SULTANATE OF OMAN
MINISTRY OF EDUCATION

مهرجان عُمان للعلوم
Oman Science Festival

رؤية عُمان 2040
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مهرجان عُمان للعلوم
Oman Science Festival

Workshops and Events Manual

2022

10-15 October 2022

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Oman Science
Festival

Oman Science Festival 2022

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مهرجان
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Oman Science
Festival

The late Sultan of Oman
His Majesty Sultan Qaboos Bin Said

His Majesty
Sultan Haitham Bin Tarik

Introduction

Oman Science Festival, in its third edition, will be the right place for innovation, Passion, Experience, Meditation, Inspiration and Renewal. It is for modern trends and future aspirations towards creativity. It is a mirror reflecting ambition in line with the aims and objectives of Oman Vision 2040, and the National Strategy for Innovation. This will enable the Sultanate of Oman to be the ideal and best destination, ranked among the best twenty countries in the Innovation Index by 2040. Modern and sophisticated science, innovation and technology are considered vital pillars in formulating the knowledge society, enhancing national capacities regarding the integration the Government is looking forward to achieving between the private sector and whole society. As a consequence, this will support and strengthen the national economic system toward a unified purpose, converting ideas into real practice that will serve humanity.

Following two successful editions organized by the Ministry of Education in 2017 and 2019, the third edition of Oman Science Festival 2022 will be a perfect continuity of the previous two editions, always placing students in its core focus. Science, with its rapid change and advancing technologies, is the basis for all human practices in various occupations and other aspects of life practices. The festival highlights man›s ability to overcome challenges faced using science and its great potential in various fields. With this edition, the spaces and corners will be bigger in terms of both area and time. This is a learning and knowledge environment that is characterized by great diversity, embracing everyone›s needs and interests.

Goals:

- Deliver science to students and members of society in an easy and interactive way that stimulates creative thinking.
- Create a positive attitude / trend towards science, innovation and scientific research.
- Encourage students to recognize the importance of science in real life and urge them to innovate.
- Keep pace with global trends based on the dissemination of science and technology, and expected future changes and development.
- Enhance students' skills in order to well-integrate them into the knowledge-based economy.
- Encourage young children to continue learning scientific disciplines/ majors.

Targeted groups and partners:

- School students.
- Students at higher education institutions.
- Educators and Parents.
- Ministries, Government Institutions, and Military Institutions.
- Civil Society Institutions.
- Private sector.
- Scientists, scholars, researchers, specialists and academics.
- People interested in science from different countries.

Festival Events:

- Interactive Scientific Workshops.
- Scientific Innovation Exhibition.
- Scientific Seminars.
- Scientific competitions.
- Scientific Theatre.

Participating Institutions

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Corner

Space and Aeronautics

Event	Implemented by	Description	Age	Duration
A travel to the space	Oman Astronomical Society	Through augmented reality (AR) technology, visitors will have a virtual journey to the space to learn about the solar system, planets, stars and moons.	5-25	30 mins
Explore the space	Oman Astronomical Society	Learn closely about celestial bodies using the card game connected to an application in children's tablets. A device will show any planet or orb with all its characteristics, features and other comprehensive information. Some of information are supported by sound. Furthermore, visitors will learn about the components of outer space more broadly in parallel to our real life.	6 -12	30 mins
Our incendiary sun up close	Oman Astronomical Society	It will give visitors a lively opportunity to watch the Sun up close with its wavelengths and different colors during the daytime. It will also allow them to watch the International Space Station (ISS) in the evening live on a screen.	10-40	5 mins
The International Space Station	3D Factory	Visitors will have the opportunity to watch a model of the International Space Station (ISS) manufactured with 3D printing technology. This model presentation is aimed to familiarize visitors with the station and how it serves space science in relation to conducting research within the space environment and under zero gravity, as ISS is the appropriate place to examine spacecraft systems and equipment required for long-term future missions to the Moon and Mars.	5-50	5 mins
Lunar System	3D Factory	This model allows an opportunity for a real simulation to show visitors the Earth and Moon's movement around the Sun, and introduce them to the concept of four seasons, night and day; as well as, moon-faces or moon-shapes, and the solar eclipse and the lunar eclipse phenomenon.	All	5 mins
Space secrets	Mawaheb	The event will provide visitors an opportunity to create a mini-spacecraft with simple available tools. It will also allow them to learn about the fundamentals of space science for children, enhance their knowledge and make them familiarized with the components of the International Space Station (ISS), and how astronauts live in it.	5-12	30 mins
Explore Aeronautics	DIRECTORATE GENERAL OF AIR NAVIGATION - Civil Aviation Authority	Visitors will attend a presentation about Oman air traffic, Omani airports activity, communication operation between aircrafts and the air traffic management center.	7- 40	10 mins
Venture into the space	DIRECTORATE GENERAL OF AIR NAVIGATION - Civil Aviation Authority	The event allows visitors to experience flying via a smart simulator and recognize the skill of landing and take-off.	7- 40	10 mins
The Planets up closer	Petroleum Development Oman	Visitors will have an opportunity to see the planets of the solar system very closely and learn about their characteristics and topography using smart applications.	10-15	30 mins
What's your weight on the planets?	Petroleum Development Oman	Have you ever wondered what would be your weight on other planets such as Venus and Jupiter? You try the weight-measurement device to know your expected weight on every planet of the solar system.	All	5 mins
Stellarium App	Petroleum Development Oman	The planetarium application allows you to see the sky map. It identifies exactly what you see while looking at the stars. Visitors can identify stars, constellations, planets, comets, subordinated anthropogenic (such as the International Space Station), and other objects, that are located deep in the sky, in few seconds and just by pointing the phone towards the sky!	5-15	10 mins
astronaut	Petroleum Development Oman	Visitors are introduced to the astronaut's 3D printing object, and have the opportunity to capture a commemorative image in the space, beside models of an astronaut and the suspended International Space Station (ISS).	All	5 mins
Make your own plane	Ad Dhahirah Amateur Team	Enjoy making your own jet by registering in the wireless airplane workshop where participants will be introduced to the parts of gliders and wireless aircraft, and trained on the basis of flight skills and aircraft maintenance.	12-25	30 mins
fly with the plane	Ad Dhahirah Amateur Team	Via a simulator, visitors can learn about the laws and skills of flying and take the opportunity to fly high in the sky.	12-25	30 mins
A Journey in the Sky of Oman	Stargazers Oman	Visitors will learn about devices used to monitor celestial bodies such as the Sun, planets and technology used to reduce light pollution. Also, astronomical tourism will be presented, which aims at identifying the best sites for astronomical observation, equipment and steps required to produce astronomical images. There will be a chance to show a set of images taken by Omani photographers.	18-30	30 mins
Virtual cockpit	Oman Aviation Academy	Enjoy driving and controlling the electric cockpit via a flight simulator that attempts to copy, or simulate, the real flight experience. It's as realistic as possible.	13-16	10 mins

Event	Implemented by	Description	Age	Duration
The airplane cabin	Oman Aviation Academy	Enjoy VR goggles to take you into the plane cabin. It is a virtual flight where visitors will learn about the aircraft's driving or controlling components, pilot training program, tools and devices used for flying and taking off.	13-16	10 mins
Aviation Exhibition	Oman Aviation Team	The exhibition gives visitors the opportunity to learn about the types of hang glider, wireless, and amphibious flights; as well as, learn about their components and methods of maintenance.	10 - 50	10 mins
The Junior Pilot	Oman Aviation Team	Junior visitors can take part in a workshop for creating light aircraft with simple engines, aiming at instilling the culture of aviation in the young and expand their knowledge about this sector. Participants will be required to register prior to joining this workshop. At the end, graduated participants will be awarded a certificate of participation by the organizing group.	10 - 18	30 mins
Technology and aviation	Oman Aviation Team	The application enables the visitor to experience flying by providing a number of electronic devices that have applied aviation software that simulates reality. This simulation comes to give the public an opportunity to experience flying and to know the best practitioners in this field. The latest versions of the simulation will be provided in this event.	10-18	10 mins
Captain Hawa'	Oman Aviation Team	This event is available only for women who will be introduced to the first women's team in the Middle East recognized by the International Aviation Federation. There will be an opportunity to learn the basics of flying for amateur women and participate in the training workshop and competitions; as well as, take part in simulation and leadership experiences.	10-50	30 mins
astronomical observations	Ministry of Endowments and Religious Affairs - Department of Astronomical Affairs	Astronomical applications used in visitors' smartphones will be explained. Astronomical binoculars that are used to monitor crescents will be introduced to the visitors too. Public visitors will also have the opportunity to observe planets and the moon.	5-60	30 mins
Space travel	Ministry of Endowments and Religious Affairs - Department of Astronomical Affairs	Visitors will have a chance for a virtual trip to the space to probe its spots and secrets via virtual reality (VR) technology that provides them with a closer experience to reality and truth.	5-60	3 mins
Ibn Farnas	Ibn Farnas Drone Center	Drone technology applications and associated technologies will be presented and displayed for visitors. There will be also a simulated model for piloting and controlling planes; as well as, photography using drones.	10- 17	30 mins
The universe around you, so explore it.	Sultan Qaboos University	Some astrological topics, such as the solar system and its planets, are introduced to visitors. An executive explanation about the life cycle of stars and cosmic collisions will be delivered using smart educational applications and enjoyable simulation applications specialized in astronomy which are easily displayed on tablets. Visitors will also enjoy a virtual exploration adventure to learn about the secrets of universe around them via augmented reality (AR) cards.	8 - 14	20 mins
The weather forecast studio	Directorate General of Meteorology - Civil Aviation Authority	A mini-studio to film the weather forecast program will be presented to visitors to provide them with basic information on designing a dedicated photography location, using simple and accessible technology; as well as, identifying specific terminology used in weather forecasting.	All	5 mins
Meteorological Monitoring Station	Directorate General of Meteorology - Civil Aviation Authority	Visitors will have a chance to learn about the Meteorological Monitoring Station, most common meteorological monitoring tools; as well as; using satellite imagery and its applications. Moreover, visitors will learn about the weather balloon and how to integrate information to gain an understanding about the expected weather condition.	All	15 mins
The Junior Metrologist	Directorate General of Meteorology - Civil Aviation Authority	Via simplified scientific experiments, visitors will learn about general weather concepts and how to deal with different readings obtained from monitoring devices and satellite images	6- 12	20 mins
Astronomy and Space	Astronomical Technology for Trading	The event will provide an opportunity for visitors to understand and experiment how the astronomical telescope works. Different types of astronomical telescopes will be displayed, allowing visitors a chance to know how they work and are used. The show will be supported with visual materials and vivid view on how the astronomical kit is used. The event will also provide an opportunity on using telescopes to monitor astronomical objects, beside enriching visitors' knowledge on astronomy and space science.	10 -50	15 mins
Gulf Air Academy - Pilot Academy (Greece)	CoPilot Oman	Visitors to the Gulf Air Academy will have a chance to try and experience flying as it is performed in real life with a plane with its basics and fundamentals via using a flight-simulator. Visitors will also be introduced to the course or module materials and skills that have to be studied by a trainee-pilot at the academy. Mini models for different types of aircraft will be presented too.	15-40	15

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Health

Event	Implemented by	Description	Age	Duration
The World of Optics	University of Buraimi	Providing the most important medical examinations for checking sight / vision and eye health of visitors. There will also be a practical workshop that aims at raising awareness entitled: (How to take care of your cosmetic contact lenses)	15-30	30
Cardiopulmonary resuscitation (CPR)	Omani Medical Association	The CPR workshop aims to present one of important lifesaving methods that is useful and applicable in many emergency contexts, such as heart attack or near drowning, in which patient's breathing or heart-pulse stops.	9-35	15
Modern technologies to monitor blood sugar levels and insulin injections	(Oman CPR Association)	Technologies used to reduce the need for repeated jabs, including a continuous diabetes monitor device that uses sensors placed / attached to the skin in order to record sugar indicators every minute. This monitoring and observatory tool can be done electronically. There is also another technology for pumping in insulin 24 hrs. Currently, there are two types of insulin injection methods that can be presented side by side as one of these methods is still not widely used for diabetes patients in the Sultanate of Oman.	Above 10	20
Interactive health education technologies (diabetes control - healthy nutrition - obesity challenges)	Oman Diabetes Association	Interactive presentations about what diabetic patients may experience during their lifetime and the right behaviors they have to follow as well as types of food to be identified in terms of direct impact on their sugar, cholesterol and pancreatic activity levels. In addition, visitor will learn about the impact of obesity on human body functions, presented via a living practical experiment and some indicators that have direct impact on heart beating rates and blood pressure.	Above 7	30
Defining the causes of cancer in general and how genetic dysfunction occurs	National Centre for the Treatment of Diabetes and Endocrinology	Applying interactive methods to explain how cancer-causing genetic dysfunction may occur and show the importance of genetic analysis in diagnosing and determining the appropriate treatment for diseases.	All	5
Cancer prevention	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	An interactive scientific test, where visitors are asked to solve some interactive questions and answers are linked directly to the DNA model. Unhealthy choices affecting DNA and causing genetic mutations will be explained, and linked to likelihood of / exposure to a specific disease.	All	5
Patient Journey	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	Trying an immersive learning experience that shows work details at the center using 3D technology	All	10
Hand sanitizer experiment	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	An experiment aims at detecting the extent of hands hygiene before and after applying a sanitizer properly. Hands will be placed in a device that helps in detecting the status of hygiene of participants.	All	5
Diagnosis of biopsy with ultrasound imaging device	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	Clarifying how a biopsy is taken from a suspected cancer patient using some interactive methods.	All	5
Diagnosing a cancerous tumor in the laboratory	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	Interactive activities to detect cancer cells using a microscope. Also, a workshop will be implemented for children, who will use coloring activities to distinguish between natural cells and cancer cells.	All	10
Drug / medicine journey within the human body	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	An interactive model used to show / stimulate drug's journey into cancer cells through transparent tubes in the body.	All	10
Educational Experiment to simulate an automated preparation device	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	A simulation of latest devices used to prepare intravenous medicines at Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC).	All	10
Radiotherapy Devices	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	A 3D model to clarify the process / procedures taken into account for cancer treatment using the most advanced and modern radiotherapy devices such as CyberKnife.	All	5

