



وزارة الدفاع
الهيئة الهندسية للقوات المسلحة
إدارة المشروعات الكبرى



Children's Museum

Children Civilization & Creativity Center

متحف الطفل

مركز الطفل للحضارة والإبداع



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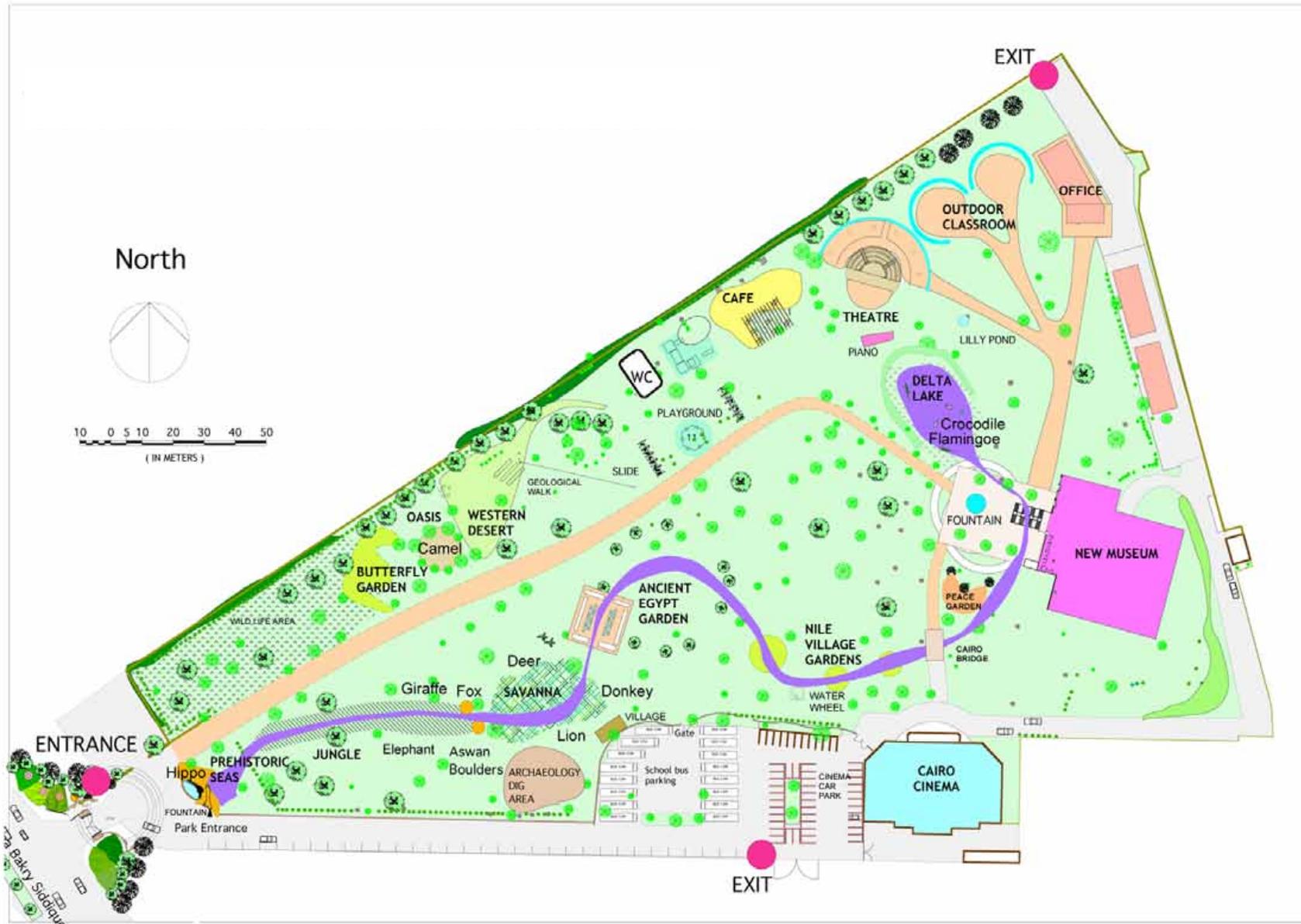
Entrance Path

Space Pyramidion – Symbol of Egypt past and future, from Pyramids to the Stars – the path you will follow in the museum.



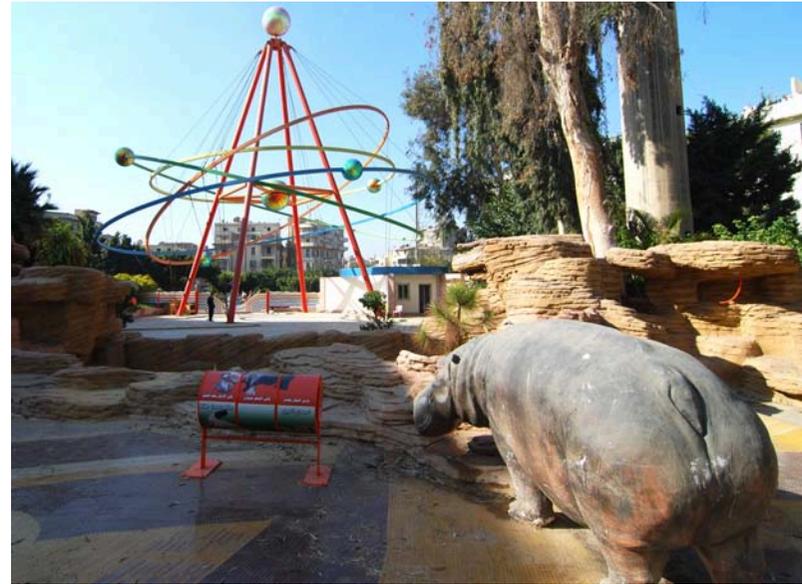
Children's Centre for Civilisation and Creativity Garden Plan

Follow the Path to discover the Nile's Historic Landscape



Nile Source Fountain

The Ancient river that created Egypt began flowing in Pre-history. The Entrance Fountain recalls the ancient river, just as the fossils in its rocks recall the Dinosaurs that lived on its banks. Later the river was flooded by the sea and early giant mammals, like Basilosaurus, swam above Cairo. At the beginning of mankind's settlement in the Nile Valley the river had begun to reoccupy the eroded ancient river valley, depositing alluvium silts to create habitable land beside the river. The crocodile and hippo are descendants of these first inhabitants of the Nile of 6 – 60 million years ago.



Jungle

The first landscape of the Nile was a dense African jungle occupied by elephants and giraffes. At this time, nearly 150,000 years ago, mankind may have first come to live along the river and their ancient Ascheulian stone tools date from this period. At the end of this era North Africa began to enter a dry period resulting in the shrinking of the Jungle. The last records of these animals being in Egypt may date from 20,000 years ago, when early mankind inscribed images of them on rocks along the river.



Savanna

As the Jungle shrank away the land of Egypt became open Savanna grasslands and semi-arid desert from 20,000 – 4,000 years ago. Lions and antelope roamed the landscape and man recorded them as late as the Middle Kingdom when the Egyptian kings would hunt them. The final desertification of Egypt forced mankind to live only along the riverbanks and the civilisations of Egypt began to develop.



Historic Egypt – Two Landscapes

Since Pharaonic times the people of Egypt have been divided between the Desert and the River.

The Desert is occupied by nomadic tribes, the Bedouin and Beja, here it is celebrated by the Bedouin camp at an Oasis, accompanied by the Desert Foxes.

The river bank became a cultivated market garden. Here the Pharaonic civilization grew food and cultivated herbs and spices, all celebrated in the Pharaonic landscape Garden, and the crocodile that still lived in the river long after the other larger wild mammals had been hunted out of Egypt.



Modern Egypt

Like the Historic Egyptians the modern population is divided but now mostly between Farm and City, the Bedouin and Beja are small populations.

Modern Village - The development of mechanized water systems in the Roman period, Archimedes screw and Saggia produced larger organized farming, and surplus that supported the civilization of Greece, Rome and finally Byzantium and Arab Empires, these largely created the modern agricultural field systems and large canals. Only with the arrival of modern water management with the Aswan and later High Dam did the river become the constant source of supply it is today. The modern village reflects the agricultural communities that have developed during these two millennium of farming, which still feeds the modern Egyptian population.



Urban Parkland – The Heliopolis Parkland and Museum are an image of the modern Egyptian citizen's aspiration to be a civilized, educated people living in harmony with each other, the river and the environment. The museum is an emblem of Egyptian civilization, encapsulating the three measures of Egyptian time, sun (Shadow clock stairs), water (Water clock drum) and stars (Celestial Clock Dome) by which its people controlled their environment for seven thousand years.



Delta and Red Sea – The path leads from the museum through the delta area to the Seaside Café. After learning of their history, culture and science in the museum, the children will go and take a rest and play in the Theatre, hands-on classrooms and play ground. On the coasts of Egypt modern Egyptians have created a playground and place of learning, where they can relax from their work of building modern Egypt.





Butterfly Garden



Cafeteria



WC



Administration Building



Activities Area



Utility Building



Children Cinema Building



Children Cinema Hall

Children Centre for Civilisation and Creativity – Museum Building on Four Floors

Basement – Where are you from?

