

1st school semester (2008-2009)

In this edition...

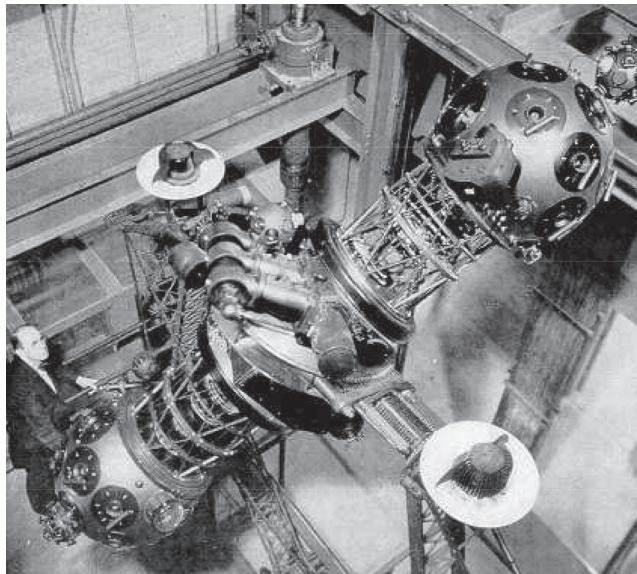
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Planetarium History of Planetariums

The first planetarium, an enclosed space made for looking at an artificial sky, was brought back from the Crusades in the 13th century. It was a black tent with holes representing the stars, inside which the observer identified their position during the day. Other more or less comparable systems were built during the following six centuries, as were planetaries, sort of gear assemblies made up of cogs that represented the movements of the planets.

Designed by Dr. Walther Bauersfeld, the scientific director of the firm of Carl Zeiss in Jena, Germany, the first modern planetarium was designed in the beginning of the twentieth century and opened in Munich in 1920. It consisted of a sky projector: a hollow sphere lit from inside, in which holes were made for the stars. The image produced by the mobile sphere was projected onto a dome. This system, with variations designed by different manufacturers, was the only kind used up to the 1980s.

It was at this time that new technology became available to recreate the stars in the sky. Developed from military simulation technology, it combines computer calculation with video projection. The technology was first developed in the United States by the



company Evans and Sutherland, arriving at maturity in the 1990s when computers became sufficiently powerful to quickly calculate complex images and when video projectors were finally able to project high quality images onto large areas. This new type of simulation of the sky makes it possible to show much more than the starry sky and is limited only by the imagination of its creators.

The Worlds First Digital Star Projector

Digistar® I and II introduced the world to the digital planetarium.

For the first time, audiences were able not only to see the stars, but also to fly through the stars in three dimensions. Today, Digistar offers much more than digital 3D stars: it provides a complete range of planetarium effects; it can project images onto conventional or tilted domes as small as 20 feet or as large as 80 feet in diameter.

Further Reading:

(http://www.cite-sciences.fr/english/ala_cite/spectacles/planetarium/planetaquoi/history.php)
 (http://www.es.com/products/digital_theater/digistar2.asp)

“All truths are easy to understand once they are discovered; the point is to discover them.”

Galileo Galilei
(1564 -1642)



Show Times

- For the Planetarium daily schedule and fees, please consult the Center's official website:

www.bibalex.org/psc

- Kindly note that, for technical reasons, the Planetarium maintains the right to cancel or change shows at any time without prior notification.

NEW Solarmax

40 Min. IMAX film

Our Earth is a small planet... its pole crowned with a circle of «Northern Lights»...

The whole planet glows in the infrared warmth of a star we rarely think about...

A star we call the Sun.

Our Sun is a star ... one of billions
For us, it is the great engine of life...
Ancient civilizations recognized the Sun as the source of all life and called it God...

Aristotle taught that the world was round and theorized that the Sun and planets were carried in crystal spheres nested around it, thus, misleading astronomers for centuries...

Copernicus found the courage to believe in a world spinning through space, a vast Universe of billions of stars...

Galileo was the first to look at the sky through a telescope and

he found that the Sun was not a flawless orb...

It was as spotty as a teenager!!!

Space has given us new eyes...

Everything we had glimpsed before can be seen anew...

