

13 Buildings Children Should Know





13 Buildings

Children Should Know

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PRESTEL

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Wasps build their homes out of paper; birds make complicated nests; and moles dig systems of burrows that have lots of rooms.

And what about humans? We, too, are born with a need to build things, as you can see if you watch children playing in a sandpit! Unlike most animals, however, humans have come up with a variety of architectural styles over time. Luckily, a lot of great buildings, some of them very old, have been preserved. 13 very special ones are presented and explained to you in this book. It wasn't easy to choose just 13—there are of course many, many more!



30 • The Eiffel Tower



32 • The Chrysler building



36 • The Guggenheim Museum, New York



38 • The Sydney Opera House



42 • The Beijing National Stadium

44 • Glossary

Explanation
of
special words

The wheel is invented

Baked and glazed tiles first made
in Mesopotamia

4000 BCE 3900 BCE 3800 BCE 3700 BCE 3600 BCE 3500 BCE 3400 BCE 3300 BCE 3200 BCE 3100 BCE 3000 BCE 2900 BCE



The Pyramids

were already being studied a long time ago: even Napoleon sent a team of scientists to Egypt.

2800 BCE 2700 BCE 2600 BCE 2500 BCE 2400 BCE 2300 BCE 2200 BCE 2100 BCE 2000 BCE 1900 BCE 1800 BCE 1700 BCE

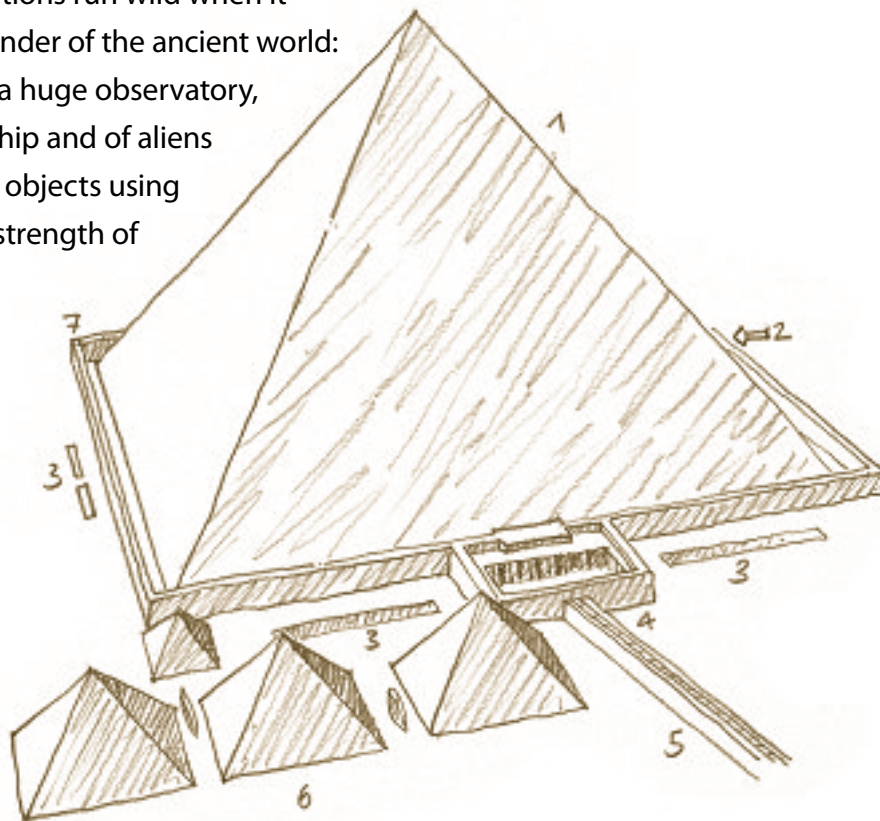
The Great Pyramid of Giza



The only one of the Seven Wonders of the Ancient World to have survived to this day; it is the biggest single building ever to have been constructed—and it was the highest in the world for the longest time. The Great Pyramid of Giza has broken lots of records!