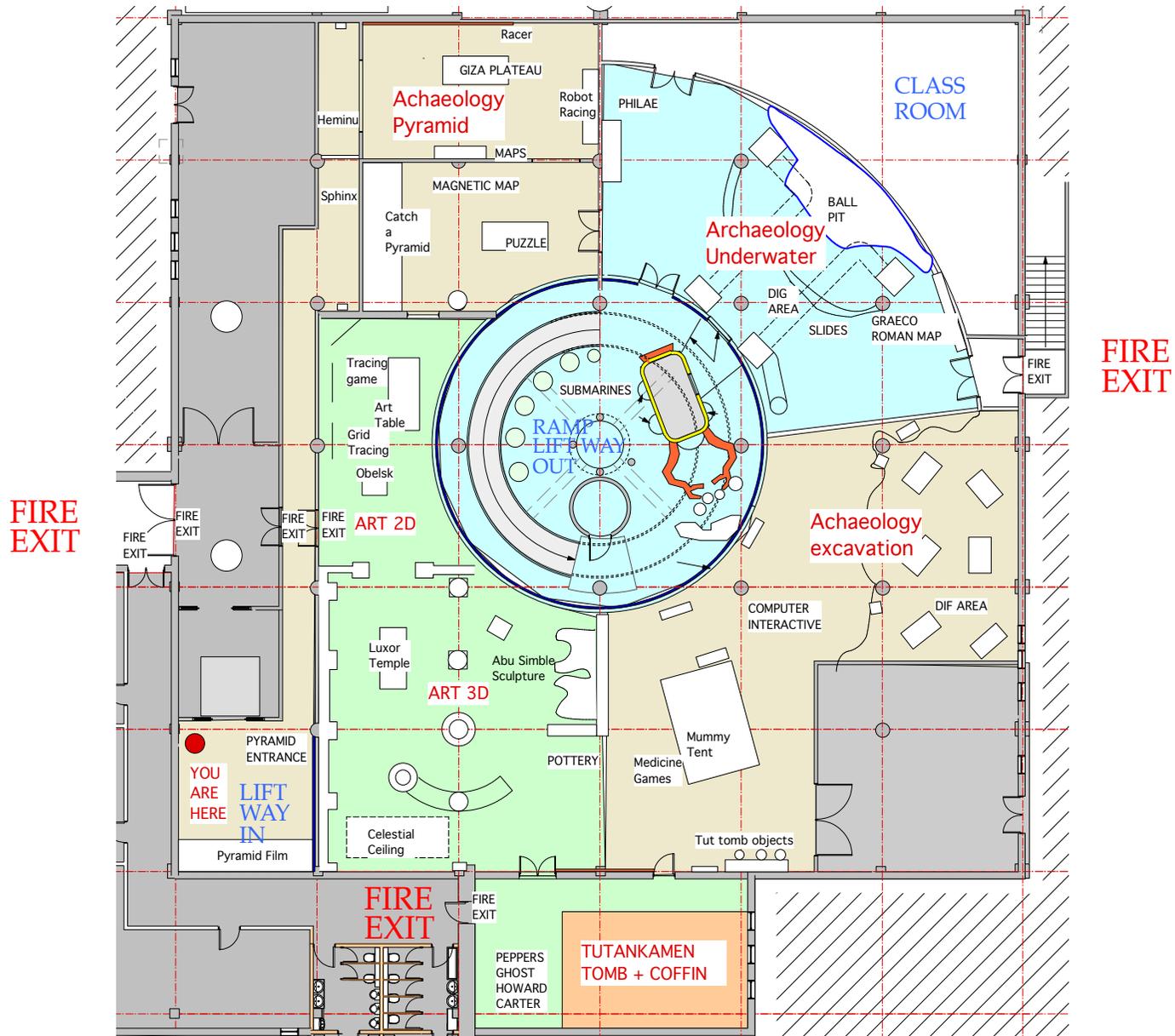
Ground – Who are you Child of the Nile?

First - Where are you now?

Second – What will you discover in the future?



Basement: – Where are you from?



Pyramid Adventure

Become an Archaeologist and explore the ancient Pyramid of Cheops – Khufu, and meet its builder Heminu to discover the secret of the Sphinx.

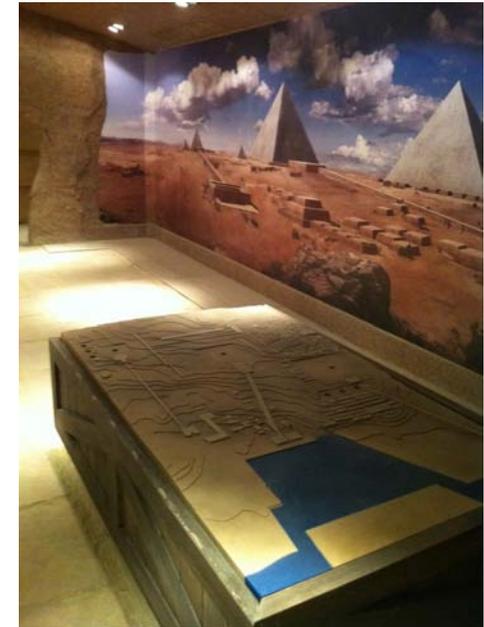
In the entrance you will see the Pyramid Panorama film and learn how pyramids were discovered, what we now know about their construction and why they were built

In the inner chamber entrance you will meet Heminu Vizier to Khufu and he will ask what you know – Were the Pyramids built by slaves?

As you enter the chamber the Sphinx appears and tells you his secret as Guardian of the West – he stops the return of time.

In the inner chamber you learn what modern archaeologists have done to explore the pyramids, and send robots to discover the hidden places of the pyramids. Here you can also learn to explore the pyramid with your own robot.

Finally you will leave the chamber and learn where all the monuments of Egypt are today, and also how to catch a pyramid to learn its secrets



2D Art

To understand how the great art of Egypt was made first you must learn to see like an Egyptian, before cameras and photography all images were produced by artists who looked at the world and recorded what they saw to tell a story. They saw everything as complete, and so when a person was drawn all the parts needed to be visible to show the whole. This meant that their pictures are not what you see in a photo, but what they needed to be seen to make the picture complete. The person must have all their hands and feet and fingers and toes visible, otherwise they would not be complete, also you need to give a person a name or it will not be there, as everything has a name.

In the 2D Art, the ancient Egyptian Sennudjem shows you how to draw; first you trace an ancient picture; then you can learn to colour it and then use a grid to make a drawing bigger and smaller; finally you learn how to add parts to a picture to make a figure into a king or a noble, and add words to the picture.

Finally you can see how 2D art was added to walls to decorate doorways and obelisks. A brief history of Art tells you how this ancient form of picture making developed through Egyptian history.



3D Art

To understand the uses of Art, we need to look at the decoration of temples and architecture. In the 3D art area, 2D art pictures are used to tell stories in different ways. The sculpture Pashedu will show you what things he made for the Pharaoh.

At the Entrance of Buildings, 2D Art tells you the king's name, and why he built the building, and inside the temple it records all the things that the king does in the temple, offering food and clothes, celebrating festivals. This building is the temple of Ramses III, and on the doors are all the gods of Egypt he is building the temple for. You can help build a temple and see what the different parts are:

The front was called the Pylon – Door

The central procession route that represents the river Nile, and the columns that look like Papyrus and Lotus Plants growing along the river

The solar courtyards, which record the offering of King to the sky and sun gods, the court represents the sky, which is why there is sometimes a celestial ceiling drawn here

The hypostyle hall, that represented the field of reeds where the king makes offerings to the river gods of Egypt.

The temple sanctuary (House of the God) that was built on a raised mound. This mound represents the first island that emerged from the flood at the beginning of Egyptian time, and on which the first gods appeared.



Recording Landscapes

When you build a model of an Egyptian temple you are building a picture of the Egyptian world where man lived in rhythm with the river and the land. After every annual flood Egypt had to be rebuilt and the land made complete for the harvest to be sown and gathered. The temple made of stone made sure that the culture survived each flood, and that order would return each year with the King looking after it.

To record achievements of the King in the service of his country. This Botanical Garden records the exploration of Palestine and Syria by Tutmosis III and all the birds, animals and plants he saw. It is very special as it is one of the first scientific records ever made, you can help complete it for him.



Recording Ideas

Egyptians record their secret knowledge in this ceiling from the temple of Ramses II, it shows all the stars and planets that the Egyptians knew about and how they could tell the seasons and time from them.

Ancient Egyptians explain what was their idea of happiness in this picture that shows their ideal - the deceased king is shown living after he dies in Egypt farming, and offering and participating in the countries bounty.



Recording People

Sculpture – To represent something in 3D was to make it in the present time. A sculpture was a living word to the Egyptians, it represented the form of the name of what it represented as long as it was whole. On every statue was written who it was, and if of a god who made it. This is why statues were broken so as to remove what it represented by people who came afterwards, and did not want to remember what was past.