Built in England and France for the European Space Agency, with instruments from Europe and the United States of America, SOHO was launched by NASA and parked a million miles from Earth at a point where the gravity of Earth exactly balances the gravity of the Sun.

SOHO shows us the Sun as we have never seen it before...

Every sunrise brings hope...

For some, it's the hope that we can learn to do what the humblest plant can do...

Make clean and abundant energy directly from sunlight...



Sky of Alexandria

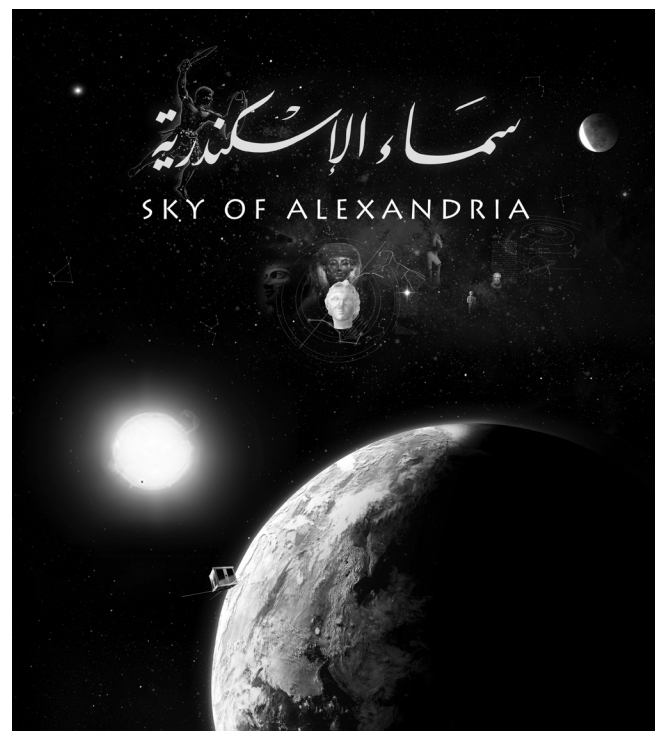
30 Min. Video Panorama

The story of Sky of Alexandria, the first planetarium show ever produced entirely in the Middle East, is about the evolution of Man's vision of the sky in search for answers to its riddles and laws of motion across time. The show explains how time acts as an important factor in the evolution of knowledge and the changes in ideas, opinions, and visions.

Applying advanced technologies, the production team showcased the most important contributions of the scientists of the Ancient Library of Alexandria, specifically in the field

of astronomy. The show moves forward through time to the present where the viewer looks at the Sky of Alexandria today and sees how our vision has changed from that of the ancients. Modern science and new observational technology make it possible to see what our predecessors could not see.

In a voyage from the Earth to the Moon and a journey amidst the planets of the Solar System, we discover that what we see and know today is attributed to the contributions of the ancients.



Oasis in Space

25 Min. Half-dome Video Panorama

Beyond the moon, beyond the sun and stars, far beyond the Milky Way, we enter a realm of perpetual darkness ... the cold, black emptiness of space ... yet, even here, small amounts of matter can be found, these microscopic particles form the raw material of the evolving cosmos.

About five billion years ago, a new, rather average yellow star condensed from a great cloud of gas and dust. Relatively close to the star, a place of blue skies and liquid looms into view.

Here we find our «Oasis in Space».

Our star dwindles in the distance, circled by a family of planets and moons; water exists on many of