To this very day, we don't quite know how the Egyptians managed to construct this enormous, perfect geometric miracle in stone over 4,000 years ago. You can still visit it on the outskirts of Cairo, the Egyptian capital. What were the pyramids built for? How did the architects and laborers manage to pile the incredibly heavy stones on top of each other without the help of modern machines or electric power? No wonder that some people's imaginations run wild when it comes to this wonder of the ancient world: some talk about a huge observatory, of places of worship and of aliens who could move objects using nothing but the strength of their willpower.

- 1 Great Pyramid of Giza
- 2 Entrance
- 3 Boat pits
- 4 Temple
- 5 Covered walkway
- 6 Queens' pyramids
- 7 Surrounding wall



Started:

c. 2554 BCE

Location:

Giza, near Cairo, Egypt

Commissioned by:

Pharaoh Khufu

Height:

146.6 m (481 feet); today, it is only 138.7 m/455 feet high because the tip is missing

Length of each side:

230.3 m (755 feet)

Material:

Limestone

Special features:

Together with its two sister pyramids, this is the only one of the Seven Wonders of the Ancient World left today

The Great Pyramid of Giza

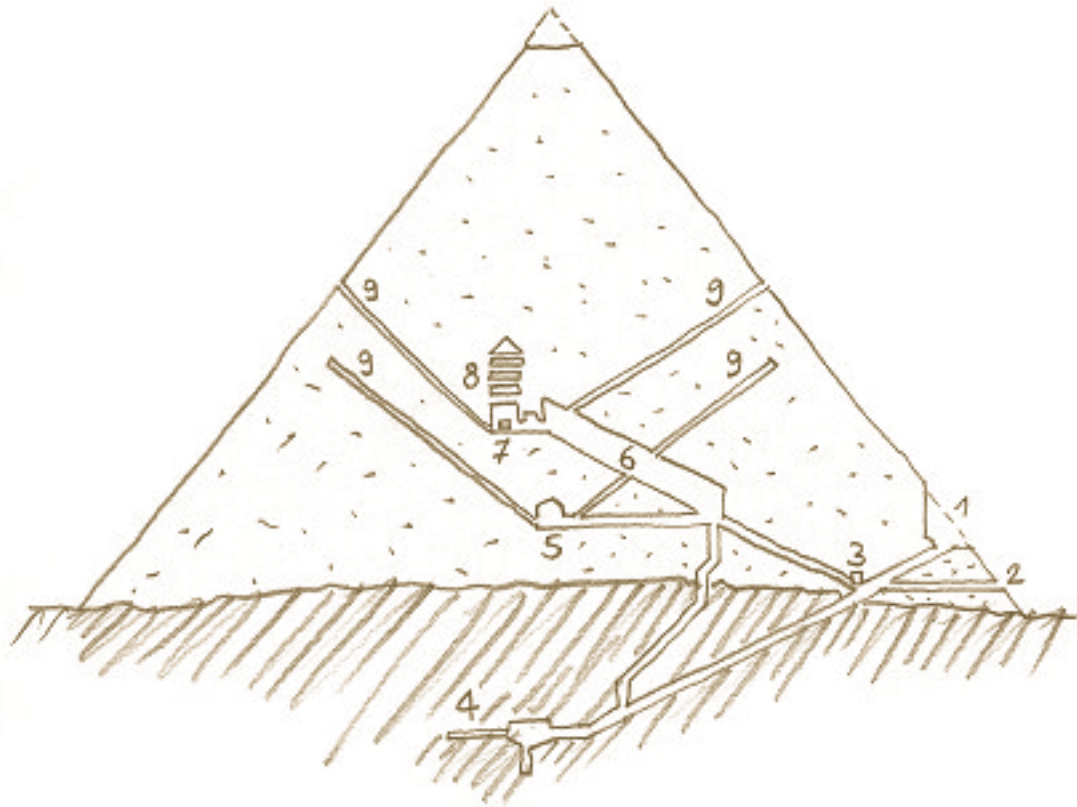
was the main structure on a big burial site that had walls, temples and smaller pyramids for the queens. The Ancient Egyptians even dug pits for the big boats that would carry the dead pharaoh's soul into the afterlife.