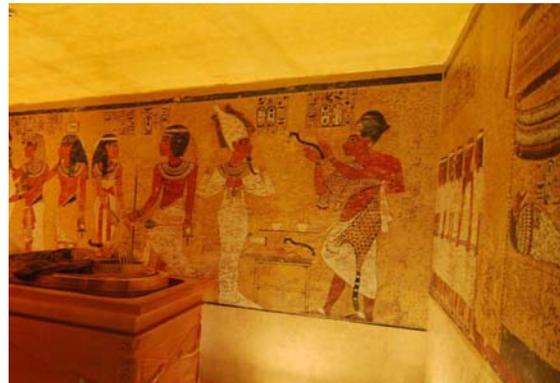
The greatest statues of Egypt were created as guards of important things – the Sphinx of the Western Horizon, the Colossi of Memnon of the mortuary temple of the king Amenophis III, and the Abu Simble Colossi of Southern Egypt against the invasions of the Nubians. Now you can help protect Egypt by building the statues of Ramses II, and completing the colossi of Abu Simble by fitting the princes and princesses around them.



Discovering Lost Egypt – Hidden Archaeology

After the pyramids were built the Egyptians discovered that they were often robbed, however much they built secret doors and traps, they were just too obvious in their location. In later times the kings tomb was hidden in underground chambers in secret valleys around their capital city, and this resulted in them being lost for thousands of years. The history of modern Archaeology, that began with exploring the visible monuments like Pyramids and Temples, went on to dig and explore sites looking for Hidden Archaeology. Come with us now and discover the greatest ever hidden treasure of Egypt the tomb of Tutankhamen.

First, hear the story of the discovery from the great Archaeologist Howard Carter, as he tells of his discovery to his patron Lord Carnarvon. Now, come inside the tomb and see the treasures discovered at this time, and learn what they have taught us about the history of Egypt and how the kings and people lived in those times



Discovering Lost Egypt – Hidden Science

Not only were Egyptians skilled in drawing and sculpture but also they discovered the science of medicine. Their first books developed the medical procedure used ever since, of observational diagnosis, prescription and treatment, starting from the head and working down the body. Not all their medicine was good, but many of their cures have been shown to be effective. Some times though their treatments were based on associative ideas, so that herbs from Middle Egypt were good for the stomach, while herbs from Upper Egypt were good for the head, as they saw their land like a giant body through which the Nile flowed like the blood moved through the body.

Try your hand at curing the Pharaoh and learn how medicine first developed 5,000 years ago. Look in the wall case and see the different instruments and cures that they had.

The Mummification Tent: The ancient Egyptian's medical knowledge of the body extended to some surgery, and in part this was due to the need to dissect the body for mummification, with each organ placed in a different vessel. This knowledge meant that their doctors were aware of disease from different parts of the body, and also practiced some simple surgery.

Look at the modern medical examinations of mummies and what we learn from our science about the science of ancient people.

The final part of the kings burial was to protect the body, and prepare it to last forever, put together the coffins of Tutankhamen so as to learn the care with which the Egyptians protected their kings and place the amulets that represent the missing organs so that the king can still be complete when he is buried

Discovering Lost Egypt – Archaeological Excavation

Excavation is more than just finding things, each object and where it is found provide clues about the story of Egypt. Here you can help dig up your history and discover three different stories all in one unique site, the Pyramid of Sesheshet at Saqqarah, the mother of King Teti I.

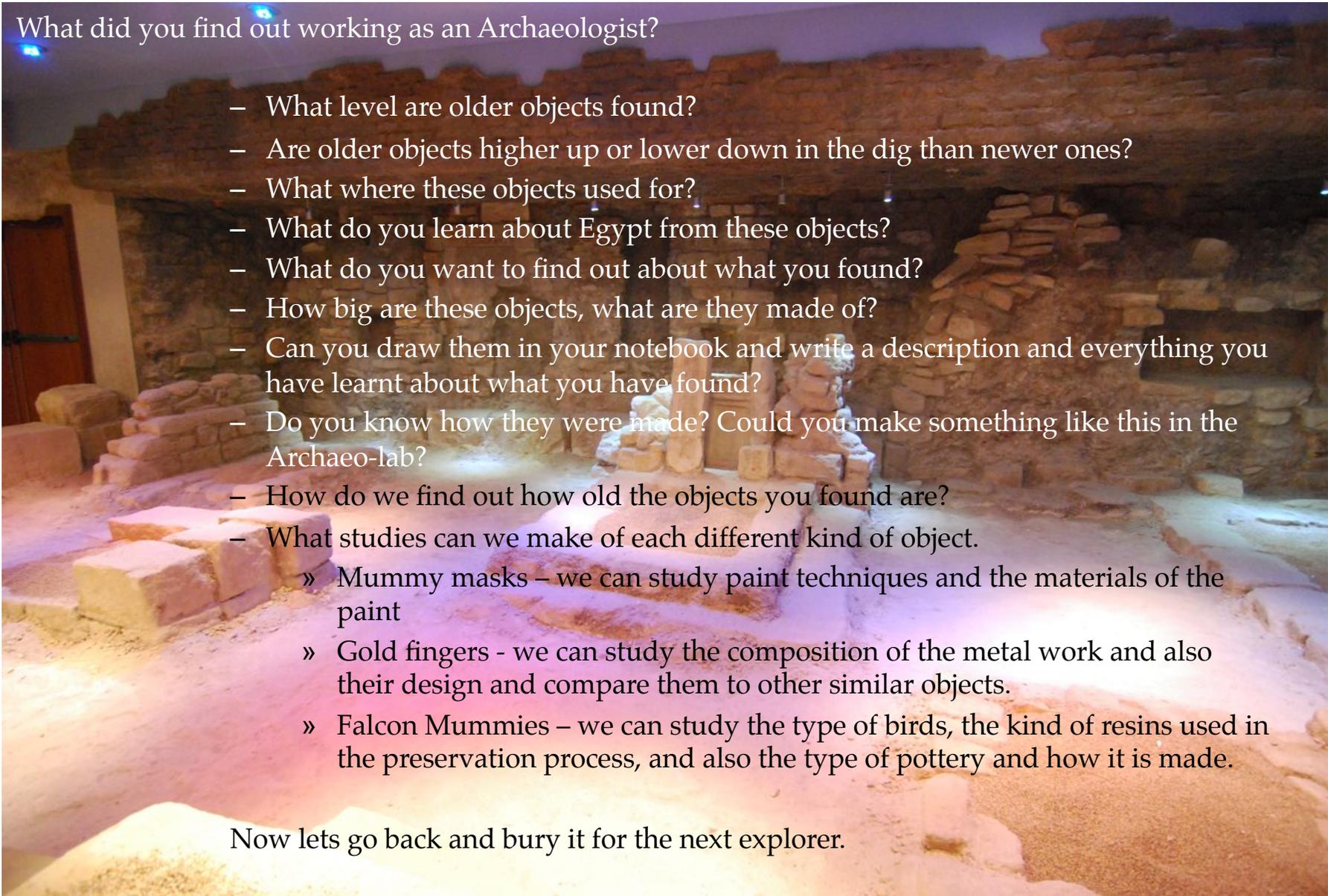
Here you can dig up objects from Graeco-Roman Egypt, New Kingdom and Old Kingdom sites.

So you want to be an archaeologist, you will need equipment, a gridded notebook, a pencil, a ruler and a tool for digging. In Egypt the best tool is a brush, as the ground is soft and you must not damage what you find. So get brushing and put the soil in a 'Goofa' bucket to keep it for putting back.

When you find the object first draw it and then look on the plan and see what it is, where was it found? Write this down in your note book and then check out what you found on the computer.

Look on the plan, which level on the section doe these objects come from?





What did you find out working as an Archaeologist?

- What level are older objects found?
- Are older objects higher up or lower down in the dig than newer ones?
- What were these objects used for?
- What do you learn about Egypt from these objects?
- What do you want to find out about what you found?
- How big are these objects, what are they made of?
- Can you draw them in your notebook and write a description and everything you have learnt about what you have found?
- Do you know how they were made? Could you make something like this in the Archaeo-lab?
- How do we find out how old the objects you found are?
- What studies can we make of each different kind of object.
 - » Mummy masks – we can study paint techniques and the materials of the paint
 - » Gold fingers - we can study the composition of the metal work and also their design and compare them to other similar objects.
 - » Falcon Mummies – we can study the type of birds, the kind of resins used in the preservation process, and also the type of pottery and how it is made.

Now let's go back and bury it for the next explorer.

Site Protection

Having found an archaeological site you cannot just leave it; you have to learn how to look after it.

What techniques would you use?

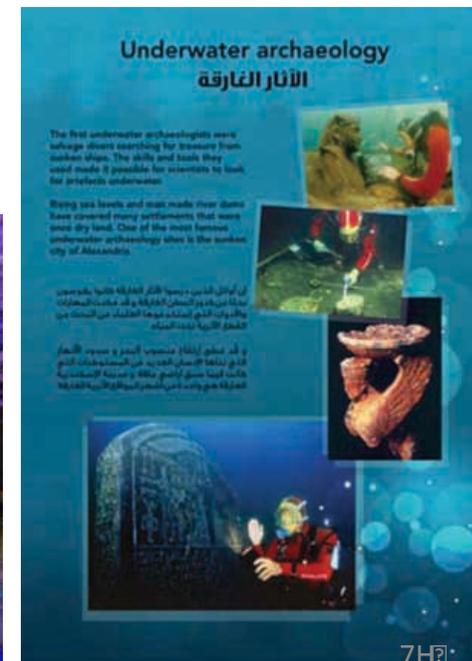
- Rebury the site? Only a good idea if nobody knows where it is.
- Conserving it and displaying it for visitors? This means you will need to have guards and constant maintenance of the area.
- Remove it and put it in a museum? Not always possible if it is a large site, and its even more difficult to look after fragile materials once they are removed from the place they were preserved for a long time due to the change in environment.
- Make a copy of what you find and put it on display to the public, and keep the original in the environment it was found, restoring if necessary? A good idea, but it still will need guarding and maintenance.