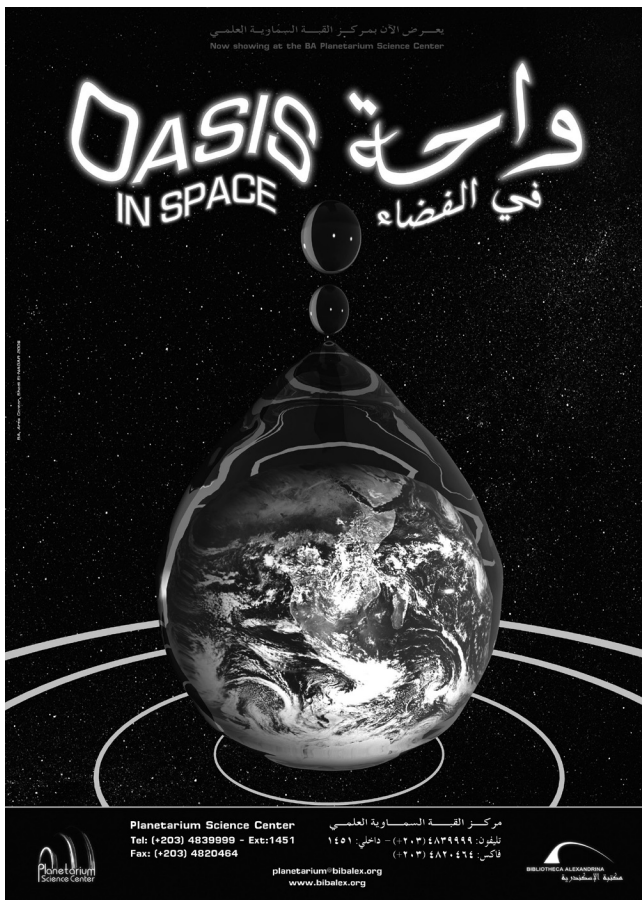
these worlds, but only on Earth did it become the major component of evolving life.

But the Sun is just an average star; small, stable, like billions of other stars in the Milky Way galaxy. Our galaxy itself is typical of billions of galaxies in the known universe, each home to untold billions of stars.

How many other «water planets» orbit just the right distance from their own «average» stars?

The search for life goes on ... we listen for a faint echo from some far-off civilization for a signal from an alien world ... for signs of another...

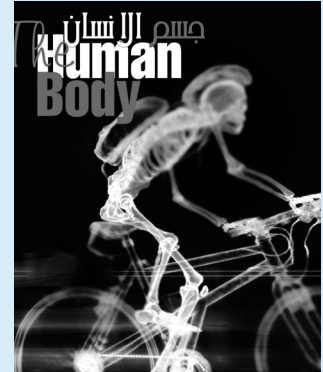
Oasis in Space...



Human Body

40 Min. IMAX film

Using ground-breaking photographic techniques, the Human Body promises to amaze audiences with a firsthand look at some of the body's simple biological processes, such as the creation of 200 billion red blood cells over one 24-hour period, the 30 - 40 yards of new hair we sprout each day, and the daily demise of 10,000 brain cells that will never be replaced!



You will be enthralled by this extraordinary and insightful adventure that begins each morning from the moment we first open our eyes, as burning cells from the surface of our retinas reveal a fresh set of sensors, to the last rumblings of our evening meal as it is turned into the energy we will need to face tomorrow.

The Human Body is a presentation of the Learning Channel and BBC Worldwide of a Discovery Pictures/ BBC co-production in association with the Maryland Science Center and the Science Museum, London with major funding provided by the National Science Foundation.

Stars Show

45 Min. Live Show

by the PSC resident astronomer

With every instant, the Sun rises at one place on Earth and sets at another...

When the sunlight fades away, sparkling objects appear in the night sky...

As we gaze at these wondrous objects, we notice they are different in size, shape and color...

What exactly are these objects? And what is the secret of these differences we see in them?

Ever since the beginning of time, Man has gazed constantly and endlessly at the stars ... trying to unravel its secrets...

It occupied a big part of his time and thought..he saw in them stories inspired by his life and his beliefs...

But Man's relationship with the stars was never constricted to

myth and fantasy ... it was also science...

It consumed a large portion of the attention of all the great civilizations of the ancient world...

With the passing of time, the attention Man gave to this science did nothing but grow...

Now, in this modern age of high technology, Man has learnt a great deal about this mysteriously vast and endless Universe...

Still, it is all but a tiny drop in the sea of knowledge hidden deep in this amazing tapestry we call the heavens...

If you wish to learn a bit about this amazing cosmos, come visit the BA Planetarium and have a closer look at the sky, with an accomplished astronomer to guide you through a one-night journey of the Universe.

Ring of Fire

40 Min. IMAX film

Our earth was born of fire.

Today, more than four hundred active volcanoes shape life on the Pacific Rim; geologists call it "The Ring of Fire". Here, where half a billion people dwell, is a window on the awesome geological forces that shape our planet:

... In Beppu, people have learned to live with volcanic powers, harnessing their geothermal energy for health and relaxation.

... Deep within the crater of the notorious volcano of Kawah Idgen, there are those who seek their living directly from the cauldrons of Hell.