Event	Implemented by	Description	Age	Duration
Cancer cells after treatment	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	Experiencing a real / authentic cancer cell tissue after exposing it to different levels of radiation treatments.	All	5
Types of rehabilitation treatments for cancer patients	Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC)	Presenting devices and tools that are used in the rehabilitation of patients suffering from patterns related to motion / mobility, cognitive, intellectual, functional, sensory / senses, linguistic and other problems, via some activities that focus on mentality / thinking and emotion such as puzzles, recognizing different shapes, colors and diversified textual sensing, as well as motion / mobility and muscle strengthening activities, and linguistic activities such as using cards for teaching speech and language.	All	10
Health experiments	A'Sharqiyah University	Having an opportunity to recognize the shapes and colors of red and white blood cells by getting a blood sample and examining it using a microscope.	15-18	15
Your Teeth and Technology	Oman Dental Students Club	An interactive presentation exhibiting the latest technologies applied in the field of dental treatment and health. (Dental ceramic machine, Water floss and digital	10-30	20
Your path to ideal weight starts from here	Ministry of Health (School and University Health Department - Nutrition Department - Community Initiatives Service Section)	Providing the following services in an interactive approach: - Measuring the body mass index. - Fat level analysis. - Nutrition consultation by a nutrition specialist.	All	20
Entertain your Mind	National University for Science and Technology	A set of games aimed at measuring visitors' IQ, beside presenting different phone apps for training people's mind and mental health.	Above 6	15
My psychological platform	National University for Science and Technology	A virtual platform which allows visitors to experience a remote psychological counseling service. After analyzing the results, visitors will be recommended and guided towards a set of electronic psychological tests such as breathing and relaxation exercises.	Above 7	10
Your Personality Color	National University for Science and Technology	Analyzing visitors' personality in an interactive and virtual manner and presenting two types of games with two levels: beginner and intermediate.	Above 7	15
Nursing and modern technology	Sultan Qaboos University (College of Nursing)	A simulation that depicts the nature / environment of the nursing profession. This corner will also show relevant devices / models that have resulted from the recent development in technology and science.	All	15
3D models show	Oman Medical Specialty Board	Presenting 3D models printed using a 3D printer for training purposes at the Medical Center for Simulation and Innovation. The stages of production for making such models will be explained from designing, printing, production and final check. In addition, there will be a presentation about raw materials as well as a video explaining the process of manufacturing.	All	20
Virtual Reality (VR) Glasses	Oman Medical Specialty Board	Trying the VR goggles / glasses which will enable visitors learn more closely about this technology that is applied mainly in the augmented reality (AR) laboratory for medical training purposes.	All	15
Tebian Platform	Oman Medical Specialty Board	Showing a national e-learning platform for health / medicine, its function, types of programs offered by the platform and other features.	All	30
Basic first Aid skills	Oman Medical Specialty Board	A simplified workshop on first aid basics	All	20
Preventive measures for disease transmission	Oman College of Health Sciences (Nursing program)	A training workshop on selecting preventive procedures based on the methods of disease transmission / infection.	All	15
First Aid	Oman College of Health Sciences (Nursing program)	A practical workshop using five first aid kits used for training participants to deal with wounds / injuries, asphyxiation, hypersensitivity, and a foreign object absorbed into the skin.	7-25	15
Mental Health	Oman College of Health Sciences (Nursing program)	Using educational models / manikins to show how the brain and body works under specific cases related to stress and anxiety and make a comparison to natural situations. Certain means for obtaining a sense of reassurance and comfort such as intense fragrances, candles, colorful backgrounds and natural extracts / nectars.	All	15
Comparison between virus and bacteria; and methods of infection and break-out	Ministry of Health (Central Public Health Laboratories Service)	A set of microscopic presentations for bacterial samples to identify pathogen forms. Also, there will be illustrative feature-models that show the differences between the external and internal formulation of virus and bacteria.	All	10

Event	Implemented by	Description	Age	Duration
An educational model representing the spread of lung / pulmonary diseases	Ministry of Health (Central Public Health Laboratories Service)	An anatomical model that shows respiratory pulmonary diseases that spread among society especially seasonal diseases, such as influenza, tuberculosis, and COVID-19. Moreover, there will an explanation about the means / causes of infection among communities and procedures of protection / prevention.	All	10
Protective Clothing / Accessories Model	Ministry of Health (Central Public Health Laboratories Service)	Using a human body model / manikin to raise visitor awareness on occupational safety and security procedures while dealing with the most serious causes of infection by wearing preventive clothing usually worn by the medical staffs.	All	5
Living things surrounding us in 3D	Ministry of Health (Central Public Health Laboratories Service)	Visitors will explore more closely about groups of different kinds of microbiology or microscopic living objects surrounding us which may cause a lot of societal diseases.	All	5
Sanitary Laboratory Tools	Ministry of Health (Central Public Health Laboratories Service)	A presentation of various laboratory tools / equipment used to collect samples from patients, such as tubes containing blood, plasma, and serum, beside the best ways to wrap the tubes, and transfer them to the laboratory for examination. Moreover, visitors will know about the usage of other laboratory accessories / tools used for other purposes such as water, food and bacteria examination.	All	10
Community Immunity	Ministry of Health (Central Public Health Laboratories Service)	A Domino game presented to explain Community Immunity of both Vaccinated and Unvaccinated Groups against serious infection / diseases. Visitors will play diversified role plays representing different community groups based on given instructions. Then, they have to wait for the findings in order to identify the difference between vaccinated and unvaccinated persons that would help in making a final decision: what is better / best for the society?	All	5
Serial Challenge Game	Ministry of Health (Central Public Health Laboratories Service)	This corner comprises a software program for vaccine design, where the participant has to undergo a specific challenge to get the correct version of the vaccine. The winner will win a commemorative award.	All	25
Hereditary diseases / Genetic disorders	Gene Laboratories for Medical Services	An interactive PRESENTATION of some genetic diseases using DNA and chromosome models to explain different kinds of syndromes, and to raise awareness about most common / prevalent genetic blood diseases (such as sickle cell deficiency, and thalassemia) and ways of preventing them.	All	15
Medical Exhibition for Eye and Dental Health	Al-Tarteel Center for Medical Services and Investment	Ophthalmic examination for visitors with direct medical consultations in the field of ophthalmology, dentistry and general medicine. In addition, there will be counselling for patients who may need complementary medical care.	All	20
Shifa Application	Ministry of Health (Directorate General of Information Technology)	A medical application that provides services for both citizens and residents who already have a registered medical file connected to the civil number enabling accessing to their private medical records: medical history, family members, medicines, laboratory tests, immunizations, procedure reports, vital signs, appointments and new scheduled appointments.	All	10
Checkup is reassuring	Ministry of Health (Infectious Diseases Control Service)	An interactive explanation of some infectious diseases, their medical examinations and necessary medical consultations.	Above 15	30
A journey in the World of Respiratory Diseases	Ministry of Health (Infectious Diseases Control Service)	A stereoscopic model for bacteria that cause tuberculosis, beside its symptoms, treatment and other related information	All	15
Malaria	Ministry of Health (Infectious Diseases Control Service)	A presentation of mosquitoes prevailing across the Sultanate of Oman, types of diseases caused by them and prevention procedures against them.	All	10
Immunization	Ministry of Health (Infectious Diseases Control Service)	Raising awareness about vaccinations using models.	All	10
Travel medicine	Ministry of Health (Infectious Diseases Control Service)	An Interactive presentation about some diseases that require following-up before going and after travel.	All	10
Have fun and be healthy	Department of Counselling and Awareness – Section of Health Awareness & College of Agriculture and Marine Sciences – Sultan Qaboos University	There are engaging and enjoyable experiments and activities and scientific simulators that aim to introduce the visitors to a healthy life-style.	All	10
Qualification via games	Sultan Qaboos University Hospital	An interactive presentation will be delivered by professional rehabilitation specialists who will use a set of innovative games to perform some different exercises in order to develop children's sense, motion and language skills.	4-60	10
Between laboratory and human body	Oman college of health sciences - Medical Laboratory Program	Visitors will be introduced to different techniques (via an interactive way) that are deployed at medical laboratories in order to diagnose various types of diseases affecting the human body.	15-60	10

Corner

Trade and Economy

Event	Implemented by	Description	Age	Duration
Lego Product	University of Technology and Applied Sciences – Mussanah	Training the targeted group on the skills and foundation of innovation and entrepreneurship in terms of distributing allocated capital, defining production requirements, and determining total cost. After identifying the idea and the product, the visitor will go to the shop to buy the pieces and build the product using Lego pieces. Then, visitors will market the product.	5-9	30
Soap Production Line	Al-Amal School for the Deaf	Visitors will prepare the materials used to make soap and cut the soap and dissolve it. After that, colors and aromas are added and poured into specific molds until the martials become solid and dry. Finally, the product is packed for marketing.	7-12	30
Trade Negotiation	Arab Creativity and Innovation Training Institute	In this workshop, visitors will learn about the effective methods applied in trade negotiation, where they choose an offered product to start negotiation. They also learn the methods applied in case dispute occurred between a buyer and seller.	8-12	30
Accounting Technology	University of Technology and Applied Sciences – Ibri	A practical application on how to use an accounting system, store management, shop management using applications and modern technology, and the creation of spreadsheets for a particular project.	10-25	20
The Junior Merchant	Children's Museum (Ministry of Culture, Sports and Youth)	Visitors will learn entrepreneurship and promote artificial intelligence over six phases: registration, finance, planning, manufacturing, identity and pricing using electronic techniques. In addition, they will learn designing business identity, pricing and using ATMs.	8-14	25
The Junior Entrepreneur	Vocational College – A'Seeb	Visitors will learn how to manage financial resources in projects, how to provide products that comply with customer's demand (customer services), and how to make a product in an innovative way and sell it in the market.	9-12	20
Financial Culture	College of Banking and Financial Studies	An interactive workshop to understand and learn how to earn, spend and save money by acquiring qualified skills and ways on using financial resources for decision-making.	11-16	15
Financial Technology	College of Banking and Financial Studies	An interactive workshop on the latest technologies that are helpful for improving the quality of provided financial services and their applications. Visitors will use software and algorithms specialized in financial technology in a practical way.	11-16	15
Across Borders "logistics	Dhofar University	An interactive and exciting competition, and a practical application concerned with the issues and history of the global transportation logistics sector. Visitors will manufacture and install blocks or structures that depict the real global transportation logistics sector.	10-24	25
The e-marketing world	Vocational College – A'seeb	Visitors will learn how to do a promotional campaign using digital marketing especially on social media programs, in particular promotional campaigns to increase profile visibility, and numbers of followers targeting them in an innovative and enjoyable way.	9-15	30
The White Mud Production Line	University of Technology and Applied Sciences – Nizwa	The targeted group in the workshop will mix the components of white clay (kaolin), form creative shapes or designs with this clay, dry it, and paint it to introduce the final product.	5-12	30
Pottery Production Line	Abdullah bin Hamdan Al-Adawi pottery factory	Visitors will make mud by mixing some materials, kneading the mud, shaping the mud using cupboards, burning the mud, and storing and marketing the final product.	5-12	30
KidZania	The University of Buraimi	The workshop aims at providing visitors with basic job skills in the banking field in an enjoyable way within a practical educational environment. Visitors will be introduced to departments, jobs and tasks that are closely related to banking job tasks such as customer service, banking operations, treasury, credit, and administration.	4-14	30
Product from scratch	Sultan Qaboos University	Visitors will learn about supply chains and how to manufacture products such as baked goods, electronic devices or others that range from raw materials to the final consumer. There will be an enjoyable practical application with respect to each stage such as manufacturing, production, assembly... etc. Also, there will be a contest in relation to the high quality supply chain industry.	10-20	15
Applied Economics	Sultan Qaboos University	Smart competitions and applications that are offered in an interactive manner, which cover investment, fun-tech, budgeting, credit, capital and leverage.	15-20	15