Underwater Archaeology

Archaeology does not take place only on land but also under water, here the work is different because the discoveries are often more isolated and working is difficult due to movement of tides and currents.

- First you must locate your site, you use radar and magnetometer to measure the seabed for anomalies, and then you dive to investigate the readings. How do you uncover the soil underwater? You can't brush here so we use a vacuum.
- The underwater objects are just like the land objects, you will need to draw them and decide what they are. Because there are less stratigraphic layers due to the site disturbance and isolation of the sites, the focus has to be more on the objects - so you will need to make very careful study and name them in your note book.
 - What period are they from?
 - Do they have inscriptions?
 - Do they look like something you have seen before?
 - What material are they made from and where does it come from?



Rescuing the Monuments

Egypt was a great pioneer in the rescue of monuments between 1963 and 80 when the monuments of Nubia were moved away from the High dam flood area. Many nations from all over the world under the guidance of United Nations Education, Science and Culture Organisation (UNESCO) came to work with Egyptians and rescue the culture and monuments of Nubia.

You can help rescue the monuments too,

- First you can move Philae Temple from its old location to the new one on Bigeh island.
- Second you can enter the submarine and go and rescue the pieces of Abu Simble Temple and move them to their new location.

Monuments still need to be looked after today, rising water levels in the Delta, and industrial development mean that fragile archaeology is affected by water and construction. You can help by looking out for monuments at risk near where you live, and asking what is being done to look after them. Your heritage is not just temples and tombs, but also Mosques and Churches, gardens and fountains in your town. This is your country so make sure it is looked after and made beautiful for you and your children.



GROUND FLOOR:

Welcome to the Seasons of the Nile – Egypt is the gift of the Nile and it was the three different seasons of the river that created Egyptian Civilisation. Learn here how the river's flood, sowing and harvest made your world



FLOOD SEASON

- Enter the Nilometer where the first kings of Egypt learnt to measure the river and around its flood build their rule. Too much water and the country was destroyed too little and the people starved, the balance between meant plenty, so that food could be stored for the bad times
- Meet the animals that also welcome the coming flood, the fish, the crocodile and the pelican, the river brings them food too. Hear their story and join with them as Children of the Nile.
- Once the river had come, people had to learn to work with the water, come and see how your ancestors worked.
- Measure the water and keep the taxes.



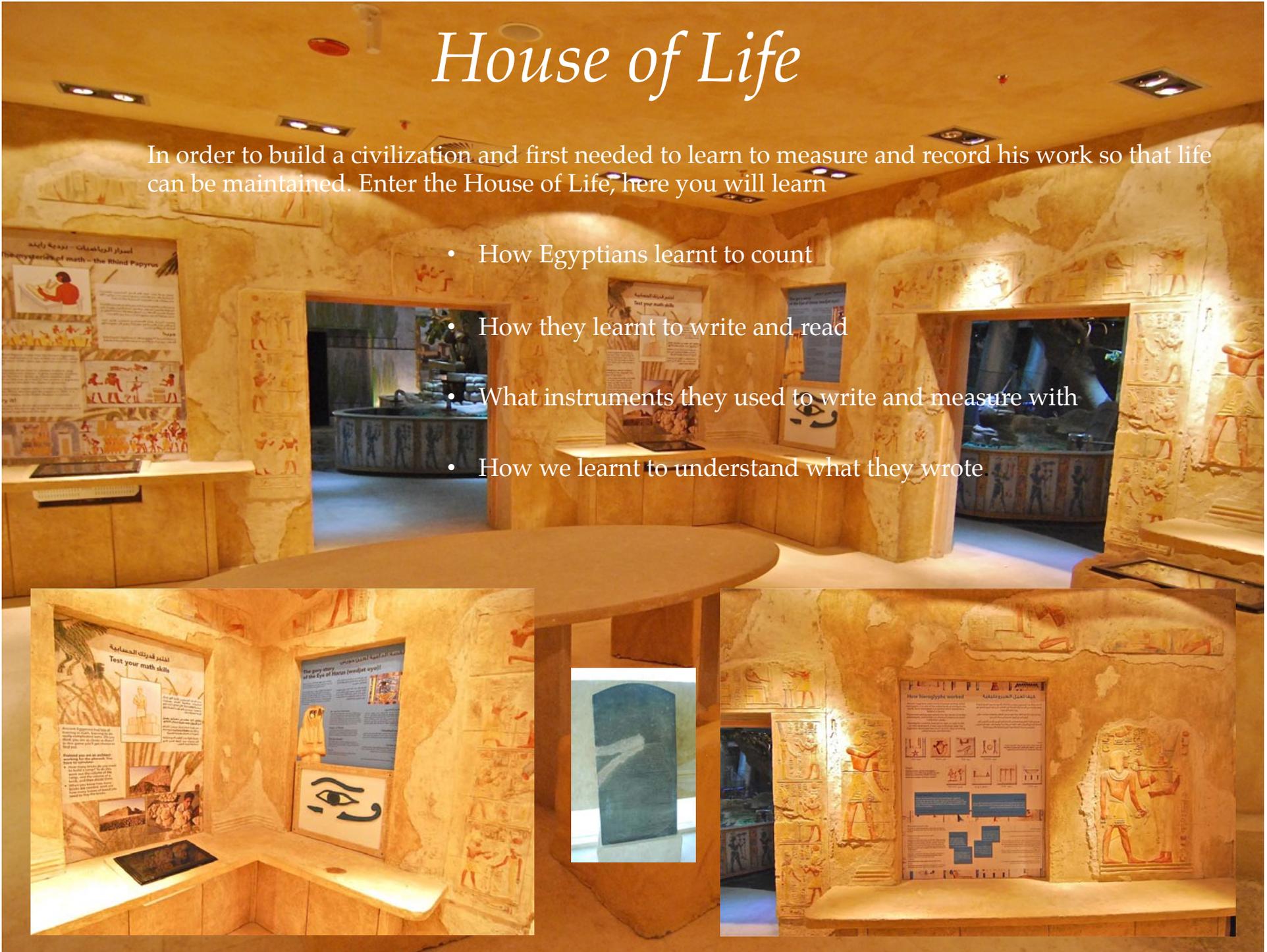
- See how the silt forms the great river this is the soil the farmer used to make his fields.
- Build a boat and see how your ancestors were able to sew trees together to make them.
- Learn to irrigate the fields, with the water of the Nile, using shaduf, saggia and Archimedes screw.
- Learn to travel on the Nile with wind and current.
- Learn to catch fish from a Papyrus boat like your ancestors.



House of Life

In order to build a civilization and first needed to learn to measure and record his work so that life can be maintained. Enter the House of Life, here you will learn

- How Egyptians learnt to count
- How they learnt to write and read
- What instruments they used to write and measure with
- How we learnt to understand what they wrote



SOWING SEASON

Enter the Sowing theatre and see the magic of seed sown in the ground coming to life. This force of nature is unstoppable like the river though it needs help. Sing along with the song of the sowing and help the seed grow

In the sowing season first you learn to measure the fields, then how to plough them.

Now plant the different crops, wheat and flax, learn what plants did not grow in ancient Egypt.

Play the farming game and see how to run your farm today with the same principles as ancient farmers.

The river brought not only mud for farming but also the boats full of building materials from the quarries, now you can get building and decorating the temples of Egypt.

First see how the stone was quarried on its way to the building site.

See the different tools used for farming and building do you recognize any from today?



Build a Temple

Now build a temple from the blocks and decorate them with the Kings and Gods of Egypt. This temple is based on the Ramesseum temple in West Bank built by Ramses II. The gods on the columns are the principle Gods of Egypt.

Amun-Re
Khonsu-in-Thebes-
Nefer-Hotep
Tem
Mut
Thoth
Ptah
Sekhmet
Khamoutef
Geb
Isis
Nut
Maat
Nephthys
Hathor
Wupuat
Shu
Tefnut
Ptah
Seth



Harvest

Enter the Harvest theatre and see the work of the harvest.

The harvest brought in the cereals which created Egyptian civilization.

Bread – see how the wheat is ground up and turned into bread. Bread was the currency by which everything was paid for in Egypt. The wheat was stored in grain stores where the wheat was carefully stacked and counted using measures

Sack = Khar = 20 Heqat (Middle Kingdom) 96.5 Litres or 16 Heqat (New Kingdom) 78.8 Litres

Barrel = Heqat = 10 Hnw

Jar = Hnw

The wheat and other commodities was also measured by weight using smaller scales for baking bread

Deben = 10 Kite

Kite = 12 Shematy

Shematy

The Deben was around 13.6 grams in Old Kingdom and 91 Grams in the in the New Kingdom. The strength of a loaf of bread was measured in Pesu.



