.

Summarising (SM)

9) Which of these best summarises the historical report?

- a) The Leaning Tower of Pisa was an engineering failure.
- b) Efforts to restore and preserve the Leaning Tower of Pisa have been worthwhile.
- c) The expenses involved in restoring the Leaning Tower of Pisa cannot be justified.
- d) Tourists frequenting the Leaning Tower of Pisa have caused it to lean and become unstable.

Conclusion and Inferences (CI)

10) Why do you think tourists enjoy visiting The Leaning Tower of Pisa?

- a) Visits to the tower are free.
- b) Everyone enjoys posing for silly photos with it.
- c) The tower is in Italy and this is a beautiful country.
- d) It is a remarkable building which has stood the test of time.

Words in Context (WC)

11) An architect is someone who...

- a) builds the structure.
- b) measures the space.
- c) designs the building.
- d) designs the interior.

Figurative Language (FL)

12) The phrase 'noble, white marble tower' is an example of...

- a) simile.
- b) hyperbole.
- c) personification.
- d) metaphor.