Event	Implemented by	Description	Age	Duration
Creative Marketer	Sultan Qaboos University	Visitor rotates a wheel containing several products and services for projects students can apply in real practices. Then, they market the product according to the marketing rules of products. At the same time, they interact with a junior Omani merchant from the field of marketing.	8-13	30
The Junior Investor	Sohar International (Sohar International Academy)	In this event, visitors will enter all stages of the investment world, where they will be asked to randomly pick up a card with a theme related to investment and discusses the selected theme, while allowing them sufficient time to discuss and ask questions using the Kahoot application.	10 -20	30
Ideas Shop	Gulf Business and Digital College - Incubator	In this shop, a small entrepreneurs' workshop (from idea to marketing) is held, where visitors go through a number of stages: stage I (project idea), stage II (materials and tools used in the project), stage III (purchasing materials and tools from the shop), stage III (implementing the idea), stage IV (product making), and stage V (selling the product in an exhibition).	8 - 13	30
Digital Market Challenge	Majan University College	An interactive and scientific workshop that provides a real experience on how to create a successful marketing plan through simulation games and challenging three companies to achieve the highest profits in a digital mark that represents business marketing. In this workshop, visitors will be asked to do a role play involving an employee appointed in one of three companies. Visitors' main role will be spending the allocated amount in the best way in order to achieve the highest profitable growth in his company. Do you accept this challenge?	13-25	30

Corner

Food Security

Event	Implemented by	Description	Age	Duration
Date Production and Plant Tissue Culture	Oman Palm Development Company	Exhibiting scientific models on the nature of work at laboratories, farms and agriculture production. Also, most common and modern devices used in agriculture-manufacturing will be shown.	10-60	30
Germs in water and food	Ministry of Agriculture, Fisheries and Water Resources	Exploring food spoilage / degradation, food poisoning and water pollution using different kinds of germs.	15-60	10
Learn how to count bacterial colonies	Ministry of Agriculture, Fisheries and Water Resources	How to calculate the rate of natural bacterial growth in food and water via a scientific approach using dishes containing harmless bacteria.	7-18	5
Industrial colors in children's sweets	Ministry of Agriculture, Fisheries and Water Resources	Separating industrial / artificial colors used in various kinds of sweets consumed by children using paper chromatography	14-18	10
Interactive Children's Competitions	Ministry of Agriculture, Fisheries and Water Resources	Various competitions for children to perform laboratory analysis of different kinds of foods in order to classify and validate their safety.	8-15	10
How do I make sure that eggs are valid and safe to eat?	Ministry of Agriculture, Fisheries and Water Resources	Practical methods on how to check eggs quality for human consumption before cooking.	All	5
The importance of soil-free agriculture	Ministry of Agriculture, Fisheries and Water Resources	A hydroponic system design powered by solar panels.	6-70	15
Agro-industries	Ministry of Agriculture, Fisheries and Water Resources	Explore Transformative industries of agricultural crops, such as dates and their various products like molasses, alcohol and jam.	11-50	30
Veterinary Corner and Animal Health	Ministry of Agriculture, Fisheries and Water Resources	Recognize animal health through three events: animal care and nutrition, the veterinary clinic, and a set of interactive fun games related to animal health.	5-18	15
Milk Production Line	Mazoon Dairy Company	Explore the Mazoon milk production line and learn about the production process via a simulation of milk thermal treatment and homogenization and examination of milk quality and validity.	10 - 18	10
Learn about fish farming / Aquaculture	iLab Marine	Explore the fish farming / aquaculture experience in-person and make use it for vegetables farming and learn how to recycle basin water for other purposes.	Above 12	15
A day in the life of livestock breeders	Ministry of Agriculture, Fisheries and Water Resources	A model for an ideal cattle barn to demonstrate how to improve livestock production through artificial insemination to refine local breeds.	Above 5	30
plant propagation / proliferation methods	My Farm Network for Agricultural Affairs	Learning about plant propagation / proliferation technologies and methods of plant trimming / pruning and grafting.	10-40	30
Fish farming: • Aquaculture • Floating cage cultivation • Cultivation in closed system	Ministry of Agriculture, Fisheries and Water Resources	Simulating the aquaculture system, its accessories and the future benefits of its usage. • The Simulation of fish farming in floating cages with an open system in the sea. • Exploring fish farming in closed cages and the stages of fish development until marketed.	5-50	20
Plant Doctor	Ministry of Agriculture, Fisheries and Water Resources	A microcosm for an agricultural arboretum in order to identify the various diseases affecting plants, their symptoms and the fungal organisms that attack the plants.	5-30	20
Honeybee	Ministry of Agriculture, Fisheries and Water Resources	Probe the wonderful world of bees by presenting their life cycle, developments and pests that infect them, and discovering the quality of honey production.	All	10
The Maritime Village	Ministry of Agriculture, Fisheries and Water Resources	Explore fishermen heritage and traditional fishing approaches, fishing equipment and fishing work-contract.	All	15
Biotechnology	Ministry of Agriculture, Fisheries and Water Resources	Exploring the world of biotechnology via DNA extraction, polymerization chain reaction and textile agriculture	Above 15	10
Modern cultivation for Saffron	Royal Court Affairs	The event provides a model and an explanation for the experiment of saffron cultivation system and introduce the idea of miniature unit for hydroponics.	11-18	5
Extracting of Olive Oil	Royal Court Affairs	It presents the types of olive oil and methods of its extraction.	14-30	5
Foods Manufacturing	Royal Court Affairs	An interactive presentation for the manufacturing industries of agricultural products and the process of producing juices, jam and pickles will be delivered to visitors.	12-30	10

انظر للعالم بعين طفل، وحوّل الخيال إلى واقع.

مع تقنية المعلومات والاتصالات انتقل الى المستقبل مع حلول مبتكرة لاعمالك التجارية

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Corner

Environment

Event	Implemented by	Description	Age	Duration
Safety and security in laboratories	University of Nizwa	Visitors learn about the most important tools and materials that are required to be available in laboratories and provide the opportunity for students to try on these clothes and tools and live the experience of working with them.	7-20	10
Separation of biological compounds from medicinal plants	University of Nizwa	Visitors have the opportunity to learn about the steps to be followed in the separation of biological compounds from medicinal plants and the most important analytical devices used. They will also conduct some live experiments, watch the separation processes and identify the biological compounds.	7-20	30
Extraction of essential oils	University of Nizwa	Visitors discover the methods of extracting oils from natural resources and explain the efficiency of each method. They will also perform the operations of extracting oils from some aromatic plants such as frankincense, rose, basil... etc.	7-20	30
The world under the microscope	University of Nizwa	Visitors will explore microorganisms that cannot be seen with the naked eye by using electron microscopes and their effective role in the environment, agriculture, industry and human health and they will learn about their types, methods of reproduction, and more.	7-20	15
Exploring living creatures and experimental animals	University of Nizwa	Visitors explore some of the animals, reptiles and insects that live among us in our environment and their role in maintaining the ecological balance. Some animals that are used in research and scientific experiments will also be reviewed.	7-20	30
Searching for fossils	Natural History Museum	By using brushes, children will experience searching and excavating for fossils, rocks and bone remains from under the sand packed into a transparent basin and after revealing the fossil, piece of bone or rock. The child will identify it with the help of the workshop supervisor.	11-18	15
Rock coloring Make paintings using tree leaves	Natural History Museum	Children draw and color on different sizes of white-colored rocks, with colors designated for coloring on the rocks and link their awareness of the importance of recycling to preserve the environment. They will also make a painting of different shapes of their choice or with pre-made models and helping the child to create a wide imagination to create ideas using the materials of the environment in a positive way.	5-12	20
Tree and insect	Natural History Museum	Students view a group of museum specimens of insects and plants using the microscope and link their information to the importance of the relationship of insects to plants in nutrition, the spread of vegetation cover and ecological balance.	7-18	5
Presentation of excavator and rock cutter metal concentration meter	Oman Geological Society	Visitors explore tools and equipment used in geological drilling operations, conduct experiments to measure the concentration of minerals in rocks and they will polish rocks using specialized machines.	8-14	10
Presentation about Lunar and Martian meteorites.	Oman Geological Society	A display of four lunar and Martian meteors of different sizes and composition. There will be two meteors for viewing and two meteors for touch. It will provide an explanation about how it reached us from outer space and its internal and external composition.	8-15	10
Treasures of Oman and Virtual Reality Exhibition	Resource Center - Ministry of Higher Education, Scientific Research and Innovation	Visitors explore an exhibition displaying biodiversity and genetic resources in academia, such as the manufacturing, food, agriculture and industry sectors. There will also be workshops on animal care methods in its various environments.	5-16	30
Mobile Awareness Unit “Environment Champions”	Oman Environmental Services Holding Company "Bee'ah"	A large trailer awaits the visitors containing several environmental awareness materials, targeting school students and introducing them to the concepts of sustainability, circular economy and waste management. It consists of environmental cinema where children watch several interactive videos and interactive games that take them to the second stage of their journey in the unit through interacting and playing a set of electronic games. They will also receive an explanation of the waste path over the past decades to the present day.	6-12	30
Participation in the theater accompanying the festival	Oman Environmental Services Holding Company "Bee'ah"	It is an awareness competition between two groups by scanning a QR code on the screen which deals with the role of the individuals in achieving the maximum possible use of raw materials their environment and preserving the products and resources used and re-designing them in a way that allows them to be reused again.	7-14	30
Interactive environmental games around the festival	Oman Environmental Services Holding Company "Bee'ah"	A set of interactive games, implemented throughout the festival without the need for a specific place, aiming to instill the concepts of sustainability and circular economy among students.	8-15	30

Event	Implemented by	Description	Age	Duration
Beehives and their derivatives	My Farm Network for Agricultural Affairs	The students will discover the methods of beekeeping, management and ways of taking care of them, as well as the tools used and the possible industries such as the manufacture of some natural and health-beneficial organic products such as soap, petroleum jelly and others.	10-40	30
Seed vitality Foundations in plant production	Ministry of Agricultural Wealth, Fisheries and Water Resources	The idea of seed effectiveness is summarized in educating the audience with the most important modern methods used in purifying and sorting seeds.	5-50	30
Agricultural pests	Ministry of Agricultural Wealth, Fisheries and Water Resources	Visitors will discover the types of agricultural pests that spread in the surroundings in which we live including the red palm weevil, the dubas palm bug and the humira bug which causes severe damage to the date palm. The presentation will include its life cycle, identifying the damage it causes through a shoot infected with Dubas and learning about the life cycle of the red palm weevil and its effects, as well as the fruit fly and how it reproduces.	5-60	25
World of Seas and Oceans	Ministry of Agricultural Wealth, Fisheries and Water Resources	Victors discover the secrets of the world of seas and oceans and they identify marine microorganisms using microscopes. They will know the age of fish by calculating the number of rings in the ear bone.	7-12	10
Soil, water and fertilizer analyzes	Ministry of Agricultural Wealth, Fisheries and Water Resources	Students and visitors will make practical measurements of soil and water salinity using pH meters and soil, water and fertilizer analysis techniques used in the Soil and Water Research Laboratory.	6-40	5
Oceanography Lab (Depth Secrets Show) Virtual Diving	iLab Marine	In this workshop, the secrets of the oceans and depths will be presented which include the amazing living creatures, the diversity of the ocean's bioenvironments (coral reefs, beaches, mangrove forests, algae forests, ... etc.), the experience of seeing things in the depths of the ocean and the ocean challenges (salinity, heat, etc.), acidity, ...etc.), through virtual reality glasses.	5-35	5
Oceanography Laboratory (Marine Robotics Workshop)	iLab Marine	In this workshop, visitors will be able to build marine robots (miniature submarines) with environmental materials and raw materials. They will have the experience of using the submarine in a real basin inside the corner. They will learn the methods of submarine movement, shapes and components.	12-18	30
Environment and veterinary services	General Directorate of Veterinary Services, Royal Court Affairs	This event includes a mini veterinary clinic, a mini zoo, and a taxidermy workshop will be presented with a display of some samples of animals and birds.	5-15	30
The importance of protecting sea turtles	Environment Agency	Students will learn about the importance of sea turtles as an important heritage of the Sultanate of Oman through interactive activities about the actions that help to save them and the behaviors that they must do when they are in the turtle reserve. They will see the young green turtles inside water tanks, and they will live the experience of being in a reserve turtles lay sand on the floor and places like turtle nesting pits which help to impart knowledge by interactive visual display.	12-17	10

Corner

Artificial intelligence (AI)