... High on the slopes of the sleeping volcano, at the surviving Mother Temple of all Bali, the Kecak Dance unfolds.

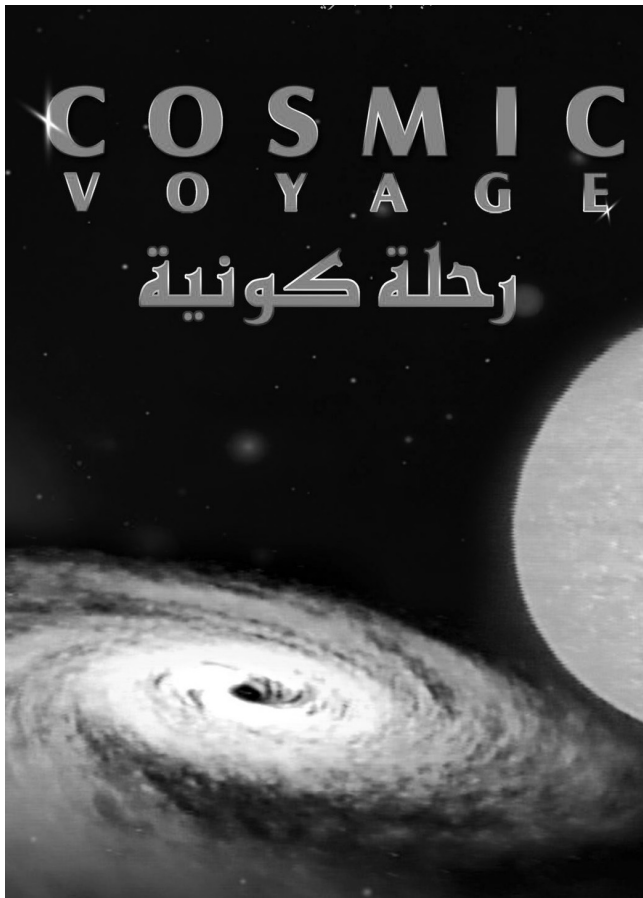
... The rich fertile land which is the wealth of Indonesia is a gift of the volcanoes.

... Not only humans are adapted to life on the Ring of Fire. Creation did not happen just once

Creation continues...

It is a beginning without end...

The Earth is alive...



Cosmic Voyage

40 Min. IMAX film

"Equipped with his five senses, man explores the universe around him and calls the adventure science."

Edwin P. Hubble

What is our place in the Universe?

We are all travelers ... on an unending voyage of discovery!

Our voyage begins in the center of Venice and with every step of our journey we travel ten times farther from Venice, and our view of the Universe is ten times wider. About 15 billion light-years from Venice, we approach the outer limits of the visible universe, beyond which we cannot see and do not know.

Our voyage continues into the realm of the very small where each new step reveals a world ten times smaller in diameter than the last. Our voyage leads us through a void that appears as vast as the space

between the stars!

Man must understand his universe in order to understand his destiny...





Museum Admission and Tours

Opening Hours

From Sunday to Wednesday [from 09:00 am to 16:00 pm]
 Saturday and Thursday [from 09:00 am to 18:00 pm]
 Friday [from 15:00 pm to 18:00 pm]

Guided Tours Schedule

From Saturday to Thursday
 [10:00 am + 11:00 am + 12:15 pm + 13:00 pm + 14:15 pm]
 Additional tours on Friday, Saturday, and Thursday
 [16:45 pm + 17:45 pm]

- Museum entry fees are included in all Planetarium show tickets.
- For non-audience of the Planetarium, Museum entry fees are 0.50 EGP.
- Museum Tours are free for ticket holders.

NEW

Did you Know? Presentations

The History of Science Museum offers a variety of presentations, each of which focuses on a specific subject displayed at the Museum, with rich and detailed ideas and facts that are shown via data show. The presentations are shown at different points in the Museum where visitors are able to browse through their content freely, using touch screens.

The presentations are available in Arabic, English, and French; and they cover the historical eras exhibited at the Museum: Egypt of the Pharaohs, Hellenistic Alexandria, and the Arab-Muslim Middle Ages. The visitor starts by choosing the language then chooses one of the themes; these include, among others: The Calendar, Archimedes, Astrolabes, Construction in Ancient Egypt, and Time Measurement in Ancient Times.



