THE MYSTERY YET UNSOLVED

The Great pyramid is the largest and finest of three large pyramids on the Giza plateau near modern-day Cairo, Egypt. It is the only surviving member of the Seven Wonders of the Ancient World. The pyramid was built as a tomb for the great Cheops who ruled about 2600 BC.

The accuracy of the Great Pyramid's construction is most remarkable. The base is an almost perfect square. The difference between the longest and shortest sides is only 20 centimeters, and the four 90 degree corner angles are accurate to better than 3,5 arc minutes. Furthermore, the pyramid is oriented true north with a greater accuracy than any known structure, astronomical site or monument. The most accurate north oriented structure of modern times is the Paris observatory. It is 6 minutes of a degree off true north. The Great Pyramid is only 3 minutes of a degree off true north. These 3 minutes of a degree off true north is due to either a shift in the earth's pole or movement of the African continent. It was originally perfectly oriented north.

The pyramid itself is estimated to contain some 2.3 million blocks of stone so its total weight would have been 6,000.000 tons. Granite blocks were used in some internal features, such as the King's Chamber, while limestone blocks were used for most of the body of the pyramid. A typical limestone block weighs about 3 tons. The heaviest granite blocks weigh more than 70 tons.

It was originally 147 metres tall, but some of its upper stones are gone now and it stands about 140 metres high. Its base covers an area of about 5 hectares.

A study of the pyramid shows how these gigantic structures must have been built (still, there are so many mysterious circumstances about how they achieved it) . The ancient Egyptians had no machinery or iron tools. They cut big limestone blocks with copper chisels and saws. Most of the stones came from quarries nearby. But some came by boat from distant quarries. Gangs of men dragged the blocks to the pyramid site and pushed the first layer of stone into place. Then they built long ramps of earth and brick, and dragged the stones up the ramps to form the next layer. As they finished each layer, they raised and lengthened the ramps. Finally, they laid stones. They laid these stones so exactly that from a distance the pyramid appeared to have been cut out of a single white stone.

(Abridged from various internet sources)

WARM UP

Would you know how to answer these questions ?