The Egyptian Market

Welcome to the Egyptian Market here you will learn how Egyptians traded, there was no money so everything was measured by units of bread. The Deben weight in copper was used to calculate the value of other goods for exchange. For example in the New Kingdom they had the following value.

Jar of Fat = 10 deben

10 hin of vegetable Oil = 5 deben

Linen piece = 5 deben

Ox = 50 deben

To make a bed = 5 khar of Grain

To string a bed = 1 khar of grain

Wood for a bed = 3 deben



Market Stands – The ancient market was made up of baskets and mats laid on the ground and stands for pots and displays. The goods would be measured by scale and purchased with grain or goods also measured by scale. Goods were sold in pots and sacks, and their place of origin, date of manufacture and quantities were written on the outside or on a seal applied to the outside.

Ancient Egyptian Models – The ancients believed the dead needed food and meat in the afterlife, and provided models of the everyday activities of the Nile valley in their tombs. These models show butchers, bakers and markets. They even show grain stores so that the ancients would have the grain for their weekly shops!



Egyptian House

Ancient Egyptian House – The heart of the family life was divided into three parts, the outside court for food storage, cooking, and workshops, the outer loggia room for men and business, and the inner rooms for family and rest.

Construction – The Egyptian House was built from mud bricks formed from the mud of the River Nile, and plastered with mud mortar, the mud roof was supported on palm beams on wooden columns. The doors were wooden and formed of planks, and the windows small to keep out the sunlight and allow cross ventilation of the rooms. The floors were made of mud brick and earth. Stone was used for the column bases and capitals, the door-jambes, architraves and thresholds, in some nobles houses the roof would have a stone cavetto cornice. In event of the flood destroying the house, these parts would survive and be used in rebuilding. This ancient house is full of things to do to learn about how the ancients lived.

Story telling area - learn the children stories of Egypt – The tale of the shipwrecked sailor and the eloquent peasant were popular tales form 3,500 years ago.

Workshop area - here you will see a film on making baskets for the house, and bedframe making.



Grain store – here you can put the harvest safely in the grain stores, measure the wheat with the sacks.

Main Hall – Here you can learn to play the game of Senet. Throw the sticks to see how places you move. Watch out for the danger squares, and jump over the other players. You cant land on your own pieces, if you land on your opponent you swap, but if they have two pieces in a row you cant, and if they have three then you cant pass them. The first to clear their pieces off the board wins.

Weaving – Inside the house women worked on looms to make the clothes the family wore. Look at this loom and see how the cloth was made using the shuttle and comb. The thread was made by spinning by hand the cotton on a clay whorl.

Furniture – The interior of the Egyptian house had only a little furniture, chairs and beds and a few boxes. Raised mastabas of brickwork provided benches for eating and sleeping for most household members. Beds and chairs were for older people and special occasions. Mats and baskets were used for serving food on the floor. Pots for cooling water stood on stands and clay bowls were used for drinking liquids. The Egyptian house was quite simple, and decoration for only special parts of the house. The main living room, the entrance doors with the name of the householder written on the door jamb, and the decorative columns that held up the roof beams were the main places for decoration.

Jewelry – Men and women and children wore jewelry in ancient Egypt. The main jewelry was beads and rings made from Faience a kind of fired glass shaped in a clay mould. This was hung on strings and formed into necklaces and bracelets. Royalty and Nobles had gold and silver jewelry.



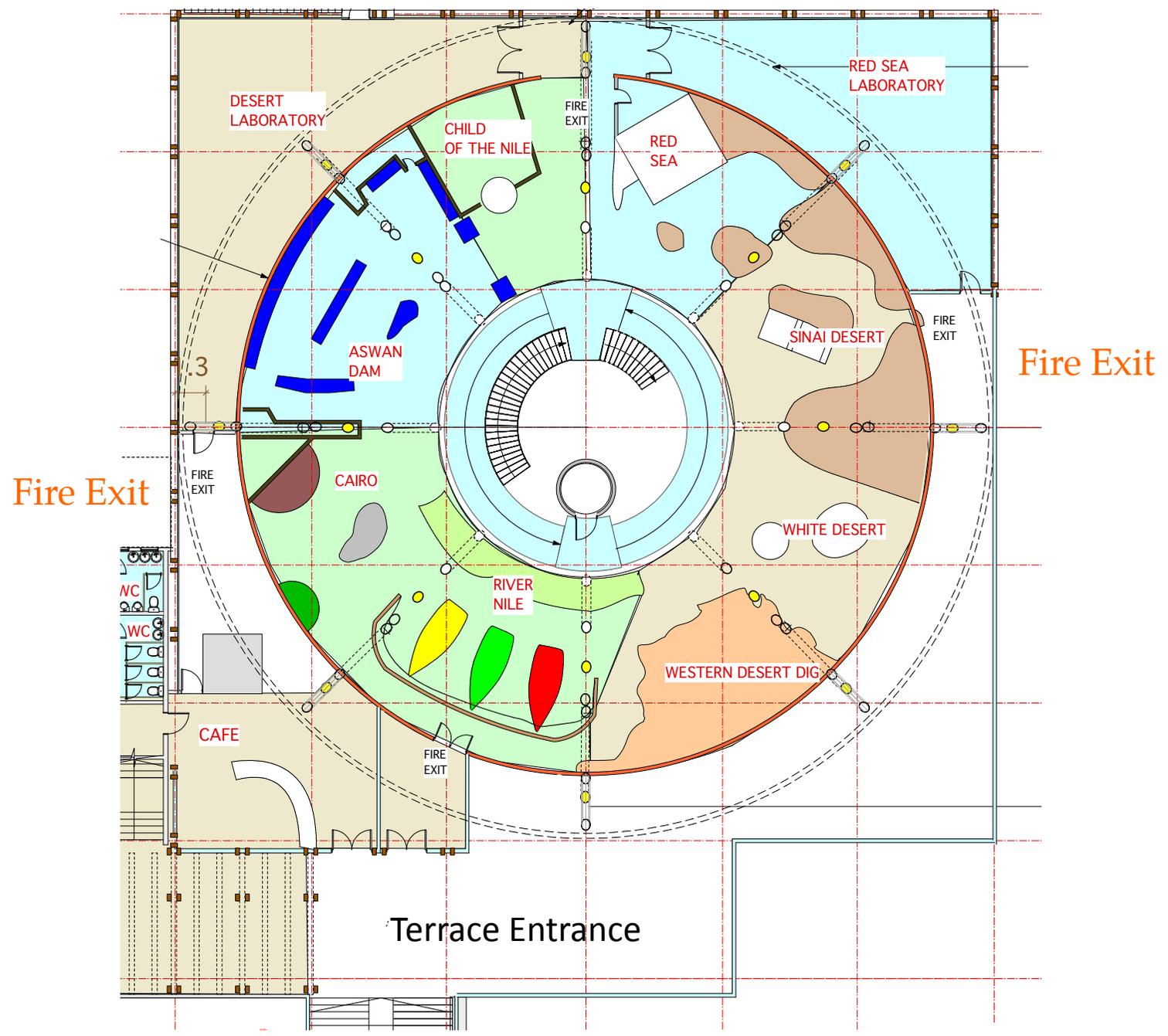
Celebration Time

Music – Music was very popular in ancient Egypt, singing and dancing were performed for entertainment and as part of worship. A wide variety of instruments were used drums, harps, and wind instruments, cymbals and cystrums were played. You can play the harp just by passing your hand through the strings.

Dressing up – For special occasions and at the end of the year, the Egyptians had a festival celebrating the marriage of the year. They dressed as royalty and brought gifts and sang and danced of their happiness at the coming of the harvest, and the union of the powers of the land in the order of their world, remade a new with the coming of the years end. Now you too can dress up at the end of your visit to the ancient Egyptian year and celebrate all the things you have learnt about the creation of the ancient Egyptian world.



FIRST FLOOR



Children of the Nile and Aswan Dam

Come and see a Panorama of Egypt as it is today and what you can do to make your world a better place.

Children of the Nile – Welcome to Your World – Along the Great River today live at least 100 million Children, nearly 20 million live in Egypt, that's a lot of joy along the river. Come and see the film and learn how all those children live, children like you. You will meet the Egyptian Children on your journey around Egypt on this floor.

Aswan Dam – The river brings life to Egypt, and power to modern Egypt, here at the Aswan dam learn what brings your country to life.

Energy comes from where? - hydro-power, fossil fuels, solar power, wind power, and nuclear – learn how these are made. Which one is best for your country, and how will you keep the lights going as the country grows and more energy is needed.

Create more energy? Pretty expensive
Save more energy? Pretty cheap

Where does all the energy go – what can you do to save it?

Play the energy games and see how to save.
Now it's your turn to be Egypt's energy minister see how you do.



Your Environment – Drink it, Breathe it, Eat it – Save it

Water is also precious – do you know where it all goes? To make clean water costs energy, how do you use it, and how do you save it? Did you know by 2025 there will only be half as much water available for each Egyptian as there is today. 630 m³ a year is still a lot but learning to save is important, in London everyone uses 60 m³ a year in USA its 190 m³. So Egyptians are pretty rich in water but to make use of it costs you energy and money! Learn to use low energy ways of making your water clean and you will find the future of Egypt's wealth.