Discovery Zone

The current Discovery Zone exhibit area where visitors can interact directly with the experiments on display is divided into five main themes: Physics, Biology, Chemistry, Astronomy and Games.

The Discovery Zone now also comprises:

- the **Timeline** banner, located in the entrance of the Discovery Zone and dedicated to highlighting 48 scientific milestones throughout history from 35000 BCE to the year 2000;
- the **Nobel Laureates** banners on display in the entrance of the main Discovery Zone exhibit area dedicated to honoring a few of the great scientists who have received the prestigious prize for achievements directly related to the themes adopted by the ALEXploratorium exhibits and activities; and
- the **Kids Corner**, a special area where children under 6 years of age can safely have fun while their families enjoy the PSC activities.

Opening Hours

From Saturday to Wednesday [from 09:00 am to 16:00 pm]
 Friday [from 15:00 pm to 18:00 pm]

Guided Tours Schedule

From Saturday to Thursday
 [10:00 am + 11:00 am + 12:00 pm + 13:00 pm + 14:00 pm + 15:00 pm]
 Friday [15:00 pm + 16:00 pm]

Discovery Zone entry fees are:

Students 2 EGP
 Non-students 4 EGP



Listen and Discover

Short and simple scientific documentary films of a lively nature that attract audience and help them understand scientific issues in an appealing and interesting manner.

- For the list of shows available at the «Listen and Discover» and the schedule, please consult the Center's official website: www.bibalex.org/psc.

- For reservation, please contact the PSC Administrator at least one week before the desired date.

- «Listen and Discover» show fees are:

DVD shows:

Students	1 EGP
Non-students	2 EGP

3D shows:

Students	2 EGP
Non-students	4 EGP

The Workshop

Enjoyable practical workshops in all fields of science are constantly developed in an innovative fashion by ALEXploratorium specialists. The 1st school semester (2008 /2009) workshops start on 12 October 2008 and end on 25 December 2008.

- The workshops are available from Sunday to Thursday, at 10:00 am and 12:00 pm; however, reservation must be made at least one week in advance.
- ALEXploratorium Workshop fees are 2 EGP per student.

Electricity (12-23 October 2008)

This workshop revolves around electronic components, such as: resistors, transistors, coils, ... etc.; starting with a brief description about the history of electricity and electronics, then going into detail through the usage of each component, ending with demonstrating a complicated electronic circuit.

-Target Age Group: 12-16 years

Light and Colors (12-23 October 2008)

Without light, colors do not exist. But how can light enable us to see them? How is it that two colors mixed together make a third? Why do crystal drops cast rainbows when they catch the light? Why isn't the sky always the same color?

- Target Age Group: 8-12 years

Energy (26 October - 6 November 2008)

This workshop presents the different forms of Energy, using interactive experiments to explain how energy is transformed to different forms, its properties and its applications in the daily life.

- Target Age Group: 12-16 years

Astronomy (26 October - 6 November 2008)

What is a solar system? Can you make your own solar system? Can you make your own rocket?

Can you gain new information about astronomy without reading a book?

This workshop help students learn about the cosmos in a simple fun manner.

- Target Age Group: 6-12 years

Human Body (9-20 November 2008)

This workshop is about the human body. Its experiments are about the lungs capacity, the digestion operation, the DNA, the skeleton, the pulse and the stages of the embryo.

- Target Age Group: 8-12 years

Magnets (9-20 November 2008)

When you use a computer, you're using magnets! A hard drive relies on magnets to store data, and some monitors use magnets to create images. If your home has a doorbell, it probably uses an electromagnet to drive a noisemaker. Magnets are vital for many devices we use on daily basis.

- Target Age Group: 12-16 years

Density (23 November - 4 December 2008)

A workshop that presents the theory of density and floating bodies in a simple and fun manner.

- Target Age Group: 12-16 years

Mechanics (23 November - 4 December 2008)

Simple machines are the foundation of all mechanical devices. Learn about these simple, yet fundamental machines, such as pulleys, gears, levers and inclined plane.

- Target Age Group: 12-16 years

Plants (14-25 December 2008)

During this workshop students learn the importance of plants to humans. They will study their characteristics and components, see the environment where they grow, learn the process of photosynthesis and its importance for humans.

