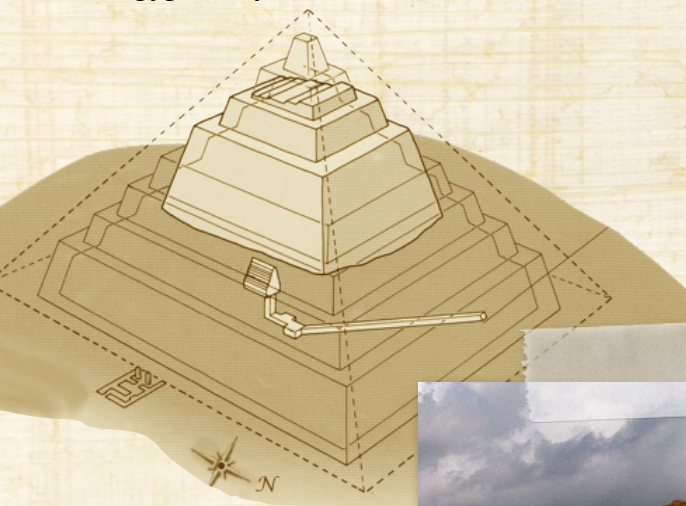


# The Pyramids

## Djoser's Step Pyramid

In the earliest Egyptian times, those who could afford it were buried under mud brick or stone platforms called **mastabas**. As time passed, mastabas got larger and larger, until finally someone had a great idea- why not be buried under two mastabas stacked on top of each other? Then the pharaoh Djoser took the idea a "step" further and built the first step pyramid. His 6-leveled step pyramid was the first massive stone structure in all of Egypt. It's a little run-down today, but when it was finished about 4500 years ago, it was capped with smooth, white limestone. Djoser's pyramid laid the foundation for other pyramids that were built later. There are actually over 100 pyramids in Egypt today!



The diagram above shows the original plan for Sneferu's first 7-step pyramid. Only the middle part was built before it collapsed during construction, which you can see above and to the right.



The bent pyramid, Sneferu's second try at pyramid building. You can see how the angle of the pyramid changes about half way up.

## The Bent Pyramid

Trying to out-do those who had come before, the pharaoh Sneferu planned a 7-stepped pyramid. There were some mistakes made in building it, and it collapsed in a rainstorm while it was still being

built. It was abandoned, and Sneferu started again. This time, instead of building a step pyramid, Sneferu wanted a real pyramid. About half way up the pyramid, the builders realized that the angle was too steep, and they changed it for the top half. Sneferu was probably not pleased and ordered a third pyramid be started. As the saying goes, the third time is the charm. Sneferu's third pyramid, called the Red Pyramid, was a success. It was Egypt's first true pyramid.





## The Pyramids at Giza & The Sphinx

The most famous pyramids in Egypt are the pyramids at Giza, especially the Great Pyramid. These three pyramids were built by the pharaohs Khufu, Khafre, and Menkaure. The Great Pyramid probably took about 20 years to complete, and was originally about 481 feet tall. In fact, it was the tallest structure in the world for thousands and thousands of years, from the time it was completed all the way until a taller **cathedral** church was completed in Medieval England in the year 1311. Historians think that Khafre didn't want to build a pyramid taller than his father's, so he built a slightly shorter pyramid, but built it on higher ground so that it has the appearance of being taller. Khafre also built the Great **Sphinx**, a statue with the body of a lion and the head of a man. Archaeologists believe that the sphinx was once brightly painted. Some traces of paint can still be seen near one of its ears. Sadly, its nose and beard were shot off many years ago by a Turkish army practicing with their cannons.

### How Were They Built?

How were these massive tombs built? Well, since the Egyptians didn't leave any records behind about how they did it, we don't really know for sure. Here are a few theories that historians have suggested:

**Quarried**, or cut stones, may have been pulled up a large ramp built on the outside of the pyramid. This ramp was probably **gradually enlarged** as the pyramid got taller and taller. Maybe there were several ramps on different sides of the pyramid at different heights. It's also possible, but less likely, that this ramp **spiraled** around the pyramid.