Event	Implemented by	Description	Age	Duration
What is 3D printing?	3D Factory Lab	Several interactive workshops will be implemented to introduce 3D printing, their different stages and applications, and usage. Also, visitors will learn how to use 3D printing in education and domestic trading activities in a useful and entertaining way.	+11	15
Design - Cut – Print	3D Factory Lab	This is an interactive 3D printing area that aims to practically demonstrate the stages of 3D printing and widely spread the 3D printing culture among the community. The idea is to allow visitors operate 3D printers themselves. All required equipment will be provided by the crew, so visitors try practicing all major stages of printing: design, cut, printing, in a practical way leading them to understanding and realizing these stages in a practical approach. They will enjoy designing a medal decorated with their own names.	+11	15
How do I deal with the 3D printer?	3D Factory Lab	The event aims to instill innovation and creativity among young learners (6-11 years old) by allowing visitors practice 3D printing using ToyBox printers, which are 3D printers for children to enable them learn design and printing very easily through smartphones or tablets. Children can easily access the app, which contains many ready-made designs and templates and is linked to the 3D printer.	6-11	15
Printer Farms	3D Factory Lab	This event aims to exhibit the capabilities of 3D printers, introduce to visitors how to do printing and explain the ability of the printer farms in printing large quantities and big-size- objects by segmenting the design of big-size-objects into pieces that fit the size of printers. Later, these pieces will be combined together to form huge objects. These farms provide solutions related to time, size and shipping.	+11	5
An entry to the world of 3D printing.	Al Abadi for Development	The event consists of three main axes starting with a simple introduction about the 3D printing and 3D design program called Tanker-CAD, followed by a simple practical application for visitors to design using the Tanker-CAD software. The event ends with a practical application on how to deal with 3D printers.	15-35	4
How to make 3D movies?	University of Technology and Applied Sciences – Muscat	This event begins with explaining how 3D content is made. Then, experiments with tools such as the virtual reality (VR) room, diversified dimensional screens and other cutting-edge and advanced used tools and technology in this field. This will help broadening visitors' experience in this particular industry and opening their prospects to create other new industries or develop the current 3D industry.	10-18	15
Future Treasure	University of Technology and Applied Sciences – Muscat	The event aims to introduce visitors to big data, how to deal with it and how to create and apply it. This corner will also show several simple analytical applications related to the big data field. Participants will be asked to discuss several issues that required time and skills to resolve.	12-40	15
How do sensors work in automobiles?	Sultan Qaboos University	This event aims to introduce visitors to the types of robot sensors and how they work in cars such as distance sensors that are used in automobile radar systems and color sensors that are used for traffic light signals.	6-16	10
Sentiment Analysis	Sultan Qaboos University	At this event, visitors will try to write a text or tweet. Then, a pre-prepared system will analyze the written content and infer the feelings contained within the text by digging data or analyzing emotions in order to confirm that content is not only composed of numbers, as words, images and videos are data that can be analyzed to make findings.	18-50	4
Virtual Reality (VR) Game	C GENIAL	Visitors will try VR games that provide a 3D artificial environment using sophisticated a specific way that resembles and mimics the real-world environment with particular sound effects.	11-25	20
Discovering the world of modern technologies	Circuit	In this event, visitors will have a practical and interactive opportunity to experiment scientific projects related to the Fourth Industrial Revolution and Internet of Things, going through diversified projects related to, inter alia, robot movement, making robots, connecting and controlling small home accessories through the phone, making sensors to protect homes from risks and hazards, and playing interactive games that educate visions about the future world of fourth industrial revolution and Arduino's operation. At the end, visitors will go through interactive and scientific experiments, where they perform connections based on given-guidance in order to realize the purpose of electronic circuit / circle.	7-25	6
Learn via interactive technologies	Network of Technology Sources	Visitors will have an opportunity to practice the STEM methodology via interactive screens attached to 3D printers. They will learn and practice programming robots that will be used in the robotics competition. They will also implement a set of scientific experiments on these interactive screens.	6-12	15

Event	Implemented by	Description	Age	Duration
Smart Home Technologies	Smart Engineering Technologies Company	This event exhibits a model of a smart home through IoT solutions, applications, home-intelligence, surveillance and security systems, and renewable energy in order to ensure that smart homes are environmentally friendly, safe, convenient and economical.	16-60	6
The Future of Robotics and Artificial Intelligence (AI)	Creative Vision Company	Visitors will learn about robotics through graphic and visual presentations. The presentations will display the history robotic experiments, their development over years, industrial applications and latest models and uses of robotics. In addition, there will be a presentation illustrating the contribution of artificial intelligence that has led to improving the tasks and functions of robots recently.	9-24	8
Creative Innovators	Space Technology	This event will focus on teaching programming and engineering using different technical approaches, practical tools and modern technology such as augmented reality (AR), and making and programming robotics. The event will include a workshop to teach visitors programming robots using Scotty, provide an introduction to learn how to program using Samuathi, try programming using different interactive robots, and practice constructing engineering shapes and designing robotics.	7-12	12
Creative center for culture & innovation	Creative center for culture & innovation	Visitors will try some simple interactive scientific projects such as micro-bit and Arduino panel. After that, visitors will be given information about the potential and capabilities of these panels, how they are operated and programed, and how they can be used by the Internet of Things.	+6	12
Programming micro-bit chip and drones	Science and Technology Centre- Al-Dakhlia Region	Visitors will experiment using and programming the Microbit chip and connect some sensors to it to undergo some projects and pair them with tablets, so programming is transmitted to and operated on tablets. Visitors will be introduced to Tello educational drones that are produced by DJI, as one type of robots. These can be programed by tablets via special applications issued by the Tello edu.	6-16	10
Robot Timi's Challenge	AI-TECHOM	Timi robot will provide great experience in dialogue and discussion to visitors. It will also provide an interactive competition for children and young people via a series of questions and answers. Visitors will enjoy experimenting with artificial intelligence technologies and their secret advantages such as online communication, distance meetings and navigation. Visitors will also learn about customizability using applications that depend on a tool package for software development.	9-18	8
Mathematics and robots	Meras	Visitors will apply some math laws to robot programming to calculate the number of car engine revolutions and the number of wheel rotations and the relationship between them. This will require calculating the length of wheel circumference using radius to identify the distance covered by a robot when the motor rotates 10 rounds for example.	6-15	9
Satellite Communication	Space Communication Technologies	In this event, visitors will learn about the methods of providing satellite Internet using models that mimic real forms. It will also show the effective role satellites play in facilitating communication in different regions and topographies, where these can be obstacles to providing stable services and constant communication.	6-16	5

Corner

Science and Exploration

Event	Implemented by	Description	Age	Duration
A hidden world	College of Science- Sultan Qaboos University	The idea of the workshop is to inspect types of microorganisms through a microscope, asking visitors questions about the type of a specific microorganism and its whereabouts, and enriching their knowledge with simplified information. Also, the workshop will allow the visitors to observe authentic tissues through the microscope and ask any question related to the tissue, which is originally part of the composition of a real living creature.	Above 8 years	15
Preparing educational samples	College of Science- Sultan Qaboos University	Visitors will learn how dead creatures or anatomized organisms are preserved in safe ways. Steps for making educational strata for plant and animal cells that are used for different educational purposes will be carried out..	Above 6 years	30
Extracting DNA from fruits	College of Agricultural and Marine Sciences - Sultan Qaboos University	Visitors will learn how to extract DNA in the simplest possible way at home. They will also be introduced to the latest technology and advanced devices used in laboratories to extract DNA..	Above 13 years	20
NANO-technology applications	College of Science- Sultan Qaboos University	Simplified explanation of nanotechnology especially in manufacturing, while offering several interactive applications for nanotechnology such as liquid nitrogen, water repellent cloth, nanowires etc.	above 15 years	20
Electronic Educational Games for Children	College of Science - Sultan Qaboos University	This includes a maze where two players compete to reach the end by answering questions related to mathematics and different sciences such as asking about the solar system and human body parts. There are also activities related to observing patterns in images or finding differences to move on and search for the exit while moving within the 3D maze using the keyboard.	Above 8 years	10
Electronic Engineering	Kidcity	Implmenting electrical engineering experiments in order to familiarize students with electrical circuits and how to connect them using battery and wires to operate different devices such as lamps, fans and acoustic devices. The workshop's experiments simplify the idea of electricity used at homes and institutions, and illustrate faults that damage electrical connections.	From 4 to 14 years	15
Effective Science	University of Technology and Applied Sciences – Mussanah	Conducting recreational scientific experiments in which visitors can explore scientific information, such as experiments to explore the type of minerals found in chemical substances, experiments to change colors, and experiments that illustrate the scientific basis or principle of certain fireworks. In addition,there will be a visual presentation related to manufactuing some materials from the natural environment such as paper, iron, aluminum, plastic and glass.	Above 13 years	20
Physics of Motion with Vechertecnik	Children World Center	An interactive experimental workshop aims to learn about motion physics using German Veshrtecnik models. During the workshop, the targeted groups will learn about the principles of motion physics such as kinetic energy and potential energy, resistance, gravity, centrifugal force, speed, acceleration, and the impact of their change on the movement of objects.	Above 12 years	30
Physics of Automobile with Vechertecnik	Children World Center	An interactive experimental workshop to learn about automotive physics, and the power to move different vehicles by using German Veshrtecnik models. During the workshop, visitors will learn about the principles of automotive physics such as energy, fluidity, resistance, gravity, speed and acceleration, and the impact of their change on the movement of objects. The workshop will also demonstrate the importance of shock absorbers, the impact of design and surfaces on the acceleration of objects, and the types of wheels and their usage.	Above 8 years	30
Learn about the organs of living-creatures	Children World Center	A scientific workshop to identify the parts of living creatures' organs via a game that depends on synthesising organs of the human body and animals using certified scientific models.	Above 12 years	30
Robotics and IoT Science with Vechertecnik	Children World Center	An interactive experimental workshop to learn about robotics and the Internet of Things using German Veshertecnik models. During the workshop, the targeted groups will learn how to program different robots; as well as, about applications of the Internet of Things, its use and features..	Above 6 years	30
Programming for Children with Matatalab	Children World Center	An interactive experimental workshop to learn about robotics and programing robotics without using programming or computer languages via the Matatalab bag.	Above 10 years	30
Dr.Electron & Dr.Science & TOSS	Sultan Qaboos University	An interactive workshop aims at providing visitors' with scientific knweldge through playing. Three innovative smartphone applications, Hydr.Science, Dr.Electron and TOSS, will be used. Dr.Science and Dr.Electron apps will also be embodied in two cartoon characters to make interaction with visitors and facilitate downloading apps.	Above 10 years	10
Naseer Al-Din Dichotomy	Science History Center - German University of Technology in Oman	The workshop aims to provide visitors with the opportunity to install the dichotomy and learn how it works. It depicts the movement of planets around the Sun.	Above 10 years	20
Steam Engine	Science History Center - German University of Technology in Oman	This workshop will display the steam engine designed by Taqi Eddin Ben Ma'ruf, where visitors learn about the mechanism of steam power to rotate a wheel. The displayed body depicts the work of the steam machine that revolutionized the field of mechanics, while trying the machine and learning about its uses.	Above 10 years	20