1. What is a pyramid?

2. What was it built for?

3. Who built the pyramids?

4. How did they do it?

5. Which pyramid is the largest? Why is it known as one of the Seven Wonders of the world?

READING

1. Read the text about the Great Pyramid of Cheops and check whether you were right or wrong with your answers.

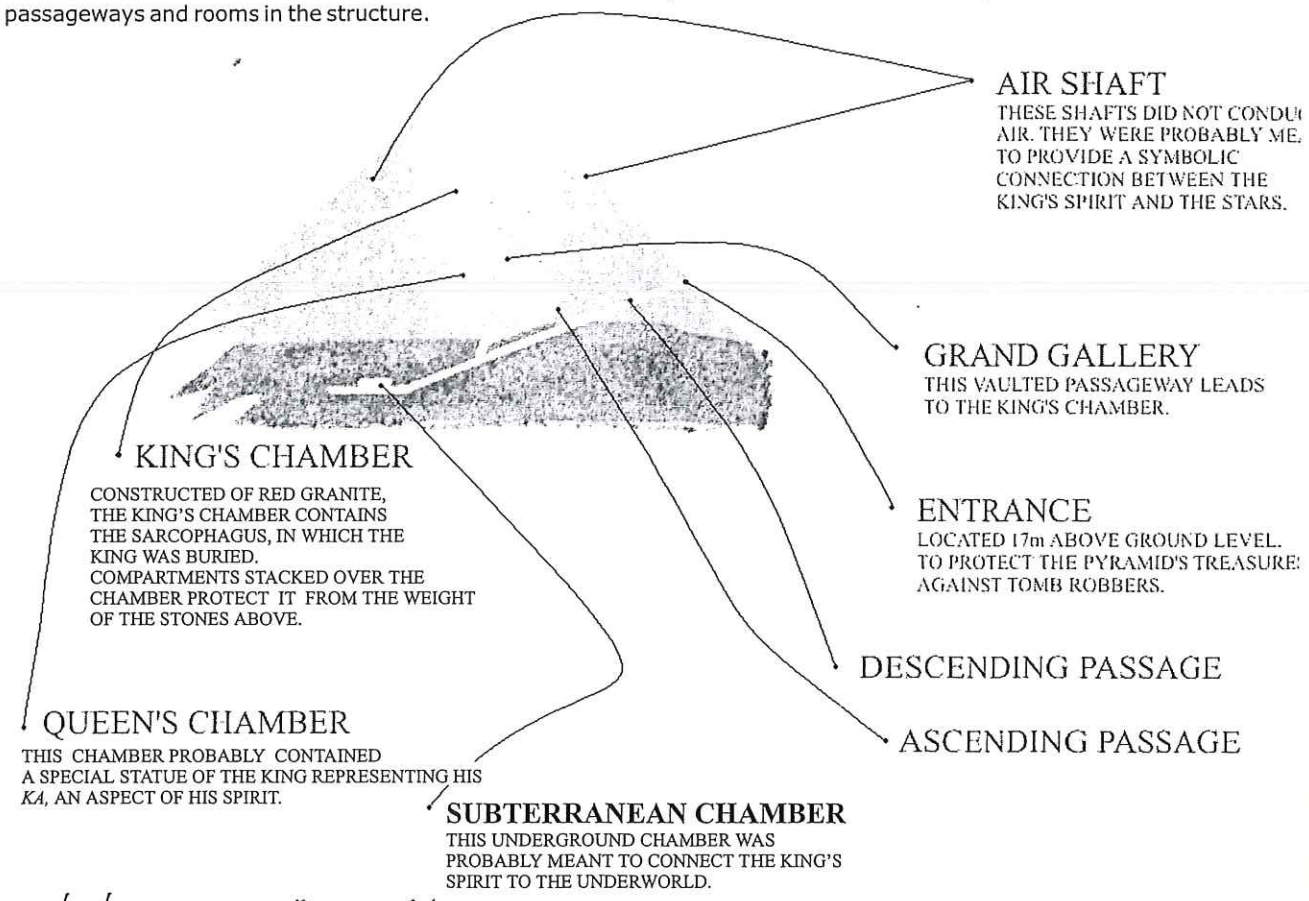
The first recorded entry into the pyramid was in A.D. 820 by the Caliph Al Mamoun. He could not find the original opening so he opened up the new passage. Unlike any other known pyramid, this one had both ascending and descending inner passages, three chambers and a magnificent grand gallery. The descending passage is set at a 26 degree angle that descends down 105 m into the earth under the pyramid. The passageway is only 1.1 m wide and 1.2 m high. It leads only to a subterranean chamber. The narrow ascending passage leads to the 8.5 m high Grand Gallery which at its base leads to the Queen's Chamber and at its top to the King's Chamber.

No one knows how long it took to build the Great pyramid. The ancient Greek historian Herodotus said that the work went on in four-month shifts, with 100,000 workers in each shift.

The Great Pyramid's construction obviously must have been directed by at least one intelligent and knowledgeable individual who possessed considerable design, engineering, and construction expertise. The accuracy of its construction leaves no doubt that the Great Pyramid was a brilliant engineering concept worked out to near perfection.

(Abridged from various internet sources)

FIG. 5: The Great Pyramid in Egypt, built by King Khufu, has a complex interior. This illustration contains information about the most important passageways and rooms in the structure.



. Make the Great Pyramid's ID card !

Location:

Position:

Construction time:

Construction material:

Construction period:

Total weight :

Total original height:

Present height:

Surface:

Interior:

Purpose:

VOCABULARY

1. Make a list of all new words and expressions dealing with civil engineering profession. Consult your teacher or use the glossary to learn their meanings.

2. Complete the definitions on the right by putting the following words in the gaps as appropriate: angle, accuracy, chisel, copper, coating, base.

3. Try to give your own definitions for the following words: quarry, ascending, descending, subterranean and saw.

1. _____ is a tool with a sharp flat edge at the end, for shaping wood, stone or metal.

2. _____ is the lowest part of sth, especially the part on which it rests or is supported.

3. _____is the amount of distance between the directions of two lines or surfaces where they meet.

4. _____ is a thin layer or covering.

5. _____is a common, fairly soft, reddish brown metal through which heat passes easily.

6. _____is the state of being correct or exact.

GRAMMAR:
REVISE AND PRACTISE PAST TENSES

1. Complete the passage with an appropriate past tense form (active or passive) of the verbs in brackets.

Unable to find the builder's hidden entrance, the Caliph Al Mamoun and his men_____(make) their best guess as to where to begin and _____(spend) weeks tunneling into the pyramid's north face. The men _____(tunnel) a few meters in that direction when they _____(hear) the sound of a large stone falling. They_____(tunnel) a few metres in that direction and soon _____(break) through the wall of what we call the Descending passage. They _____(find out) that it _____(lead) 80 metres down to an empty and unfinished Subterranean chamber.