The archeologists* were right after all. They always thought that the Great Pyramid of Giza was built as a monumental tomb for the pharaoh Khufu, who was called Cheops in Greek. A stone coffin, known as a sarcophagus, was eventually found in the inner chamber. And there can be little doubt that the pyramid was built using the muscle-power of thousands and thousands of laborers and oxen.

Cross-section*

Here, you can see what sorts of rooms or chambers there are inside the Great Pyramid. They are very small even though the structure is so huge!

- 1 Original entrance
- 2 Entrance used today
- 3 Stones blocking the passage
- 4 Subterranean chamber
- 5 Queen's chamber
- 6 Grand gallery
- 7 King's chamber
- 8 Weight-relieving chambers
- 9 Shafts



A Big Building for a Small Mummy

For the Ancient Egyptians, life was the journey you had to take to reach your goal: the afterlife. The long path from the valley temple to the pyramid temple and the buried boats are symbols for this journey.

The body of the dead pharaoh was mummified using complicated methods. Specialists dried the body out, removed the inner organs and the brain, and then wrapped the body in a sort of fabric bandage. This way, the dead body would remain intact in the sarcophagus for eternity. Tests have shown that the pyramids' geometric shape helps speed up mummification.



The mummy of the pharaoh Khufu has disappeared and nothing but this small statue shows us what he looked like when he was alive.

An Army of Laborers or Aliens?

Most experts on pyramids think that approximately 20,000 laborers took 20 years to pull the heavy stones into place using sleds on flat ramps*. On average, these granite slabs weigh 2.5 tonnes, while some of the stone ceiling beams are estimated to weigh 80 tonnes! As a comparison: a family car weighs about 1.5 tonnes.



It is possible that ramps wound their way up inside the pyramid, a bit like a snail's shell. This would have protected the workers from the sun's glaring heat.

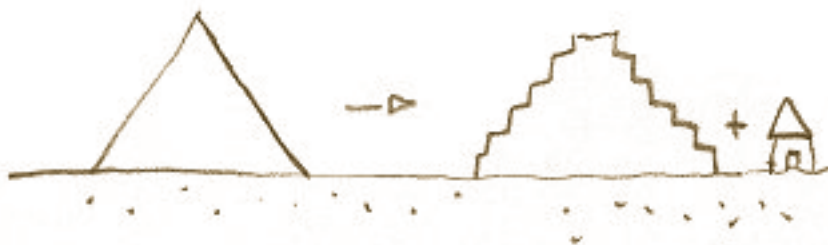
According to another theory, there was a long, straight ramp leading up the pyramid. The stones of which it was built could then have been incorporated into the pyramid itself, which would explain why there aren't any left for us to see today.



And then there are others who think that the pyramid must have been built by aliens from outer space.

What do you think?

Over the centuries, tomb robbers have stolen everything and anything that could be carried away, including the polished white limestone which formed a casing around the pyramid. They used this stone to build their own houses. That is why the Great Pyramid of Giza now has a stepped outer surface.



Quiz

A pyramid is a geometric form that has a rectangular base and four identical triangular sides. Where—apart from your math book—can you find other pyramids?

(Answer on p. 46)

Tip

If you log onto www.pbs.org/wgbh/nova/pyramid/explore/khufutombkinglo.html, you can go on a virtual exploration of the Great Pyramid of Giza.