Event	Implemented by	Description	Age	Duration
Science Lab	Omani Edison	Implmenting scientific experiments and challenges in groups, where each group conducts experiments according to given instructions to reach the targeted results. All experments ensure applying the security and safety standards during execution. .	From 7 to 10 years	30
Entrance to the automotive world	National College of Automotive Technology	This workshop includes the theoretical and practical aspects of obtaining necessary knowledge and skills, which are requirements for periodic maintenance of light vehicles and their functioning according to the vehicles-user-manual, beside the permanent parts required for inspection using appropriate tools and equipment, the use of fault screening device and the inspection of some simple electrical circuits using special inspection tools, and the application of occupational safety and health procedures and instructions.	Above 10 years	15
Immersive Virtual Reality Lab	Sultan Qaboos University	Using VR goggles to perform attractive practical experiments in a virtual environment.	From 6 to 9 years	20
Crime Lab	Knowledge Foundation Academy	The workshop aims to use chemistry in identifying the crime perpetrator and the method of gathering evidence, and analyzing chemical evidence to identify blood type and fingerprints. The workshop is performed in three stages related to: the basics, skills and application. The content of the workshop includes the crime scenario and the collection of evidence, the discovery of evidence concealed using chemicals, the examination of fingerprints and blood samples, the identification of the suspect's blood type, the search for the suspected offender, and the differentiation between hair and fiber.	Above 12 years	30
Fun Science Experiments	Mirras Team	The science experiments include three main sections: the Chemical Experiments section, the Water Experiments section and the Magnetic Experiments section. The Chemical Experiments section will give participants the opportunity to experiment with mixing certain chemicals and observe changes that will occur while providing scientific interpretation of the experiment, such as color explosion experiments, Lava Lamp, the disappearance of cork and volcano. The Water Experiments section will provide interesting experiments to explain the characteristics of water waves, such as diffusion, reflection, refraction and other characteristics. The magnetic experiments section will employ the magnetic field to show how energy shifts from one form to another via electric motor experiments, body floating, screw rotation, and other experiments.	From 5 to 15 years	30
Future Skills	Creative Look Company	Familiarizing children with the applied aspects of electronics, arduino programming, robot programming, IoT and smart cities. Several simple experiments will be carried out such as connecting a simple electric circuit, operating a lamp using an arduino board, programming a robot and applying an IoT to control the lamp through the blynk software.	Above 7 years	15
Between scalpel and scissors	University of Technology and Applied Sciences - Muscat	Visitors will learn about the basics of anatomy and how to perform autopsy through several stations. The first is the laboratory mouse anatomy station, where visitors learn about the correct way to dissect the mouse applying all safety measures and recognizing the mouse parts and how they work. Additionally, visitor will be introduced to the differences and similarities between human organs and mouse organs. Second, the cardiac anatomy station will show the anatomy of the heart in a 3D panel to help visitors recognize the parts of the heart and the trajectory of blood, beside exemolifying blood circulation using water. Moreover, the workshop will be accompanied by simplified and seamless scientific competitions: the matching-game competition, the X/O competition and the Scientific UNO Game.	Above 10 years	25
Golden Rain	ABQ Education Group	This workshop offers a great chemical presentation for rainfall interaction followed by recrystallization. During recrystallization, lead iodide molecules appear as golden gloss. Lead iodide precipitate is formed by mixing the lead nitrate solution with the potassium iodide solution. Solubility of lead iodide is limited in cold water, but it significantly melts in hot water. When it is heated, lead iodide dissolves in warm water and reappears in the form of stunning shiny crystals when cooled.	above 12 years	15
How do microwave rays affect the DNA of yeast?	ABQ Education Group	This workshop shows that microwave can change the structure of yeast's DNA through a simple scientific experiment in which visitors deduce that yeast cannot breathe when DNA is changed.	Above 7 years	15
Water as a reneawable resource	ABQ Education Group	The workshop aims to introduce visitors to how to utilize the energy of fallen water, and how to utilize the kinetic energy of falling water in the form of rotational energy linked to a wheel that moves a dynamo ("reverse motor"), so this rotational (kinetic) energy is converted into electric energy.	above 12 years	15
ABQ for sustainability	ABQ Education Group	The workshop will raise the awareness of visitors in aspects related to environmental sustainability using tools made from recycled materials (such as plastic bottles and woods) and hydroponics systems, while clarifying the recycling mechanism and its advantages. Products will also be made using recycled plastic papers, plastic bottles and natural alternatives for chemical contaminants via successive stations that carry out these tasks.	Above 11 years	15
Gateway to Science and Fun	Team Plus Ultra	A range of interactive VR applications and associated technologies that are employed for science and teaching for playful science using 3D simulation, augmented reality (AR), virtual journeys and other applications.	above 6 years	30

Corner

Energy

Event	Implemented by	Description	Age	Duration
Electromagnetic induction	University of Technology and Applied Sciences-Rustaq	This workshop explores how electrical power is produced by the electromagnetic induction phenomenon. It also shows visitors the strategies applied to develop this industry from this point. It will also show how to replace manual motion with wind or water motion as a renewable energy resource. In addition, there will be a presentation to display some devices that are powered by the electromagnetic induction phenomenon.	5-20	15
The first Omani artificial robot used for cleaning solar-cells	RAID	A practical application for solving the problem of soil accumulation on solar cells and provide mechanisms that will be helpful for enhancing their efficiency by controlling robots that are manufactured in order to clean solar cells continuously.	10-99	5
Advances in Mechanical Engineering	Global College of Engineering and Technology	This workshop will have a practical application that is related to the internal combustion of a machine. It will also have a practical application for the 3D printing in the field of mechanical and biomedical engineering; in addition to, some renewable energies, solar energy vehicles and laser uses in engineering.	15-30	30
Power production by using a binary system (the solar energy and wind energy)	University of Technology and Applied Sciences-Shinas	In this workshop, energy will be generated by two ways: solar energy and pneumatic/air energy. The way in which cables, connectors and devices that are attached for these ways will be explained too.	17-25	30
Maximum sunlight absorption by using a two-axis system to track the movement of the sun	Saham Vocational College	The workshop will be as a practical application for enhancing the efficiency of solar panels by tracking the sun via Arduino programming. There will also be a presentation for engines' installation and light sensors' installation that will enable tracking the sun during daytime and utilize the maximum amount of the sun's rays/light.	14-60	5
Renewable energy	Technology Resources Network	There will be an experiment and an explanation on how to convert water into hydrogen and oxygen, and utilize hydrogen for energy generation that can be used for operating certain devices; as well as, try making some small particles powered by hydrogen- batteries.	10-20	20
Future fuel	Kf_Academy	This workshop will present an experiment on how to make an electrolysis cell and identify new sources of energy. Also, there will be a presentation on linking between the concepts of General energy field with chemical energy field. Manufacturing industries will be explained and identified in terms of engineering field. In addition, visitors will know about green hydrogen production process and the installation of wind energy devices and solar energy devices.	12-18	30
Promotion for alternative energy	Wassala Training Foundation	A workshop that aims at learning the basics of alternative energy and focus on solar cell experiments and transformations. It will also show visitors how to examine and utilize energy for operating devices such as lamps, fans, mobile-phones' charging and other devices. It will also show visitors about the types of available alternative energies and classify them according to efficiency; as well as, provide a video show on how solar cells are made.	9-16	20
Sustainable energy	The Centre for Science and Technology at the Directorate of Education in Al Dakhiliyah Governorate	The workshop presents experiments and scientific information on renewable energies such as hydrogen energy, solar energy and bioenergy. The focus is on how solar panels work and how to link them. The workshop contains a presentation of some electrical devices that operate on direct solar energy and the difference between alternating current and continuous current. It presents as well some practical experiences on hydrogen energy and some information and benefits.	9-12	20
Hydrogen Energy	GUtech	The visitor will explore hydrogen energy, its types, and stages of production, storage and uses. The corner will present a scientific experiment on electrolyzer and its uses to explore hydrogen in the ground. The visitor will also enter an interactive scientific competition on renewable energy.	9-16	20
A flash of Future	Green Universe Foundation	The workshop explores energies present in smart homes and how to control the operation buttons and control the angle of the solar panel. The visitors will learn about green energy in the Sultanate of Oman through an interactive touch map that identifies the locations of green energy.	13-17	15
Sustainable Green Community	Global College of Engineering and Technology	An interactive model will be presented to the visitor to simulate a real experience of a sustainable green community. The visitor will interact in moving some activities to see if it creates a balanced system of high accessibility, comfort and safety for residents in the community. The visitor will see how solar panels and wind turbines can provide green energy for the city (turning on street lights for example).	13-20	20
Nano technique	Gulf Colleges	In this workshop, nanotechnology will be practically explained, and ways of using it in the development of consumer products. For example: presentation of the advantages of designing products to be highly effective in lighting, heating, storing electricity and reducing pollution resulting from the use of energy.	8-17	30
PV Solar Systems	Sohar University	This experiment aims to test the electrical performance of the various photovoltaic units, taking into account the effect of the daily dust accumulated on them. A new technology experiment will be conducted that combines photovoltaic and solar thermal collectors to produce both heat and electricity. The PV / T system is used for solar drying models in Oman, such as drying Omani animal and plant products.	10-25	15
Elctro- lab	Data academy	Visitors will be introduced to electric power and how it is generated? The corner will also address types of risks resulted from misusing energy and show ways for avoiding electrical injuries. Visitors will also learn about electrical circuits and the fundamentals of electrical connectivity via practical application. Moreover, they will have a chance to learn about renewable energy and its forms as well as know about some real applications for it.	7-14	30
Practical Experiments on Renewable Energy	Ithraa Educational Platform	Through the experiment, practical applications for renewable energy such as solar energy via emerging electronics and magnetic energy will be presented and performed. Also, the corner will show how we can create a simple motor and how to create a fan.	7-20	5

شركة تنمية نفط عمان

Petroleum Development Oman

Corner

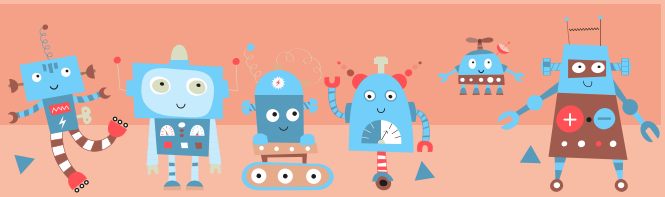
Education

Event	Implemented by	Description	Age	Duration
Creativity in Mathematics - and Mental Arithmetic	Top Creativity Center	This workshop focuses on skills of finding solutions for multiplication tables. It also discusses motivating educational games for learning mathematics (individual and group). Mathematical puzzles will also be addressed, due to their importance in transforming knowledge, information and rules in mathematics into a challenge and excitement that facilitates the delivery of the idea to the students and develops their ability of analysis and logical thinking.	10-18	30
An electronic application (My Steps) in mathematics, and a display of augmented reality technology in science teaching	A'Seeb Basic Education School (1-4)	This workshop provides educational electronic application presented by the two characters, Salem and Amal. It offers math lesson games for the mathematics lessons of the Cambridge curriculum from the first to the fourth grade for most of the mathematics lessons, such as studying weights, lengths, the hundred plate, number line, place value, clock, geometric shapes, and temperatures. The games range from easy to difficult and the questions are varied. The characters read the questions to students, provide them with feedback and motivate them. Augmented reality technology will also be shown in science teaching.	12-15	30
Infographic design in PowerPoint	Ministry of Higher Education, Research and Innovation General Directorate of Vocational Training	It is a workshop that aims to take advantage of all the possibilities of PowerPoint in an exceptional way. Visitors will learn how to create and make infographic films via PowerPoint and use the available sources inside it without any external sources (images, videos, icons). Visitors will learn how to choose the right colors for display.	18-35	30
Ways to attract the learners' attention and raise their desires to learn / create and develop the leader	Arab Creativity and Innovation Institute for Training	In this event, the trainer will explain the necessary methods and techniques that characterize a successful leader. It will also include practical application by asking the trainees to determine the characteristics that distinguish the student and how to improve other qualities to enhance his\her leadership skills.	7-17	20
Electronic circuit design using smart devices (tablets)	Engineering Village	An interactive arena that involves the students and the trainer so that there are tablets in front of each student and a large screen for the trainer in which he reviews practical experiences for students to implement. Students also will learn the interactive installation of electronic circuits on the tablet device, and they will learn about the types of renewable energy and electronic parts and how to use them. Types of resistors, switches, lamps and motors will be explored as well.	12-17	15
Digital Drawing	German University of Technology in Oman	The workshop includes showing short video clips and interactive and innovative contests using digital drawing.	10-17	15
Finding the shortest route using the Sultanate map / game\ Knowing the type of curve (curve graph)	University of Technology and Applied Sciences in Al-Mussanah	The event shows the use of the calculation method (dijistra algrorithm), to calculate the shortest route between two points. This includes displaying a paper map of the Sultanate so that the visitor is asked to calculate the shortest route between two specified points on the map in a limited time. The workshop targets Calculation and Math using curve graphs.	12-18	15
Human body metaverse tutorial	Technology Resource Network	A system that displays the organs of the human body through virtual (VR) and augmented reality (AR) technology. It provides information about the human body in an interrelated manner between school, home and lab. The first part of the system is the school through the educational platform and the second part of the system is used by the student at home. It is based on converting textbooks into an interactive system via a smartphone and tablet using augmented reality technology.	6-18	20
Behavior modification for children using augmented reality + measures to discover the talents and intelligence of children	Ansana Centre for Educational and Educational Consultation	Using presentation, some measures and tests to discover gifted participants will be clarified. The augmented reality technology will also be used to modify behavior by presenting a specific situation (a problem) to the visitor and giving him/her a specific time to find the solution and then viewing the solution of the situation through a code put in specific place.	5-18	15
E-counseling/defining future careers for students	Electronic Career Guide Platform	The workshop is based on organizing individual or group counseling sessions for visitors to help them determine their professional future by using interactive applications and websites. The workshop focuses on changing some concepts relating education to the job to others linking education to the development of skills necessary to create an active citizen in entrepreneurship and labor market world.	14-17	20
The fisherman and the sea	Ministry of Agricultural, Fisheries and Water Resources	The workshop focuses on traditional and modern fishing methods and equipment by displaying nets, cages and types of vessels used in fishing. The workshop also teaches visitors how to tie different knots used in fishing and sailing.	7-30	10
Kids Phonics Curriculum	College of Education - Sultan Qaboos University	The workshop focuses on learning Jolly Phonics curriculum and changing it into a realistic, tangible content easy for application through Kids Phonics curriculum presented by one of the teachers in the Sultanate. It will use 3D printing technology to make the educational process more effective. The workshop will design a website that brings together students, parents and teachers alike. It will include all the ways and means that help teachers teach this curriculum in an easy way.	9-12	15
Among plants	College of Agricultural and Marine Science College - Sultan Qaboos University	By using a large flower anthropomorphic, the visitor will learn about the parts of the flower, the functions of each part, and the importance of the flower in our life in general. The workshop will also include an electronic game in the form of a holographic flower (Basel). The visitor will install each part in its correct place.	6-15	15