Others think that wooden cranes may have been used to lift the blocks into place. This theory is **disputed** because the Egyptians probably didn't have access to trees that were strong enough to lift the stones without breaking. The average weight of a pyramid block is about 5000 pounds, and there are about 2.3 million blocks in the Great Pyramid! Today, you can see all of the individual blocks that make up the pyramids, but in ancient Egyptian times, they would have been covered with smooth, white limestone that reflected the sun.

More recent theories involve lifting the stones directly up the outside face of the pyramid, a pulley system, or even sloping, ramp-like passageways that wrap around on the inside of the Great Pyramid. While some of these new theories are being explored, there isn't much evidence for them yet. How do you think the Egyptians moved all of those heavy stones into place?





Even today, the Great Pyramid is impressive in its size, towering above the desert and the nearby modern-day capital city of Cairo. (Above) But it would have been even more impressive in ancient times when it still had its smooth limestone **casing** and possibly even a gold-covered **capstone**. (Below) What happened to all of the beautiful limestone casing? Over thousands of years, other builders probably took the blocks and used them for other building projects.



## Who Built the Pyramids?

Because of Hollywood movies showing evil Egyptians whipping enslaved workers while they tug on massive stone blocks, many people today believe that slaves built the pyramids. This is

incorrect. The pyramids were actually probably built by two groups: first, a smaller group of skilled Egyptian craftsmen who worked on the pyramid year-round. These workers were **architects**, **engineers**, and **stone masons**.

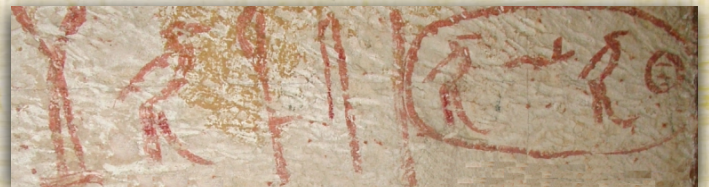
These skilled craftsmen were joined by a larger, second group of workers- Egyptian farmers. The Nile River floods very predictably. Egypt has three seasons- one where farmers can plant their crops, another where farmers can harvest them, and then a third where the Nile floods and covers farmland with water. When the waters **recede**, there is new, nutrient-rich silt that makes growing crops easy. But while the Nile is flooding, there isn't much for farmers to do. In order to make extra money and help support their families, Egyptian farmers probably traveled to large cities and worked for the pharaoh helping with construction projects, such as pyramid building.

Historians think that between 20,000 - 30,000 people helped build the Great Pyramid. That's a lot of people, and they all needed food to eat and a place to sleep. Archaeologists have recently

uncovered the remains of massive work camps next to the pyramids. These work camps were well organized, and evidence of bakeries, **breweries**, butcher shops, and cemeteries have been found. These workers were well fed and taken care of.

There is also evidence that building the pyramid may have been seen as respectable work-

a way to honor the king or serve the community. In recent years, ancient graffiti on the inside of the pyramid has been discovered where work crews left their crew name. One crew named themselves "Friends of Khufu," which suggests that the builders worked happily and willingly.



This ancient graffiti, discovered in a space above the king's burial chamber, reads "Friends of Khufu Gang."

## What's on the Inside?

When you enter the Great Pyramid, there is a passageway that descends downward. It leads to a chamber deep under the pyramid. This subterranean chamber has a small 53 foot passageway that leads off to the side, then suddenly and mysteriously ends. A second passageway that was originally hidden behind a stone leads upward. It leads to a smaller, lower chamber which is called the "Queen's Chamber" because it may have originally held the queen's mummy. Continuing upward, the tunnel opens up much taller. This area is called the "Grand Gallery." Right after this gallery is the "King's Chamber." The king's

mummy and any treasure were stolen long ago, probably within just a few days or weeks of the king being buried inside in ancient times. But the king's large stone sarcophagus is still inside. Why? Because it is too big to carry out through the tiny passageways. It appears that the pyramid was actually built around the stone coffin. There are other small shafts from the queen and king's chambers to the outside. We call them airshafts, but we're not sure what their purpose was. Perhaps they were built so that their souls could travel to the world of spirits during the day, and then return to their mummies at night.