2300 BCE–1000 BCE
Bronze Age in Europe

1000 BCE–500 CE Antiquity*

500–432 Phidias

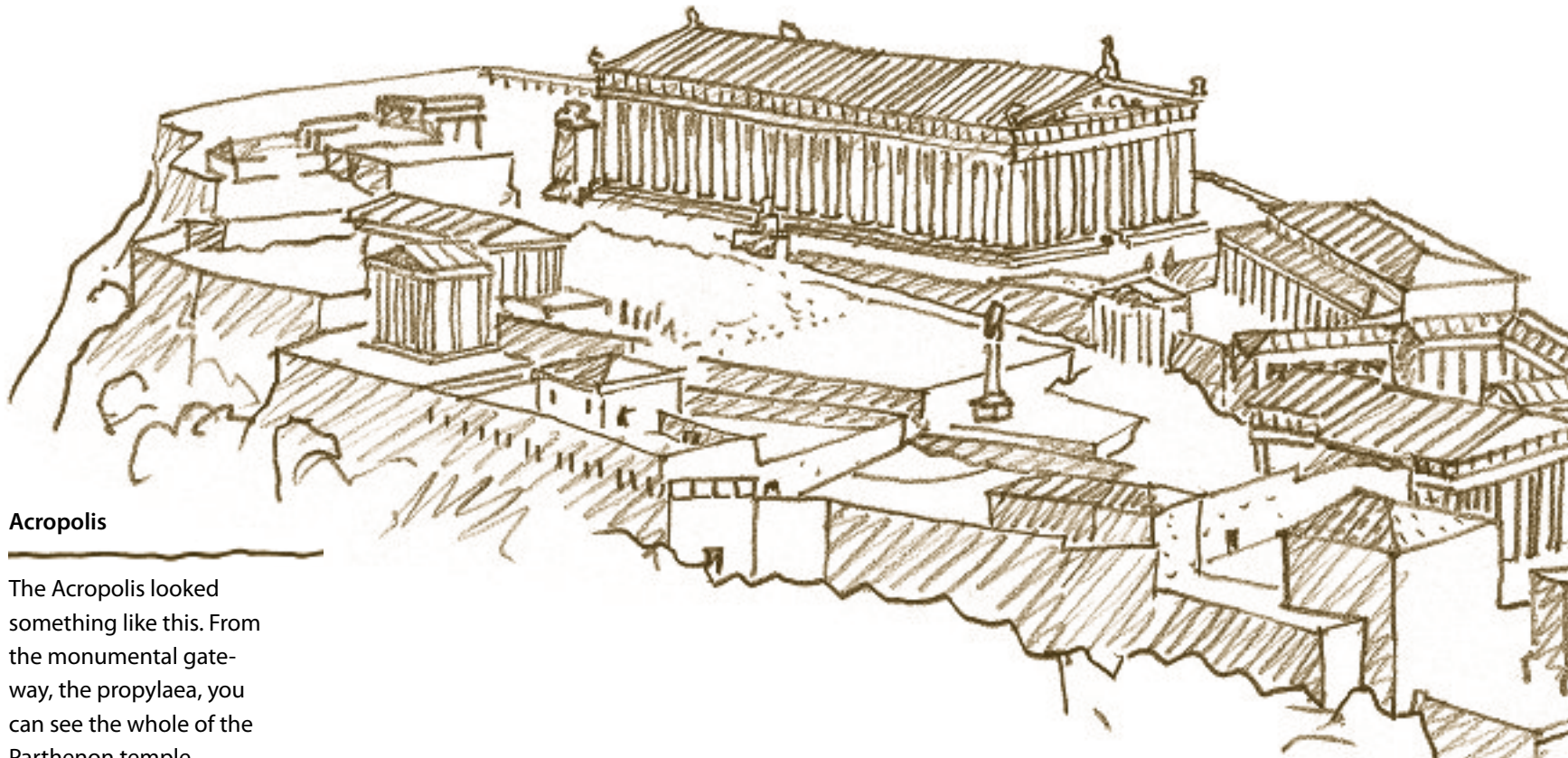
490–429 Pericles

120 BCE
The Romans
first use
cement for
building

970 BCE First evidence of a
pulley system being used

447–432 BCE Parthenon

1200 BCE 1100 BCE 1000 BCE 900 BCE 800 BCE 700 BCE 600 BCE 500 BCE 400 BCE 300 BCE 200 BCE 100 BCE



Acropolis

The Acropolis looked something like this. From the monumental gateway, the propylaea, you can see the whole of the Parthenon temple.



The Parthenon temple

And this is what the Parthenon temple looks like today. The ruins give an idea of its former glory.