Event	Implemented by	Description	Age	Duration
From the depths of the sea	A'Sharqiyah University	The most unique types of fish in the seas are illustrated in a puzzle game. The workshop also explores the concept of pirates, who they are, and how their way of working was through drawn theatrical stories. It also highlights what the world offers for seas and for sailors to facilitate the process of navigation over millions of years. Navigation devices will be displayed using smart posters and panels.	10-18	20
Ideas from the world of plants	Palmera Botanic garden	The workshop introduces visitors to some information and knowledge about plants. For example, they will know about plants that sense touch and the details of their leaves, and the cactus plant that devours mosquitoes. The visitors will also be able to distinguish dead seeds from live ones that are good for cultivation. They will know about the life cycle of snails and their environment. They will explore methods of planting in small pots made of recycled materials.	8-16	10
The formation of three-dimensional chemical compounds	A'Sharqiyah University	It is an educational scientific competition targeting tenth and eleventh grade students, aiming to expand their perceptions about chemical compounds and how they are formed in three dimensions. The student will be asked to form specific compounds using the periodic table.	15-17	20
Augmented reality in the educational process	Department of Teaching and Learning Technology - Sultan Qaboos University	An interactive training workshop exploring how to design and develop augmented reality applications in the educational process to interactively involve visitors. The visitor will also learn how to use open-source applications to design educational games.	15-40	30
Teaching and learning technology projects	Department of Teaching and Learning Technology - Sultan Qaboos University	Visitors will learn about a set of educational technology content and projects that focus on the latest programs in educational technology. A practical implementation will be involved.	15-40	20
The National Centre for Statistics and Information e-portal and its role in the educational process	National Center for Statistical Information	Visitors will learn about the interactive programs that are available at the e-portal of the Center and how to use them in the learning and educational contexts. It will also show how to strengthen the principle of surveying/screening information related to the Sultanate of Oman from the population and national map on the website. Visitors especially parents and students will be introduced to how to extract information and data from the website too. The corner will also include interactive, engaging and motivational aspects for visitors via a set of competitions.	6-50	15

Corner

Coding



Event	Implemented by	Description	Age	Duration
Internet of Things – (IoT)	Arab Creativity and Innovation Institute for Training and Consultancy.	This event explores new form of Internet of Things, which is how different "things" communicate with each other using the Internet Protocol.	12-20	30
Training workshops on C# language	Royal Air Force of Oman	They will be able to prepare the actual model of controlling devices through Internet, as well as experimenting the models in practice and applying them by learning how devices are interconnected.	18-21	30
Sequence	University of Technology and Applied Sciences -Shinas)	This workshop introduces the concept of programming in general and the basics of programming in C# and the use of its algorithms. Visual studio and how to use it and its relationship to programming language C# will also be introduced. Also visitors will apply what has been trained on to output a model.	5-18	30
Programming card game	University of Technology and Applied Sciences -Shinas)	This game depends on the previous programming experiences of the contestants and their skills in reading and understanding code commands, and how to extract the correct output from the program.	5-18	30
Youngest Computer Programmer in the Virtual World	(University of Technology and Applied Sciences -Shinas)	The game aims to enable students (in earlier stages) to build an effective program using the simple information they have to learn the basics of programming in a simple way.	5-18	30
4th Industrial Revolution	GUtech_Oman	A set of workshops offered to children to increase their knowledge in the fields of information technology, including the design of a game in scratch program, as well as the design of websites for children. These workshops are a workshop in designing images that keep pace with the era of digital marketing, as these workshops seek to increase children's experiences and meet their future needs in information technology skills.	10-17	10
Thymio robot	Wasla Training	An educational workshop that introduce and teach visitors about the workings of the robot (DOBOT MAGICIAN), which is a multifunctional desktop robotic arm to teach practical training. The robot can achieve multiple functions, most notably 3D printing, laser engraving, writing and drawing.	8-16	30
Micro bit	Wasla Training	Thymio is an open source educational robot designed by researchers from EPFL, in collaboration with ECAL, and produced by Mobsya. It can be programmed in five different languages.	9-16	30
Big data and data science	College of Banking and Financial Studies	Practical applications for working with design platforms without coding to design mobile and web applications, electronic games, virtual and augmented reality environment, Metaverse and artificial intelligence techniques.	11-20	10
Coding Competition	SQU	This workshop focuses on the definition of data and best ways for its management.	9-18	10
Kids Phonics Curriculum	College of Education - Sultan Qaboos University	Students are trained in this competition on coding in an interesting way. They are given codes to be inserted into programs and the students must arrange these codes to run the program. The other part of this competition is based on solving problems using coding.		
The world of coding close up for children	University of Buraimi	Students will learn about the principles or fundamentals of coding in an easy and simple approach by applying some basic coding ideas that are included within common coding languages.	7 - 16	30
Coding challenge	Code Academy	At this event, cards will be provided. Each card will have a software challenge related to a specific coding language. The cards will be placed in several containers and each container has its own specific coding language. Then, a competitor will write down the required code in the card that is displayed on computer. After that, the event organizer will ask the competitor about coding language that he/she masters or prefers to complete this challenge, so a card from the specific container will be taken to begin the journey of challenge.	10 - 30	30
World Beavers Competition	Code Academy	This competition is a set of stages related to thinking and problem-solving skills targeting all visitors, especially schoolchildren. It is mainly designed in a graphic intelligence matter to be given to participants via computer, so it will allow them moving from one issue to another.	7 -20	30

الابتكـــــار
من أجـل الكفـــاءة

من خلال استحداث مفاهيم التكنولوجيا الذكية, قامت الشركة العمانية للغاز الطبيعي المسال بأتمتة عمليات الإنتاج ورفع كفاءتها في سلسلة توريد الغاز.

وتساهم تقنياتنا الحديثة ذات القيمة العالية في استغلال كافة الفرص و استخدام المصادر النادرة بالشكل الصحيح لضمان وصولها إلى آفاق جديدة وتحسين خدماتنا لكافة العملاء حول العالم.

Corner

Military Technologies

Event	Implemented by	Description	Age	Duration
Hydrographic field and its devices	Oman National Hydrographic Office-Royal Navy of Oman	This workshop introduces the visitor to the hydrographic field, its importance and uses, and the use of drone cameras to determine locations, as well as measuring the speed of sound in the water, measuring water currents and depths, and monitoring the tidal movement through special devices. The Royal Navy of Oman will present also one of its famous ships the "Makhira".	5-60 years old	30 minutes
Introducing the Omani National Hydrographic office- Royal Navy of Oman	Omani National Hydrographic office - Royal Navy of Oman	A workshop that focuses on the hydrographic office, its location and services. It provides a chance to introduce the character of hydrographers (3D) in order to encourage the young learners to know about hydrography and its history and how to read the marine map.	5-60	20
Augmented Reality in hydrographic field	Omani National Hydrographic office - Royal Navy of Oman	A workshop that teaches the visitor about the topography and depths of the seas using AR Sandbox technologyit also displays an application made to design marine maps with augmented reality technology. The event includes competitions for marine information.	5-25	20
3D marine survey stereoscopic	Omani National Hydrographic office - Royal Navy of Oman	A workshop which displays a model that illustrates the strategies of marine survey carried out by the Hydrographic Office using a design and a 3D-printed model.	5-25	10
Use of electronic and nautical charts and their standards	Omani National Hydrographic office - Royal Navy of Oman	A training workshop that introduces the visitor to electronic maps, how to read the marine map and its importance for individuals and institutions. The workshop aims also to learn about the standards of electronic maps in maritime field.	10-30	30
Navigational, astronomical and marine cartographic instruments	Omani National Hydrographic office - Royal Navy of Oman	visitors can learn about navigational, astronomical and marine mapping tools. Some models of the tools and references used and copies of marine maps are displayed in this corner. In addition to determining the locations of ships and measuring distances in seas by using modern methods, and comparing them with old methods in terms of using stars and planets, and astronomical calculator .	15-60	15
Deep Medicine and Oxygen Therapy	Royal Navy of Oman	This workshop focuses on compressed oxygen therapy device used to treat injuries related to recreational diving and diving for scientific and military purpose. It highlightes the importance of this technique in studies and research and the use of medical oxygen. The workshop also speculate the manufacture of some hand sanitizers that are used for personal protection.	18-45	20
Scientific innovation used in ships to defend flooding	Royal Navy of Oman	This workshop gives visitors oppurtunity to learn about a scientific innovation used in ships to defend flooding.	15-45	15
Cavalry Equipment of the Royal Army of Oman	Royal Army of Oman	The workshop focuses on the equipment used by the cavalry of the RAO in the Sultan of Oman's armored vehicles, and presents a video showing the work and tasks of the cavalry in the RAO. The equipment will include (special clothing - security and safety equipment - riding equipment).	5-50	20
Free Skydiving Equipment	Royal Army of Oman	The workshop demonstrates the paragliding equipment used in the parachutes of the Sultan of Oman in the Royal Army of Oman (jumping parachutes and suites and supporting equipment).	5-50	20
Adventure and mountaineering equipment	Royal Army of Oman	This workshop focuses on equipment used in adventure and mountain climbing, and how to handle challenges while climbing in a correct, natural and scientific manner.	5-50	20
Tower Climbing Team	Royal Army of Oman	An introductory workshop that enables the visitor to get to know the tower-climbing team. It also explains the special equipment and devices used in climbing the towers.	5-50	20
A vehicle equipped with alternative energy	Royal Army of Oman	A workshop that demonstrates a vehicle equipped with alternative energy technologies (solar energy - wind energy).	5-50	20
Electrical testing and training equipment	Royal Army of Oman	A workshop that focuses on the equipment used for training on checking electronics and electrical system in the devices used by Royal Army of Oman.	15-50	10
Sultan's Armed Forces Engineering Equipment	Royal Army of Oman	A workshop that explores some of the Sultan's Armed Forces' engineering equipment, such as: weapons of mass destruction protection missions, chemical and nuclear radiation detection reconnaissance equipmen and some training and anti-mine mines.	10-50	20
air traffic control tower	Royal Air Force of Oman	A workshop that enables the visitor to learn about a miniature air control tower simulator, flight simulator, and approach radar.	5-60	10
Fligt and pilot related devices	Royal Air Force of Oman	An introductory workshop that enables the visitor to learn about pilot's helmet, life jacket, search and rescue device, and a personal rescue bag.	5-60	10

Event	Implemented by	Description	Age	Duration
Flight basic hydraulic system	Royal Air Force of Oman	A workshop that teaches visitors about the basic hydraulic system, ejector chair, and aircraft control system.	5-60	10
Air Force	Royal Air Force of Oman	A workshop that enables the visitor to learn about the personal protective equipment for air and ground crews, the chemical and radiological detection devices, the ambulance bag for transporting the injured and the models of personal protective equipment.	5-60	10
Security and Earth Force	Royal Air Force of Oman	A workshop that focuses on parachute jumping equipment and firefighting equipment in an interesting way.	5-60	10
Traditional and Modern industeries	Royal Guard of Oman	A workshop that explores how to work in engineering workshops in a safe manner and what are the tools needed to do so.	10-18	10
3D printing	Royal Guard of Oman	A workshop that gives visitors oppurtunity to learn engineering drawing programs through design programs, and design engineering pieces with two- and three-dimensional models. Students will simulate the manufacturing methods in these programs, and print the designed models on three-dimensional printers after identifying them and their characteristics.	10-18	30
Speed control devices	Royal Oman Police	A workshop that focuses on the use of technology in speed control devices.	10-50	15
Vehicle Neutralization System Device	Royal Oman Police	A workshop that enables the visitor to explore a vehicle equipped with explosive neutralization devices and equipment.	10-50	15
Revolve Heroes Vehicle	Royal Oman Police	A workshop on handling suspicious objects by remote control, using the modern equipment and technologies provided in the vehicle.	10-50	15
Guardian Heroes Vehicle	Royal Oman Police	A workshop that explores a vehicle specified for detecting explosives and metals by using modern scientific techniques.	10-50	15
Kerber Detector	Royal Oman Police	A workshop that taeches visitors about explosives, drugs and chemicals detectors and the scientific principle used in it.	10-50	15
X-Rays	Royal Oman Police	A workshop that focuses on the suspicious object imaging device, its contents and how it works.	10-50	15
Pull ropes	Royal Oman Police	A workshop that shows the use of supporting equipment in transporting suspicious objects from one place to another in a correct way.	10-50	15
Bomb Disposal suit	Royal Oman Police	A workshop that demonstrates to the visitor the explosion-proof clothing with the helmet and the scientific principle used in it.	10-50	15
Security arch	Royal Oman Police	A workshop that eplores the use of security arch to examine people and detect prohibited and metallic objects.	10-50	15
Awareness Robot	Royal Oman Police	An induction workshop to introduce visitors to learn about the tasks of robot and the scientific programming/coding used in it; as well as, to raise awareness about the phenomenon of drugs and their damage and negatives.	10-50	15
Vehicle Piranha	Military Technological College	An equipment and a mean for carrying soldiers. Visitors will enjoy riding and learning about its components and uses.	10-50	15
Landcruiser	Military Technological College	visitor can see the work of Landcruiser in terms of its scientific systems, operation and safety.	10-50	15
Electronic fuel injection training device	Military Technological College	A workshop that focuses on how electronic fuel injection training device system works	10-50	15
Electrical training board for vehicles	Military Technological College	A training workshop that teaches visitors the use of an electric training board for vehicle and its importance.	10-50	15
Lighting system (MB)	Military Technological College	A workshop that teaches the visitor to learn how to use the lighting system (MB) as a training board	10-50	15
Cutaway aircraft engine	Military Technological College	A workshop that explores the operation of the Cutaway aircraft engine system and its scientific principle.	10-50	15
Avionics Instructor	Military Technological College	A training workshop that teaches visitors about the avionics trainer system.	10-50	15
Autopilot Trainer	Military Technological College	A workshop that enables visitors to know the work of an autopilot Trainer	10-50	15

