

The Leaning Tower of Pisa

The Leaning Tower of Pisa or simply the Tower of Pisa is the *campanile*, or freestanding bell tower, of the cathedral of the Italian city of Pisa, known worldwide for its nearly four-degree lean, the result of an unstable foundation. The tower is situated behind the Pisa Cathedral and is the third-oldest structure in the city's Cathedral Square, after the cathedral and the Pisa Baptistry.

The height of the tower is 55.86 metres (183.27 feet) from the ground on the low side and 56.67 metres (185.93 feet) on the high side. The width of the walls at the base is 2.44 m (8 ft 0.06 in). Its weight is estimated at 14,500 metric tons. The tower has 296 or 294 steps; the seventh floor has two fewer steps on the north-facing staircase.

The tower began to lean during construction in the 12th century, due to soft ground which could not properly support the structure's weight, and it worsened through the completion of construction in the 14th century. By 1990 the tilt had reached 5.5 degrees. The structure was stabilized by remedial work between 1993 and 2001, which reduced the tilt to 3.97 degrees.

In this activity, students will be able to create their own 3D replica of The Leaning Tower of Pisa out of everyday items that can be found at home.

Objective

Students will learn from this activity:

- How to create a 3D replica of the Tower of Pisa
- Use trial and error when cutting an angle to give the perception of a leaning tower without cutting too much.

Materials

- Toile paper roll (or paper towel roll cut to fit)
- Gray or white paint
- Paint brush
- 10-12 white or gray pipe cleaners
- kitchen scissors
- Glue
- White napkin or paper towel



Instructions:

1. Trim a little bit off on end of your tp roll. Cut it on an angle so your tower will "lean". Paint it gray or white.
2. Cut a bunch of pipe cleaners into 2-inch sections. Bend each section to make an arch. We wrapped ours around a pencil.
3. Glue a pipe cleaner around the top of your tower. Glue an arch below it.



4. Continue gluing arches all the way around. Glue another strip of pipe cleaner underneath. Glue another row of arches underneath.
5. Glue arches all the way down to the end of your tower, gluing strips of pipe cleaner in between.
6. Fold and roll a napkin and place it inside to finish off your Leaning Tower of Pisa!