0 The birth of Christ and the beginning of Christianity

c. 450 The Parthenon is turned into a church

0

100

150

200

250

300

350

400

450

500

550

600

The Parthenon



A colorful temple: the Parthenon is the most famous temple of Greek Antiquity

The buildings on the Acropolis, the “Sacred Rock” of Athens, had been destroyed by the Persians during the Persian Wars. And so the city’s governor* Pericles commissioned the famous sculptor Phidias and two architects to redesign the complex. At its center was the biggest and most beautiful of Greek temples: the Parthenon, which is roughly the same size as a soccer pitch.

Although all temples of this period are quite similar, architects constantly tried to improve the rigidly de-fined design of the building to achieve a perfect harmony. To this end, they used cleverly-devised proportions* and little tricks that are not immediately apparent. The corner pillars, for example, are slightly thicker than the rest, because they are better-illuminated than the others, which makes them look thinner. Thanks to this trick, all of the pillars look exactly the same.

There was a 12-meter (39-foot) statue of the goddess Athena in the inner chamber of the Parthenon, in the so-called “cella”, that disappeared however shortly after completion.

Started:

447–432 BCE

Location:

Athens, Greece

Architects:

Iktinos and Kallikrates, under the supervision of the sculptor Phidias

Size:

30.8 m x 69.5 m
(101 x 228 feet)

Height of outside pillars:

10.43 m (34.2 feet)

Material:

Marble

Style:

Greek Antiquity*

Special features:

Made entirely of marble, including the roof tiles

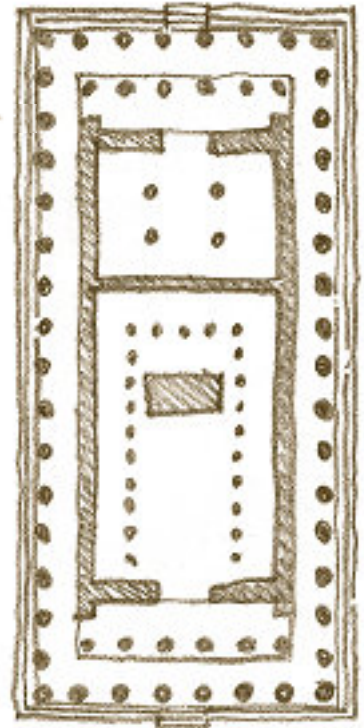
Sculptures from the Parthenon frieze

The Parthenon was decorated on the inside and the outside with wonderful sculptural reliefs. Only a fraction of these have survived to this day and are now scattered in various museums.



Ground plan*

There were lots of pillars around the "cella", the inner chamber in which the goddess's statue once stood.



The goddess Athena

It has only recently been discovered that Greek temples and statues were painted in bright colors. Tiny fragments of color have shown up under ultraviolet light. The figures' clothes and shields were decorated with colorful patterns, and pictures of animals or battle scenes.

What colors would you paint this statue of Athena?

Three Types of Columns

Classical Antiquity can be divided into three main “orders”: Doric, Ionic and Corinthian. The difference becomes clear when you look at the columns.



Doric

Doric columns are the only ones that don't have a base. The top end, called the capital, is very plain.



Ionic

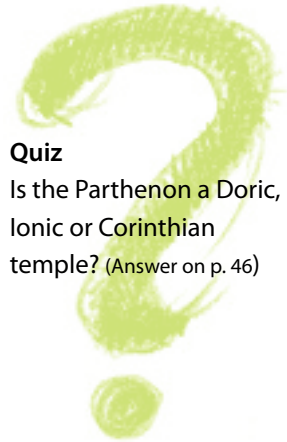
The capital of an Ionic column is in the shape of two thick scrolls.



Corinthian

Corinthian columns, on the other hand, are decorated with leaves.

You can impress people if you can remember this!



Quiz

Is the Parthenon a Doric, Ionic or Corinthian temple? (Answer on p. 46)

Tip

You don't even need to go to Greece to see these sorts of columns. A lot of buildings in European cities were built in the neoclassical* style. Munich's Königsplatz square, for example, was inspired by Greek architecture. Is there a building in your city that was built according to a Classical model?