Event	Implemented by	Description	Age	Duration
Avionics Complex	Military Technological College	A workshop that explores Avionics and its importance.	10-50	15
Ejection Seat	Military Technological College	A workshop that explores the principle behind the operation of pilot ejection seat and its uses.	10-50	15
Ship's compass and its rotation	Military Technological College	A workshop that focuses on ship's compass and its rotation and how accurately determine directions.	10-50	15
Geomatics Engineering	Military Technological College	An induction workshop to introduce visitors to learn about geomatics engineering and its scientific applications and importance	10-50	15
Marine Engineering	Military Technological College	An induction workshop to introduce visitors to learn about marine engineering and its scientific applications and importance	10-50	15
Augmented Reality (AR) and Virtual Reality (VR)	Military Technological College	An induction workshop to introduce visitors to learn about the augmented and virtual reality department and know about AR and VR technologies and their uses and applications in the maritime field.	10-50	15
Promotion and Marketing	Military Technological College	An induction workshop to introduce visitors to learn about promotion and marketing that are presented at the Military Technological College	10-50	15

Corner

Cyber Security

Event	Implemented by	Description	Age	Duration
"Capture the Flag" Contest	E-Information Security Department- Ministry of Education	It is a contest where individuals compete in a real technological environment. The contest contains different levels of challenges in different topics such as: coding, reverse engineering, web and network hacking and programming. Participants are going to solve challenges by exploiting security vulnerability, breaking security systems, blocking cyber-attacks or decoding encrypted information. The participant will get a flag for every solved challenge; and every flag has a number of points depending on the level of the challenge. At the end, the winner will be that who gets the more number of points.	11-18 years	30 mints
Safe E-Trade	E-Information Security Department- Ministry of Education	Safe E-trade is vitally important as trade platforms are constantly under attack by malware, scams and theft. So, this interactive workshop aims to teach students: the most security protocols used, security procedures, keeping credit cards secured, and how make sure that purchase website is safety.	10-18 years	30 mints
Make Your Academic Pathway in Cyber Security	E-Information Security Department- Ministry of Education	It is a workshop for all students who have interest in the world of information security and cyber security. It is specified to answer all questions and present all options available in this field as well as introducing successful experiences that may guide students to their future specialties.	15-18 years	30 mints
Dealing safely with Crypto-currency	E-Information Security Department- Ministry of Education	Because of the increasing number of students who like to deal with and learn about crypto-currency, it is necessary to know that the purchase process of encrypted currency is almost easy, but how to safely store cryptocurrency needs knowledge and skills. Therefore, there is a vitally important need to be aware of the skills that help keep the encrypted currency saved and secured.	10-18	20 mint
Browsing Internet safely and how to avoid electronic scams and phishing	E-Information Security Department- Ministry of Education	The current generation is the first one starts using different technology tools in the very beginning stages of their ages whether at school or home. This workshop presents the basics of browsing safely and how share personal information carefully and avoid scams, theft and malware.	7-18	20 mint
Presenting student projects in cyber security	E-Information Security Department- Ministry of Education	Presenting college students' scientific projects in the field of information security including; websites simulating Cyber hack Attacks and design systems to deal with information issues. This aims to introduce audience to successful projects in the field of cybersecurity.	10-18	30 mint

مجموعة إذكاء
ITHCA GROUP

رؤية عُمان 2040

نستثمر
للمُستقبل

Corner

Peaceful Nuclear Science

Event	Implemented by	Description	Age	Duration
Detecting nuclear radiations in environment	Team of Science and peaceful nuclear technique Project	Visitors will be introduced to the device in terms of its components and how it works. They will know more about the device and how can be used correctly to measure nuclear radiations.	7 years & above	30
Sterile Insect Technique	Team of Science and peaceful nuclear technique Project	This technique is based on separating male mosquitoes from females; where male mosquitoes are selected and sterilized by nuclear radiation. Audience will get the opportunity to separate the male mosquitoes from females by explaining for them on how they can differentiate between male and female of mosquitoes.	7 years & above	30
Applying the 4th Industrial Revolution Applications (3D Printing) in nuclear sciences	Team of Science and peaceful nuclear technique Project	Applying 3D printing technique in designing and printing 3D samples of atoms, nuclei, radioactive elements and devices used in nuclear sciences. The samples will be presented and distributed among visitors.	7 years & above	30
Cloud Chamber	Team of Science and peaceful nuclear technique Project	Presenting the cloud chamber relies on developing the detector in a modern way that does not depend on dry ice. The device can detect radiations at atmosphere without a need for radioactive source.	7 years & above	15
Binding blocks	Team of Science and peaceful nuclear technique Project	Visitors are going to develop 3D stability curve by using LEGO pieces. But before that, there will be an explanation for the definition of stability curve, places of stable isotopes, and the parts of the curve and what being high or down does mean.	7 years & above	15
Determining ages of fossils	Team of Science and peaceful nuclear technique Project	Presenting a number of fossils and explain how determine their ages which may be millions of years. Before that, there will be a simple PowerPoint presentation explaining the basics of radiation and how detect it.	7 years & above	30
Nuclear reactor simulator	Team of Science and peaceful nuclear technique Project	A simulation to operate nuclear reactor by using Manchester website through which the reactor is controlled by using controlling rod to control the amount of electricity needed during a day.	12 years & above	15
Watching a video on Synchrotron by VR	Team of Science and peaceful nuclear technique Project	Visitors are going to watch a video on Synchrotron by VR	7 years & above	15
periodic table of elements by AR	Team of Science and peaceful nuclear technique Project	Through such experience, audience will know more about the periodic table of elements' characteristics by applying AR technique where a map, designed specifically for periodic table, is used.	7 years & above	10
Looking for isotope characteristics	Team of Science and peaceful nuclear technique Project	Putting isotopes in a box and its applications in a different one. After that, a video on isotopes and its characteristics will be presented. After watching the video, participants going to select an isotope and looking for its characteristics form the other box.	13-16	20
Radioactive Pharmacy	Team of Science and peaceful nuclear technique Project	A pharmacy contains medical drags using radioactive isotopes and elements + a detailed list of the presenting drags.	15 years & above	10
Radiation Protection Tools	College of Sciences at SQU	Presenting and introducing the radiation protection tools available at SQU lab such as: lab coat, glasses, TLD card.	15 years & above	30
Wining projects in The Best Poster Contest	Team of Science and peaceful nuclear technique Project	Presenting student projects won in "The Best Poster in Peaceful Nuclear Sciences" Contest	7 years & above	15
Wining projects in Education Tools Contest	Team of Science and peaceful nuclear technique Project	Presenting the best projects participating in Education Tools Contest for teachers in the field of peaceful nuclear sciences.	7 years & above	20
Use of isotopes in industrial radiography	Astronomer for Quality and Calibration	The event will show some of most important tools and devices that are used for the nuclear radiation phenomenon in order to detect pipe defects at oil fields. Visitors will be introduced to practical models on how to read and analyze hardware data.	13 - 60	20

صحار الإسلامي

خطة التوفير
الخدمات الشخصية

خطة التوفير من صحار الإسلامي

تمكنك من تحقيق تطلعاتك المستقبلية

- ابدأ التوفير الآن بمبلغ ٢٥ ر.ع كحد أدنى
- معدلات أرباح تنافسية
- خطط متعددة للتوفير
- سحب جزئي بنسبة تصل إلى ١٠٪

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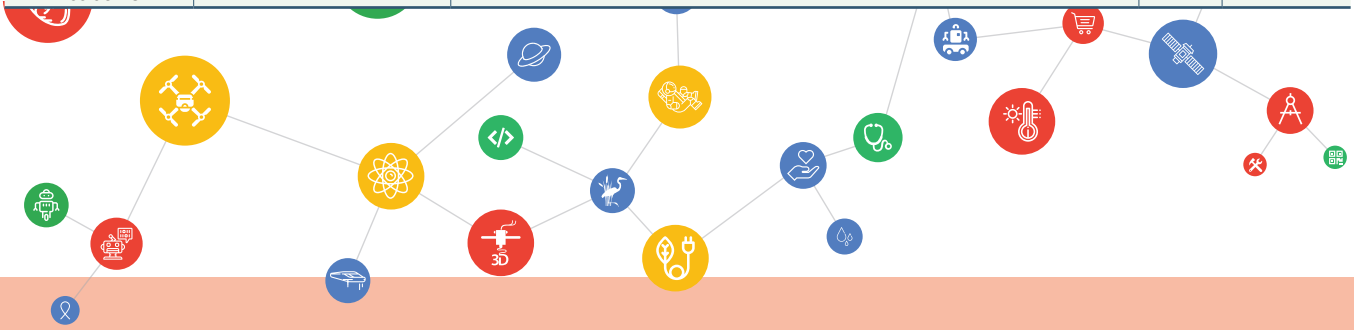
Corner

Skills

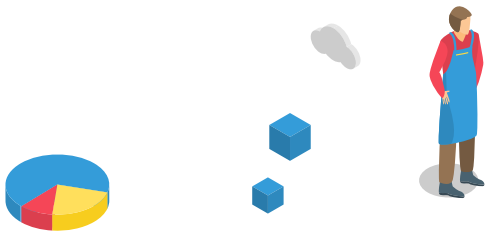
Event	Implemented by	Description	Age	Duration
Racing Car Driving Experience	Oman Automobile Association	This corner aims to provide visitors with experience regarding racing car driving skills via well-equipped and customized simulators	+13	20
Replacement of vehicle tyre	Oman Automobile Association	Many young people face a challenge when replacing their vehicles' tires when they have a puncture. At this corner, visitors will learn the steps and basics of how to change the tires and apply what they will have already learnt in practice with a vehicle provided for this purpose.	+18	30
Training on how to do rescuing in car accidents	Oman Automobile Association	A practical experience on the right ways to rescue someone from a race car accident using a race car chassis that specially designed for rescue training.	+18	30



Corner

Competitions

Event	Description	Age	Duration
The competitions will be organized on all days of Oman Science Festival 2022 at specific time (as shown in the events schedule). Students interested in joining and participating in any of these competitions have to register via the electronic links which will be available before the opening day of the festival. The competitions are classified as per follows:			
Drone Competition	This competition requires participants to undertake a challenging task by programming educational drones to pass through circles at different heights and in different directions. At each level, the competent will be given new and different heights and directions. Finally, the winner will be the competent to pass all circles in the fastest time.	12-18	The whole day
Robot Competition	There will be four contests: Running, Chasing, Line Tracking and Sumo in which teams will compete to collect the highest points in each contest. The winner will be the team to collect the highest points in all these contests.	12-18	The whole day
Smart Application Competition	Students enrolled in the competition will receive a quick training to be well-prepared for the real competition. On the competition day, students will be asked to compete and find a solution by developing a specific innovative smart application.	12-18	The whole day