- Target Age Group: 8-12 years

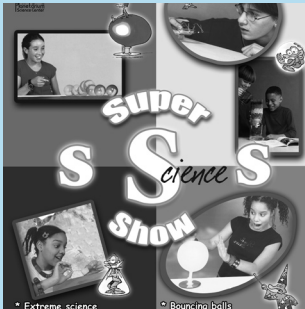
Chemistry (14-25 December 2008)

This workshop comprises some simple and fun scientific experiments that familiarize children with some chemical secrets, such as: the secret of chemical reactions, atoms and molecules, the difference between compounds and mixtures, acid base reactions, ... etc.

- Target Age Group: 12-16 years

Programs & Events

Super Science Show (12 October - 25 December 2008)



An independent workshop that is available only by reservation, the Super Science Show is a dynamic and highly motivational activity that gets the participating children involved in hands-on experiments that stimulate infectious enthusiasm. The show includes experiments in the fields of Physics, Biology, and Chemistry. The specialists working with the children use a variety of materials, such as balloons, bouncing balls, balance board, baseball bats, water, and soda cans. It is a valuable and amusing show; do not miss it!

- Target Age Group: 6 -16 years
- Maximum number of participants: 50 students
- Show Duration: 90 min.
- Indoor Show fees are 150 EGP
- Outdoor Show fees are 200 EGP
- For reservation, please contact the PSC Administrator at least one week in advance.

Fun with Science (12 October - 25 December 2008)



Fun with Science is a program organized by the PSC in

collaboration with the BA Young People and Children libraries. The program applies a series of fables containing messages that aim to provide children with a scientific basis, enabling them to make use of scientific facts as a creative tool. A major theme of the «Fun with Science» program is the introduction of «systems thinking». Children learn that everything in the world is interconnected and that thinking from a systems perspective influences choices and behavior.

The 1st part of the program is based on storytelling applying illustrated fables and a variety of creative activities that teach children about the systems message and demonstrate to them how everything is connected. The 2nd part is based on hands-on scientific activities related to each fable content that teach the same systems message in a fun manner. Every 3 months we change the fable, "Tree Candy" is the next fable and workshop. Through this cycle, students discover that:

- Trees contain sugars that are not harmful to teeth;
- Sugarcane is rich in fibers that could be used in making paper; and
- The world has a tremendous amount of natural resources; thinking creatively will allow us to make the best use of these resources.

- Target Age Group: 8 -14 years
- Number of participants per group: 20- 25 students
- Session Duration: 120 min. – twice a week (Sunday and Wednesday)
- PSC workshop fees are 2 EGP per student per session.
- Young People and Children Library entry fees are 0.50 EGP per student per visit.
- For reservation, please contact the PSC Administrator at least one week in advance.

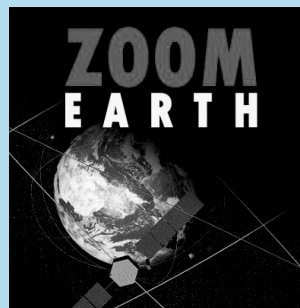
Space Technology (12 October - 25 December 2008)

Understanding Space is essential

to face 21st-century challenges, such as: climate change, natural disasters, security, communication, information, and scientific development in general. This program simplifies this field to students via multiple activities, such as: lectures, workshops, fieldtrips, and research projects.

- Target Age Group: 14 -20 years
- Session Duration: 120 min.— 8 sessions/program
- Program fees, including fieldtrips, are 75 EGP per student.
- For additional information and reservation, please contact the PSC Administrator.

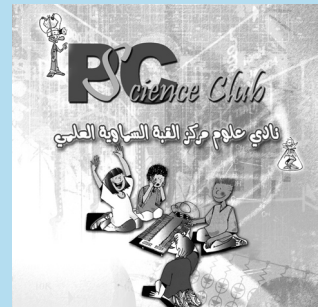
Zoom Earth (5 October - 22 December 2008)



This outreach program, for schools only, is based on analyzing images of the Earth provided by satellites, with the aim of increasing awareness of new technologies and finding solutions for environmental problems. The program mainly tackles topics such as irrigation, water pollution, meteorology, volcanoes and earthquakes. During 2008 - 2009, "Climate Change" will be the theme of Zoom Earth; the theme will be approached through lectures, workshops and fieldtrips.