Cityscape – Cairo is the biggest city in Africa, and the Middle East. There are nearly 4.5 million Children in Cairo, and life here is busy for them. How could it be better? Getting to school, and getting to play you all have to travel – and there are so many different ways. Which way is best – lowest Energy? Quickest? Cleanest? Most Friendly to your neighbors? Play the traffic game and see how to change your city.

Farm to Table – *What do you eat?* Where is your food from? Did you know that most of the food you eat comes from within 50 miles of your house? The most popular food in Egypt is still wheat – 7,000 years after it was first cultivated here but modern foods are close behind Maize from America is second and rice from China third. The biggest change though is vegetables – your not eating as much as you should, and you eat much too much Chicken! Learn how the farmers make their food, and which ways are most environmentally friendly. Your choices today will change the way Egypt is tomorrow.



Nile Valley

Nile Valley Secrets – So who lives in Egypt apart from Egyptians? Your country is full of animals, not just farm animals, cows, donkeys and chickens but wild animals. Why don't you see them? Because they are as frightened of you as you are of them? Snakes and scorpions may seem scary but they have a home here, with bees and butterflies. So also do the birds, many of which fly from across the world, your Swallows come from England in the Winter, to hunt insects and make their nests in the roofs of temples. Many of the birds were important in Ancient Egypt, Horus the Hawk, and the Purple Heron – the Bennu Bird or Phoenix, appear in many ancient pictures. There are also furry animals, hares and wild cats, Egyptian wolf and Gazelles. Some only come out at night like bats and hedgehogs, and many swim in the river, and are only seen when the fisherman catches them. Some of the largest freshwater fish live in Egypt – Nile perch grow to 1.5m, and also some of the strangest like the elephant snout fish and the Electric Cat fish. So while you move up and down Egypt by car, train and boat around you is secret Egypt, look out for it on your next journey, and learn what you can do to look after Egypt's wildlife.

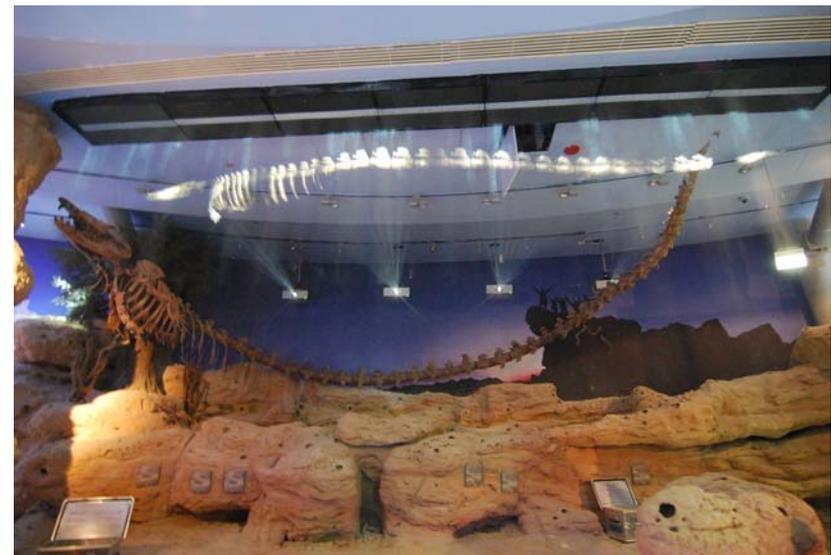
Nile Valley Rescue – So how can you look after the Great River that brings so much life? Today everything threatens its environment, industrial pollution, insecticide, water lilies and rising water. Get on board the boats and learn to save the river.



Western Desert Dig

Egypt is not just the river, it is also 90% desert, which has a fabulous and mysterious landscape. Out here you can discover an even older Egypt than the monuments of the Nile Valley. 60 million years ago it was the bottom of the Tethys sea, and strange creatures swam over Cairo. Here is *Basilosaurus* ancestor to the modern whale, feared hunters of the ancient oceans. Over 200 fossil whales were found in Wadi Hitan near Fayoum, and this is one of the most complete and the first ever displayed in Egypt.

These whales are mammals descended from Hippo like creatures that lived along the seashore and evolved after the predatory sea dinosaurs died out to hunt in the sea. They lack the modern blow hole of recent whales and have fierce teeth. They may have bred in Egypt which is why so many died in one place in Fayoum. Come join the Paleontological excavations and see what you can find out about this wonderful inhabitant of Egypt. The terrible dragon of Egypt that Horus and St. George fought in old stories, may have been based on the first discovery of these bones by your ancestors.



White Desert

The wind also creates amazing landscapes far out in the open desert which used to be the bed of the first river Nile, erosion of the limestone deposits by water and wind create fantasy shapes, giant figures of stone standing by pyramids of wind blown rocks. Any visitor to here in ancient times must have thought they had stumbled on a land of giants who built and carved great monuments. Look at the wind machine and learn how fantasy is made.



Sinai Desert

In the East of Egypt is a wonderful desert, where man has left so many memories. In the caves are records of past animals, that dwelt in the savanna that covered Egypt before the creation of the modern Nile valley. Memories of man that were the beginnings of ancient language. Here also lived animals special to the area. Baboons, sacred to Thoth the scribe god, now long moved south to Sudan, and the Sinai Leopard were fierce hunters along the craggy ridges of Mount Sinai. Other rarities can be found – the world's smallest butterfly; the Baton Blue, and the fiercest spider; the Camel spider. There are also cute long eared foxes – Fennec fox, and the largest wild animal in this desert the Nubian Ibex. How many different animals can you spot from the mountain and write down in you book. The desert is also full of minerals and men have been travelling out to find them since the beginning of time, the world's oldest map is of an Egyptian gold mine. There are still treasures here, many mines were turned into monasteries for monks and one of the greatest St.Catherine's still guards the sacred mountain of Moses.



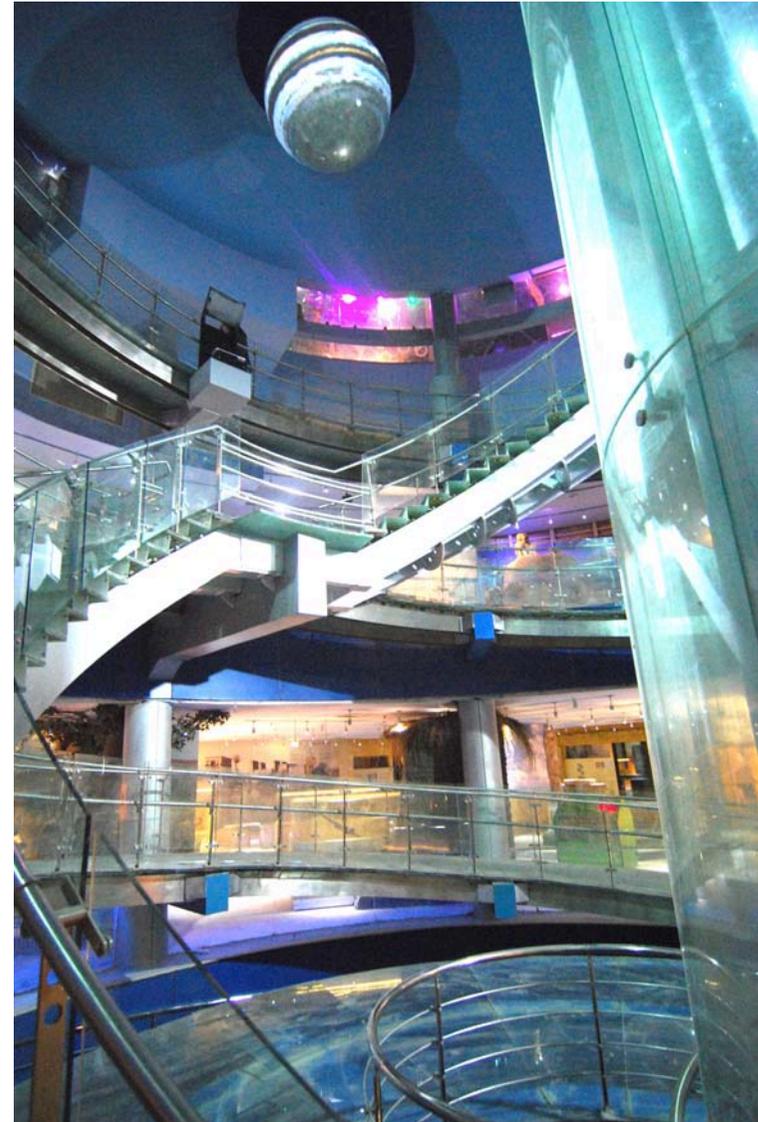
Red Sea

Egypt's final modern treasure is the sea shore along the Red Sea. Here is a great wealth of natural beauty, coral, fish and sharks live along the Desert shore. At the end of our journey around Egypt you can learn to see this beauty and also how to protect it from the dangers of development and modernization. You have made a great exploration of your country and seen its many wonders, now you will have a chance to look after it through the decisions you make with your lives. Now before you leave your world, you can go into the classrooms and write down all you have learnt and ask questions from your teachers about the things you have seen. Do you think the Children of the Nile will learn to look after their world?