At the top end of the Descending passage, they _____(discover) the architect's original Entrance passage which _____(hide) from the outside world. The architect _____(thwart) the Caliph's discovery of the Entranace passage by constructing it some 8 meters east of the central line of the pyramid's north face.

The aforementioned falling stone _____(be) a great Prismatic stone, which _____(dislodge) by the violence of the Caliph's tunneling efforts. The architect _____ carefully _____(shape) and _____(craft) the Prismatic stone as a section of false ceiling for the Descending passage.

2. Underline the correct form. ⇨

1. The Caliph *found/ had found* out that the pyramid *had already been/ was already* entered by persons unknown and methods unknown.

2. How *did/had* the looters *enter/entered*?

3. After they *reached/had* reached the top of the narrow Ascending passage, the Caliph's men *continued / had continued* another 48 meters through the 8.5 meter-high Grand gallery.

4. What *did/had* the architect *have/had* in mind when he designed the Great pyramid?

5. The tomb had *been / was* robbed long before archeologists *had come/came* upon it.

3. Turn these sentences into the Past Simple or Past Perfect! ⇨

1.The sarcophagus built for Cheops is much too large for the narrow passage that has already been built.

_____

_____

2. Egyptians believe that the stars are inhabited by gods and sons of the dead.

_____

_____

3. Excavators dig in the sand to find some new evidences.

_____

4. No one knows anything about the architect who is both engineer and artist.

_____

_____

5. The local inhabitants rebuild their homes with the casing stones that give the pyramid a smooth surface.

_____

_____

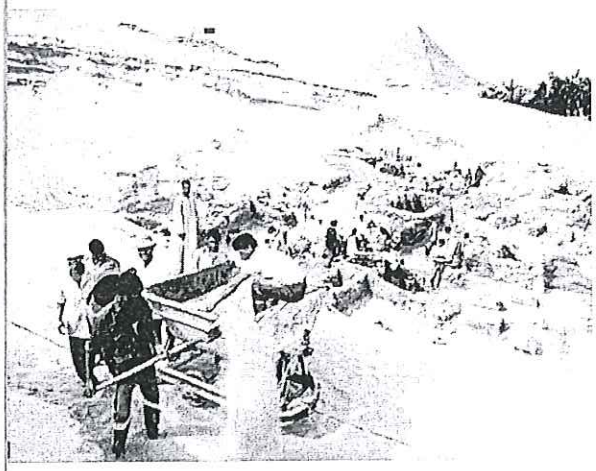


FIG. 6: EGYPTIAN ARCHAEOLOGICAL DIG

For centuries people have sought to learn about ancient Egyptian civilization by reclaiming structures and relics from the desert. This dig, near the Great Pyramid at Giza, uncovered a cemetery for many of the workers who built the pyramid.

TRANSLATING:

ORIGINAL CONSTRUCTION MADE THE PYRAMID SHINE LIKE A STAR

It was originally covered with casing stones (made of highly polished limestone). These casing stones reflected the sun's light and made the pyramid shine like a jewel. They are no longer present being used by Arabs to build mosques after an earthquake in the 14th century loosened many of them. It has been calculated that the original pyramid with its casing stones would act like gigantic mirrors and reflect light so powerful that it would be visible from the moon as a shining star on earth. Appropriately, the ancient Egyptians called the Great Pyramid "Ikhet", meaning the "Glorious Light."

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WRITING

Use the facts from the text about the pyramid to write a letter to your friend from the imaginary journey to Cairo. To make it more authentic and interesting use expressions like: I couldn't believe my eyes..., Did you know that...?, Can you imagine that..., I wonder how... Use as many new words from the original text as possible.

HAVE FUN

OXYMORON

Oxymoron is a figure of speech in which two contradictory terms are combined, like the phrase "good grief". In fact, the word oxymoron is an oxymoron because its two Greek roots are of opposite meaning- oxy "sharp" and moron "foolish". Here is the list of 10 oxymora. How many of them can you match to make the correct phrases?

old	opposition
pretty	unseen
civil	news
small	war
deafening	secret
industrial	ugly
loyal	fortune
sight	park
open	silence