- Target Age Group: 12 -15 years
- Maximum number of participants per group: 30 students
- Session Duration: 90 min. – twice a week (Sunday and Monday)
- Participation is for schools only; to participate, please contact the PSC Administrator at least one week in advance.

Science Club (12 October - 25 December 2008)



Science clubs apply educational and scientific programs at schools; they aim to stimulate curiosity, interest and enjoyment in science and its methods of inquiry, to develop experimental and investigative abilities and develop children abilities and skills.

- Target Age Group: 12 -15 years
- Participation is for schools only; to participate, please contact the PSC Administrator for details.

TechnoKids (12 October - 25 December 2008)

TechnoKids Inc. is a trusted and valued publisher of technology curriculum that are used on daily basis to teach thousands of students the skills that will best prepare them for the digital age. TechnoKids presents a variety of programs tailored according to the target age group of children.

- Target Age Group: 6 -16 years
- Program fees depend on the chosen program
- For more information and reservation, please contact the PSC Administrator.



ALEXploratorium



Egypt Science and Engineering Fair (ESEF) (12 October - 25 December 2008)

The International Science and Engineering Fair (Intel ISEF) (<http://www.sciserv.org/isef/index.asp>) is an international science competition that provides an opportunity for outstanding young scientists and inventors to come together to share ideas and showcase cutting-edge science projects. The competition recognizes the urgency of promoting achievement in science to students 14-18 years of age, and encourages innovation and creativity. The international competition occurs once every year in the United States of America, bringing together students, teachers, corporate executives, and government officials from around the world to compete for over millions of dollars in scholarships, tuition grants, scientific equipment, and scientific trips.

Each year, millions of students worldwide compete in Intel ISEF-affiliated regional and state fairs from which the best win the opportunity to attend the Intel ISEF. In cooperation with Intel Co., the BA hosts the local ESEF (Egypt Science and Engineering Fair) organized to prepare students for opportunities of participation, competing, and winning. Participating students are asked to research a certain topic,

to which their project is related, in different categories such as: Animal Sciences, Behavioral and Social Sciences, Biochemistry, Chemistry, Computer Science, Engineering, Environmental Sciences, Medicine, Physics, Astronomy...etc.

-Target Age Group: 14-18 years
-One session per week, on Saturday

-For more information and reservation, please contact the PSC Administrator starting 5 October 2008.

4th FIRST-LEGO League (FLL) in Egypt Competition

The result of an impressive alliance between FIRST (For Inspiration and Recognition of Science and Technology) and LEGO, FIRST LEGO League (FLL) is an international hands-on, sport-like, robotics program for children 9-14 years of age.

Guided by mentors and their own imagination, FLL students solve actual engineering challenges, develop important life skills, and learn to contribute positively to society, enhancing characteristics such as team-building, problem solving, analytical thinking and creativity.

Every September, a new Challenge is unveiled and over the course

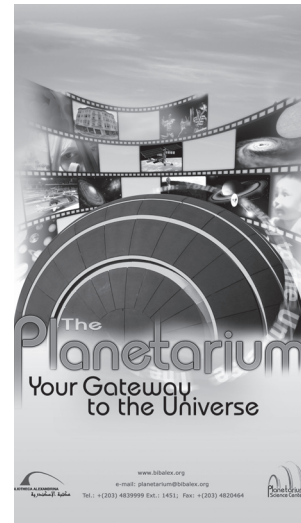
of 8 weeks, the FLL international teams strategize, design, build, program, test and refine a fully autonomous robot capable of completing the mission. During the process, teams search the web, talk to scientists, visit the Library and develop presentations that relate to a problem or opportunity facing the world today.

Within this year's theme, Climate Connections, participants will embark on an exploration of the Earth's climate; they will discover the links between science, people, resources, and communities; they will unearth how we learn about past climates and delve into questions surrounding our current and future climatic conditions. FIRST-LEGO League teams will create a global game plan as they make these Climate Connections.

The finale of FLL in Egypt national competition will take place on 28-29 December 2008.

-Target Age Group: 9-14 years

-Participation is by Invitation Only



Planetarium Science Center 2nd year | 1st edition

1st school semester
(2008 - 2009)

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