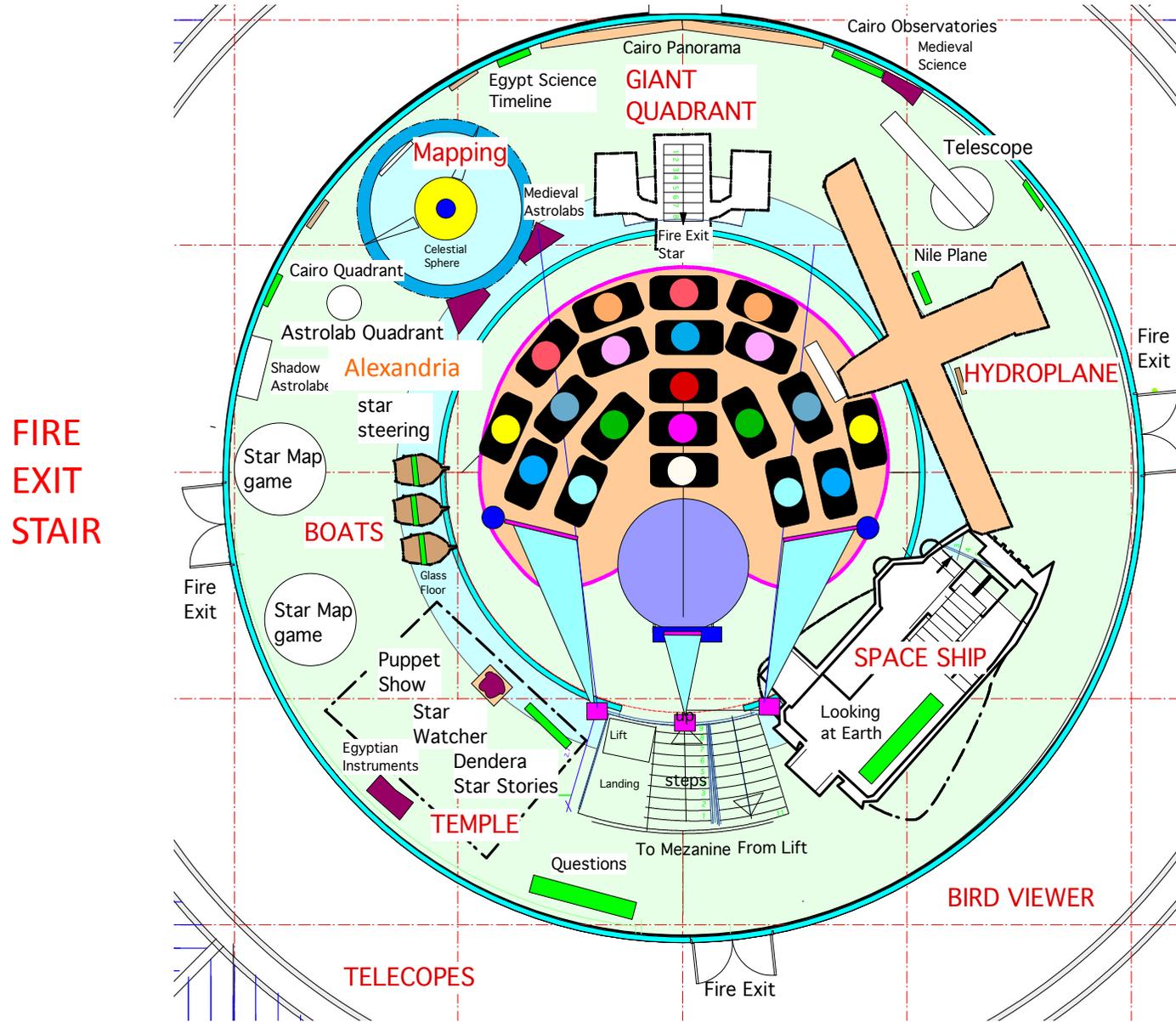


TIME STAIR CASE – JOURNEY TO THE STARS

The central staircase of the museum celebrates mankind's journey of exploration. From the past to the present and the future. In the centre is earth and the planets as they are today around and through which we move and the double stair and ramp winding through the void is like mankind's journey traveling up and looking back and forward in time.



SECOND FLOOR



EGYPTIAN STARS – THE FUTURE OF EGYPT

Welcome to second floor here you will discover how Egypt contributed to the beginnings of Science, and has through seven millennia participated in the development of Science. These Egyptian pioneers – Egyptian Stars – set an example for future Egyptian students how through observation and study new wonders of learning can be discovered.



Ancient Egypt – Temple of Dendera – Rooftop shrine

In the beginning of time Egyptians observed the Stars and developed tools linked to their regular movements. In the Dendera rooftop shrine, built to celebrate the New Year and observations of the stars you will learn three ways the stars were important to your ancestors.

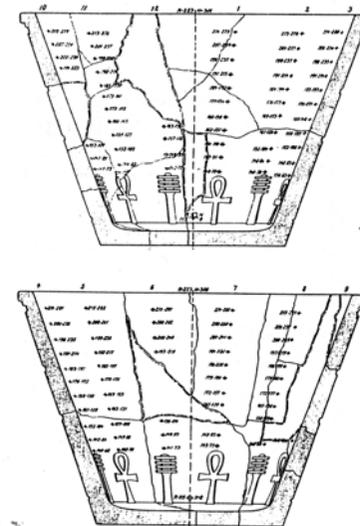
The Priest (Star Watcher in ancient Egyptian) - Telling the time – The rising of Sothis (Named after Isis) marked the start of the New Year, there after the stars were used to count each hour of the night. By the Middle Kingdom Ancient Egyptians had developed a complex star clock which used 48 Decans, (36 for the main year and 12 for the 5 days of the New Year) that counted out each hour, week and month, of the Egyptian year. So accurate was this system of measuring time using the stars that they were still in use by astronomers in the 15thC AD.



The Architect Imhotep (Puppet Show) - Orientation of buildings – The fixed position of the Northern Stars allowed Imhotep to orient his Pyramid to the North exactly. This permitted the building to be joined to the moving of time, and the permanent stars symbol of the fixed abode of the gods. A Bey and Merket were used to spot a star and then stretch a rope from the star to form the centre line of the Pyramid or Temple.

The Explorer Heminu (Story Telling) – Travelling across the deserts of Egypt in search of precious stones for the king. The first map ever made was used to record the roads to the Gold Mines of Egypt - (Tale of Heminu). Stars were used to tell the time on the journey and guide the travellers in the wastes. Egyptians also explored the sea, trading for spices and incense trees. Ancient stories of trading record the treasures found – (Tale of the Shipwrecked Sailor)

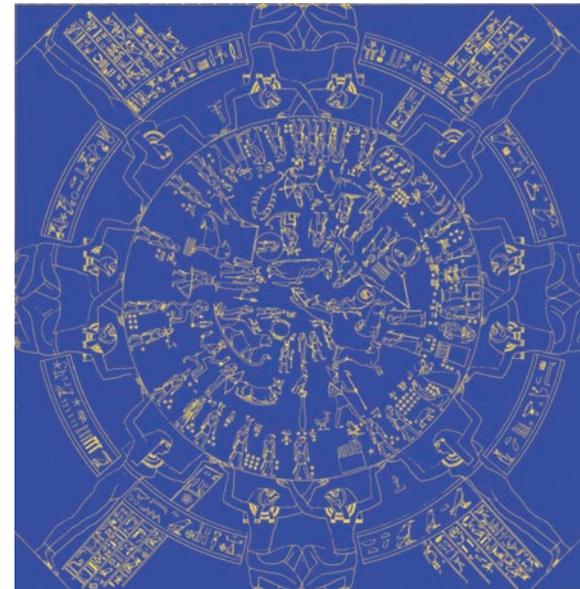
The Farmer (Story Telling) – Ordinary people also needed to tell the time during the day to measure the working hours they were paid by, so they developed Sunclocks and Waterclocks. These used the shadow of the sun, and the draining away of water to measure the hours. These simple instruments you can make in your homes. Observing the ordinary was the basis by which knowledge was built up and became part of the traditions of the ancient world. It was the role of tradition to transmit this acquired knowledge from generation to generation. So Egypt developed its first scientific training for its scribes and builders.



Star Steering

Star Steering - Play the game of the Shipwrecked Sailor, steer your ship around the islands and find the treasure guided by the stars. The quickest to get all the way around wins – How good a navigator are you?

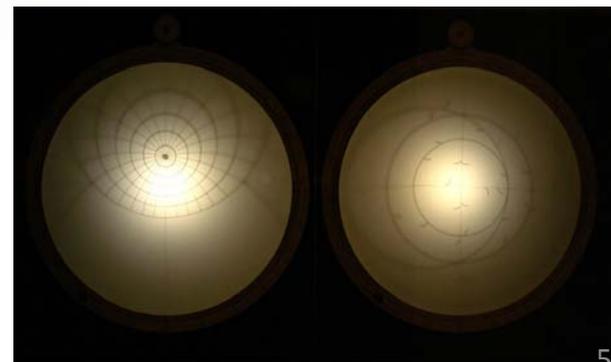
Dendera Zodiac Puzzle - By the Graeco Roman Period the stars had guided Egyptians through time and place for over three thousand years. At Dendera the famous Egyptian Queen Cleopatra commissioned a new temple dedicated to Hathor in New year July 50BC. The ceiling in Dendera combines the stars and the planets from the ancient skies on the date of the foundation. The priests who designed the map brought together astronomical observations from Greece, Babylon and Egypt to create a global map of the stars as they were known then. This sculpture is the first known Zodiac Map. Put the pieces of the puzzle together to make this revolutionary new map.



Alexandria

Astrolabe Projection - One exceptional Pioneer Claudius Ptolemy in 140 AD working in Alexandria Library brought continued the work of earlier scientists such as Erasthones and Heraclitus, he wrote a famous treatise on stars, The Almageste, which described a map of the stars, and also a geography of the world using similar co-ordinates of the stars. He created a celestial globe and it is suggested he first developed the idea of the astrolabe.

Look at this image it shows how the two projections of the stars and the earth were combined together to produce the wondrous instrument the Astrolabe. It allows your position on earth to be read from the stars and it also allows you to tell the time from the stars, and the direction in which to travel.



Mapping

- The maps that Ptolemy produced were a development of earlier maps of the classical world. His were more accurate and became the foundation for later Arab and Western Map makers. In this exhibit you will see the remarkable development of mapping over 1,000 years. Following the Arab conquest of Egypt, and Baghdad classical knowledge was translated into Arabic and new scholars developed new knowledge from these studies. The translations were also one of the first points of access of Alexandrian wisdom for Western scientists through Spain and Constantinople. The Arab maps first copied Ptolemy and then developed new forms of expression to illustrate their trade routes and geographic descriptions. Look at all these maps and see what you can learn.
- The celestial globe became one of the great sources of understanding of the world in Medieval times. The interactive globe in the exhibit shows how knowledge of the universe and the solar system developed from ancient science through to the work of Western Scientists like Copernicus and Galileo. It became a symbol of the renaissance Philosopher.



Cairo Observatory

- Interactive Time Line from Ancient Egypt to Medieval Cairo
- The development of science in Egypt reached a new pinnacle of knowledge under the Fatamid Rulers of Cairo. Ibn Yunis built his own instruments, and developed a form of Calculus to enable astronomical calculations to be done quickly. He famously observed the sun 10,000 times with his Astrolabe and also made use of Quadrants.
- He built a giant quadrant on the Muqqattam hills, the Cairo Observatory was famous, and Arab astronomy developed using large structures both for telling time from the shadow clock, and also giant quadrants for more accurate star measurement. This giant sundial is based on the last remaining example of this kind of physical observatories in Jantar Manta in India. It shows not only the long survival of this type of observatory, but also how Eastern Indian Astronomy also was part of the same traditions as Egyptian Astronomy, at the same time that Western Scientists were also learning from Arab and Alexandrian science.



The Astrolabe Quadrant

- Interactive Exhibit and AV Interactive
- It was the use of this instrument that utilizes a plumb bob (Gnomon) to measure time that led to Ibn Yunis's association with the measurement of time with the Gnomon. But it was not the regular swinging movement of the Gnomon that he used to tell the time, but the swinging of the bead on the Gnomon of the Quadrant Astrolabe to read off the calculus of the instrument that allowed him to measure time. A much more sophisticated use than the Gnomon's swing which could only be utilized when combined with a clock mechanism, not invented until the 16thc.
- The Astrolabe Quadrant was one of the great inventions of medieval Arab science, as it replaced the expensive Astrolabe with an instrument of similar accuracy but considerably simpler to make. It allowed popular access to science, and was widely used for Astronomical time telling for prayer times, finding the direction of Mecca and Astrological Predictions. Trace the face of the Astrolabe on a piece of paper and then fold it to make your own Astrolabe Quadrant. Now see if you can learn to swing the bead on the Gnomon like Ibn Yunis.



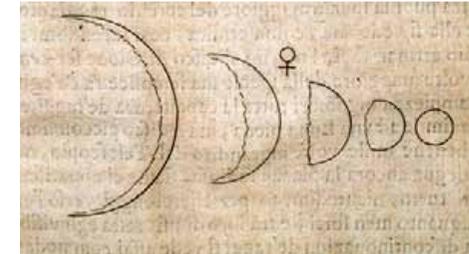
Blood and Light

- Studies in life and spirit
- The other great pioneers from Egypt of this time were Ibn Nafiz, who pioneered pulmonary circulation and Ibn Haytham who pioneered studies in Optics. Looking at the physical nature of the world brought great treasures of knowledge to Cairo Scientists, and developed ideas of the structure of learning in the Arab world. Write down in your note book all the different forms of knowledge that Cairo Scientists studied. How many modern things do you do or have at home which were inspired by these studies. How do you keep your heart fit and healthy? How do you watch TV?



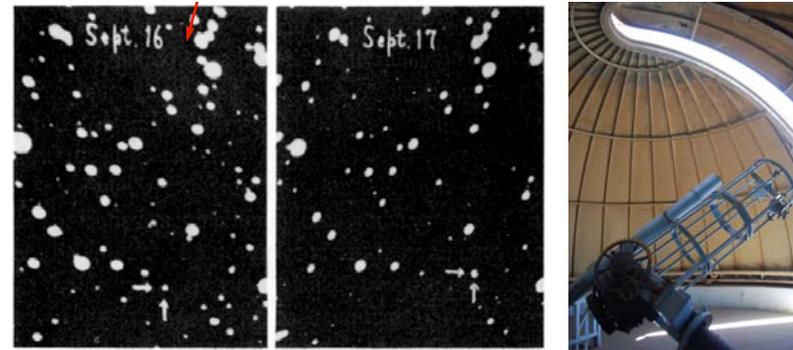
Modern Science

- Cairo Telescopes – Interactive Show
- The arrival of Modern Astronomical Observation began with Galileo's use of the telescope in Italy to discover the phases of Venus, and the moons of Jupiter, these provided the first evidence that Copernicus's theory of the Solar System was correct. He made drawings of these studies, can you trace them, and explain why he could show that the planets went around the sun from these pictures?
- Egypt became part of such studies in Science following the modernization of the country under Mohamed Ali – Observatories with Telescopes were built first in Bulaq, next to what was then the Antiquities Museum, then in Abbasiya, next in Helwan and finally in Kottamiyya. Look at the photos of the Helwan Observatory and the famous telescope of John Herschel. It was used to see the coming of Haley's Comet two times 1837 and 1909. Do you know what a Comet is, and how it is different from a planet?



Helwan Telescope

- Interactive Game
- Try using the Helwan telescope to see different groups of stars. This famous observatory was linked to the one in Greenwich England with amazingly accurate clocks. Cairo has its own Meridian on which the transit telescope was positioned. This allowed observations in Egypt and England to be used together in co-operation 100 years ago. All modern science grows out of international co-operation. How will you share your science when you are older? Helwan Observatory and later Kottamiyya Observatory has had Egyptian Scientists working in it since it was built, over 100 years of Modern Egyptian Science here in Cairo.



Hydroplane

- But Egypt was not just Pioneer in observation, new ideas were developed here. The good climate and open landscape was perfect for developing modern aviation. The first meeting of airplanes in Africa and the Middle East took place here in 1910 only one year after the first air meet in Europe. The pilots were both men and women, and they raced around the Pyramids from an airstrip at the site of this Children Museum in Heliopolis. Look out the window and imagine all those early planes flying around the garden 100 years ago. There were no trees and not many buildings.
- But the Nile was also a great road into Africa, and in 1913 the first great airplane was built to explore up the river, carrying five explorers Frank McClean and Anna McClean his sister, Alec Ogilvie, Horace Short, Jack Spottiswoode from Alexandria all the way to Khartoum in Sudan. They took the first aerial photos of Egypt, recording it as it was transformed by the first Aswan Dam finished in 1904.
- By 1927 Egyptian's were learning to fly, including Lotfie El Nadi the first Egyptian women pilot in 1934. She was inspired by Western Aviatrix like Amelia Earhart, and Baroness de la Roche who flew at this museum's site in 1910.



Spaceship

- Modern education in Egypt has created great scientists who have participated in many fields of learning. Modern Pioneers have also joined in the recent exploration of Space. Professor Farouq El Baz has participated in the Lunar Landings of the Apollo missions, and lead research in remote sensing as a way of studying the resources of the world. The Space ship exhibit provides you the chance to participate in the journey to space and see your world from a different viewpoint. From here you can see that we are all part of one world and that our differences are small and insignificant in comparison to our need to look after it.
- The various games in the space ship help you to see what modern science can teach us about the world, and what can be done to address its many problems. Learning gives great inspiration, great power and also great responsibilities. Do you think your generation will learn from the past, and understand what can be done well in the future?
- Our journey through Science in Egypt has shown us how Scientific learning has been present in Egypt for millennium, you too can learn this knowledge of today, but with it you also need to learn the wisdom of sharing, and working together. Each piece is added together, like the Dendera puzzle, and the work is never complete. So what do you want to learn about your world, and what knowledge will you add to your world? Write down all that you don't know, and all the things you would like to learn about. This is the beginning, today you can start your studies to understand your world, and join all the other Egyptian pioneers on their quest for knowledge.