Corner

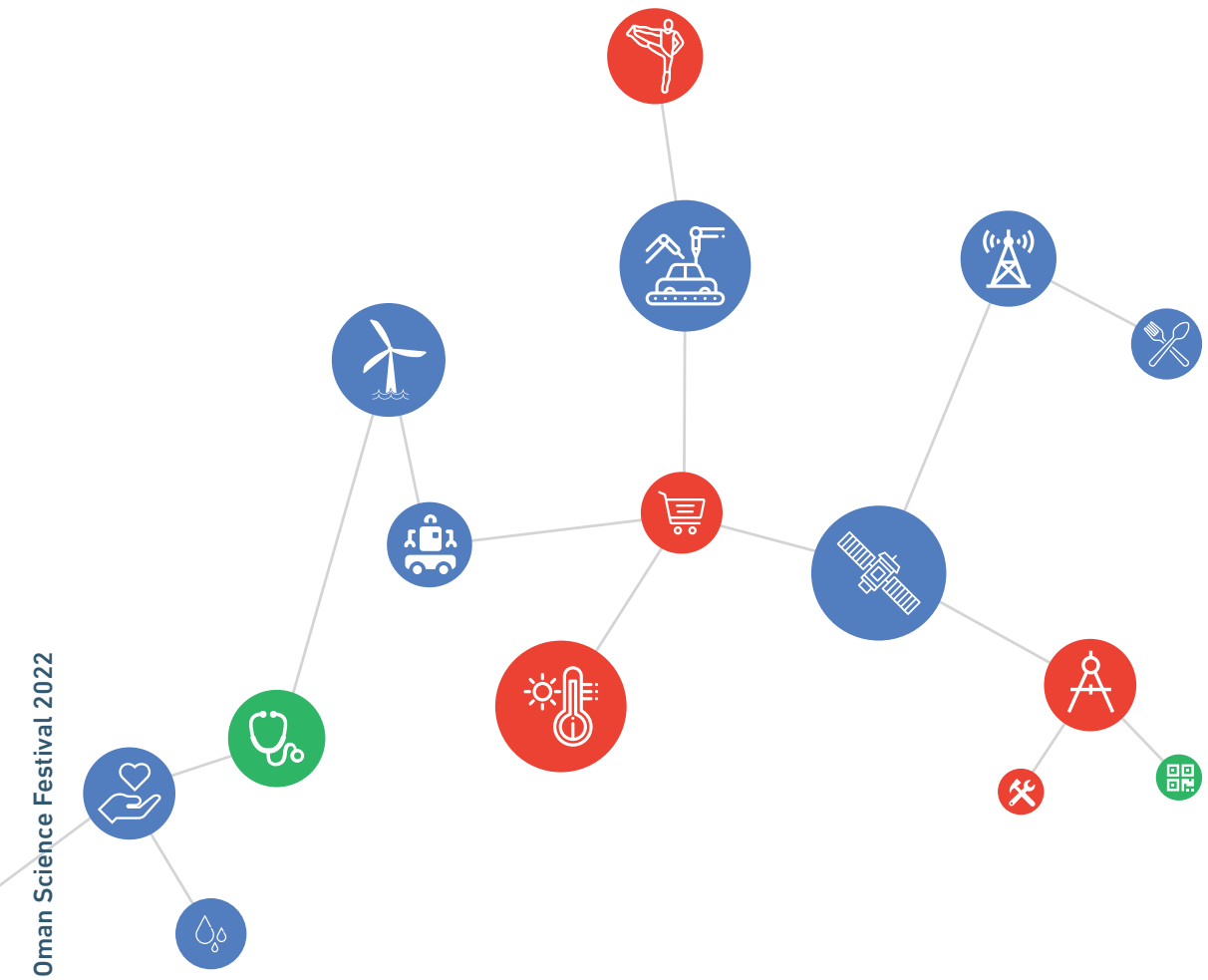
Challenges

Challenges	Duration	Code
The corner aims at implementing innovative competitions for one or two days, targeting the development of solutions and ideas for innovative projects using the fourth industrial revolution technologies in specific pathways, such as the challenges associated with the Sustainable Development Goals (SDGs) 2030 and those related to applying 3D printing technologies to serve the environment and other aspects. Teams representing children from schools and students from higher education institutions can participate in these challenges. The teams will be provided with data, tools and training in order to participate with an aim to find solutions in a practical, well-ordered, enjoyable and creative manner.		CHAL

Corner

stemazone

Event	Implemented by	Description	Age	Duration
Dimensions of Stimazon	stemazone	This corner show its visitors a different experience about the STEAM world via touring and exploring various sections. Visitors will have a unique experience roaming via four dimensions at this venue. The dimensions will reflect the enjoyable and different education experience. Moreover, they will learn about the difference between the traditional classroom and STEAM classroom, and important modern technologies and their relationship to future jobs.	6 - 60	20
Green Tech Startups	stemazone	This program aimed targeting schoolchildren whose age ranging from 13 to 16 years old. It will deal with following subjects: climate change, clean energy and waste management. 15 teams will be formulated and organized. The program aims developing student's technical, professional and entrepreneurial skills by enrolling in a special course/module at the online initiative's website and offering various workshops (online). Each team will be asked to create a company, which focus on problem solving for the topics of program. Finally, the idea, whether product or service, will be presented for the evaluation of judging panel.	13-16	60



نبني منصة معرفية مستدامة
عبر ترسيخ مهارات التعليم المستقبلي.

ستيما زون

من إشراقة

ستيمازون هي منصة متطورة مصممة لاكتشاف إمكانيات فريدة للتعلم بهدف تعزيز مهارات طلاب الجيل الحديث. من خلال الدمج بين ورش العمل الحضورية وتجارب التعلم الافتراضي التي تم التأكيد عليها في منهج "ستيم" (العلوم والتكنولوجيا والهندسة والفنون والرياضيات)، نسعى لغرس التوجهات العلمية لدى الشباب العماني. ومن خلال هذا النهج ذو التخصصات المتعددة، عُمان دومًا ستكون مستعدة للاستكشاف والإبداع والابتكار عبر إعداد مجتمع جاهز للمستقبل.

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Oman Children's Museum, Muscat

جناح التنمية الاجتماعية في KR كيمجي رامداس KHIMJI RAMDAS

إشراقة ESHRAQA بريق من الأمل

Corner

SHEL

Event	Implemented by	Description	Age	Duration
Shell Future City	Oman Shell	A mini-city that is designed with stations and buildings similar to large cities. At each station in the city, visitors (particularly children and students) will stop to learn about transformation initiatives in the field of energy, sustainability and technology. This will be introduced by highlighting and giving new information about Shell's initiatives, programs, products and services that reflect its commitment to development, research and science. Furthermore, the city will include a mini-school model with solar panels, which represents the solar power project in Omani schools implemented by Shell in collaboration with the Ministry of Education. The corner will be organized as a teaching/lecturing hall where interactive scientific experiments to be delivered to children based on the principles of science, mathematics and engineering. In addition, children will enjoy the Shell service station that includes simulators similar to regular fuel pumps, electric vehicles chargers, as well as hydrogen energy ports. Children will drive mini-vehicles and select the type of fuel / energy for their vehicles. Moreover, there will be a model of a Shell Select store and other types of services.	4-13	The whole day

Corner

Innovators' workshops

Event	Implemented by	Description	Age	Duration
How to develop a prototype for your innovation?	Artificial Innovation Academy	All products and services start as an idea and each idea has an independent methodology to transform it into a tradable prototype. This workshop provides the participant with the basic tools to transform their project ideas and products into prototypes as well as aiding them with the practical methods, technical devices and specialized agencies enabling them to transform their ideas	14 years and above	45
Transforming innovative ideas to the emerging companies	Artificial Innovation Academy	The workshop trains innovators to study the feasibility of their innovations and to determine the possibility of transforming them into an actual product or an emerging company after going through several stages starting with producing a prototype for the project and ending with preparing a financial feasibility study for the product or project.	14 years and above	45
How to package your product innovatively?	Artificial Innovation Academy	This workshop promotes the value of packaging for the participants as well as aiding them with the basic skills for selecting packaging material, colors and shape that fits their products. The importance of packaging lies in preserving the quality and safety of the product first as well as attracting consumers. The packaging and establishment of a commercial profile of the product is one of the enablers in product marketing.	14 years and above	45
Management strategies of social media for emerging companies and individuals	Artificial Innovation Academy	"Management strategies of social media for emerging companies and individuals" workshop is one of the enablers for the spread of institutions, individuals and innovators in social media platforms to corporate with external partners in order to create new products, raise awareness or enhance the company's reputation and its commercial brand, products and services among their costumers as well as meeting new talented pairs to interact with them.	14 years and above	45
The importance of sponsorship and business accelerators to support innovations and the emerging companies	Artificial Innovation Academy	The workshop introduces business accelerators and presents previous experiences of sponsored companies to the participants as well as providing them with the ways and stages of sponsorship. The emerging companies start with an idea and end up with the last investment rounds or selling the company, during which it has to undergo a series of business accelerators to provide the owners the knowledge and ability to manage their companies financially and legally.	14 years and above	45
Future skills	Artificial Innovation Academy	The workshop supplies the participants with the necessary books, courses and sources to promote their future skills. It focuses on practical skills needed for the innovators and entrepreneurs pertaining to emotional and artificial intelligence skills and analytical and creative thinking skills.	14 years and above	45
Introducing the concept of intellectual property	Sultan Qaboos University -Innovation & Technology Transfer Center	Workshop of the basics of intellectual property, its types and the history of intellectual property	14 years and above	120
Business model	Sultan Qaboos University -Innovation & Technology Transfer Center	Workshop for designing a business model for a project which is the plan of the emerging company to make and achieve a value in the real life and making use of it.	14 years and above	120
Stages of establishing innovation culture	University of Technology and Applied Sciences – Muscat	This workshop introduces the stages of innovation using Technology Readiness Level and the concept of Research for Development. It links the innovators with innovation index approved in Oman Vision 2040 as well as linking it to the levels at which students are part of the inputs that affect raising the index (Global Innovation Index) and focusing on the important skills needed for the innovators in the market.	14 years and above	45
Creativity scale model	General Directorate of Special Education and Continuous Learning	The workshop applies models of creativity scales for innovative students to identify their creative thinking patterns as an indicator of their underlying talent.	14 years and above	45
The importance of STEAM approach	General Directorate of Special Education and Continuous Learning	The workshop develops the 21st century skills such as critical thinking and cooperative learning through chemical storage of energy workshop that concentrate on some STEAM branches.	14 years and above	45

Corner

Oman LNG

Event	Implemented by	Description	Age	Duration
360 Corner	Oman LNG Company	At this special corner, visitors will be presented with a video show about the LNG production chain that starts with stages of exploration and development, production, transportation, liquefying the natural gas liquefication, shipping, reinstatement (returning to gaseous state), and transport and distribution. The corner will allow its visitors to enjoy an extraordinary virtual experience.	All	5
Gravity Corner	Oman LNG Company	The ground gravity corner will apply the theory of law of gravity in an engaging and practical way. Two competitors or two parties can play at the same time on both ends of the wall. The winners of this competition who to score the fastest time for collecting as much balls as possible.	10-60	10
Robotics Racing Corner	Oman LNG Company	In this corner, a group of visitors will compete each other at a car racetrack. Each player has to build on his/her own car by using Lego pieces and the winner of this competition who to score the fastest time.	10-60	20

Corner

Innovation Arena

Event	Implemented by	Description	Age	Duration
Scientific Innovation Arena	Ministry of Higher Education, Research and Innovation	A competition aims at showing the bright history and the renewed present of scientists and innovators around the world starting from Oman and other global capitals. The competition will recall the contribution of scientists and innovators that have left an impact on the world. This corner will have competitive stations such as challenges, Qs & As, scientific competitions related to innovation, science and engineering. Visitors will be enjoying this corner by experiencing wearing the VR goggles while moving from one location to another via a model representing the globe.	Above 16	30

Corner

MICROSOFT

Event	Implemented by	Description	Age	Duration
Improving reading quality via Artificial Intelligence (AI)	MICROSOFT	Visitors will have an opportunity to experience the Reading Progressives tool, which is available at Microsoft Teams application. This tool is invented in order to empower students' reading speed via independent reading practice and teachers' analysis for instant AI-supported graphs. This feature will enable teachers to upgrade students' skills at various fields, including the speed of reading individually or depending on the types of needs at various learning levels.	All	5
Artificial Intelligence (AI) applications in office 365	MICROSOFT	Visitors will learn and practice AI tools that are deployed at the PowerPoint application: trainer, live presentation and language interpretation. In addition, in the Word application, they will know about other tools such as translating documents, converting documents into PowerPoint and converting speech into texts. Moreover, visitors will have a chance to know about converting any document to an electronic test, posing questions based on the test subject and performing a smart analysis for students' data after the test completion.	10-60	10
Learn about Artificial Intelligence (AI) via MINCRAFT	MICROSOFT	Visitors will learn about the importance of AI in identifying factors to distinguish between humans and machines, and this interactive practice will allow visitors experiencing AI in smart cities by using Minecraft (game).	10-60	20

Corner

Wonders of the Universe

Event	Implemented by	Description	Age	Duration
Cloud Chamber	CERN CMS FUTURE CIRCULAR COLLIDER ICE CUBE LHCb IPTA LIGO VIRGO KAGRA LISA CONSTIRUM ORIGIN ALICE AMS-02 ATLAS	This event will deal with particle physics and show the nature of cosmic rays. It will also develop a genuine instrument to be used for envisioning cosmic rays.	All	60
From particle physics to gravitational waves		The workshop will address an introduction to the origin of universe and gravitational waves. Then, micro key-lessons about particle physics as well as an introduction to online master lessons/an introduction to virtual visits for teachers' arrangement.	Physics Teachers	3 -4 Hrs & Break
Dimensions of particle physics for the universe and how to reach to hidden information		This workshop is designed for children (school students) explaining particles' dimensions in the universe via an interesting and interactive approach	10 – 12	120
A virtual adventure to CERN / CMS/ ALICE and Virgo / IceCube		This workshop will link virtually with CERN/CMS/ALICE and Virgo/ IceCube laboratories in order to access directly to laboratory components and their function and mechanism.	All	60

Corner

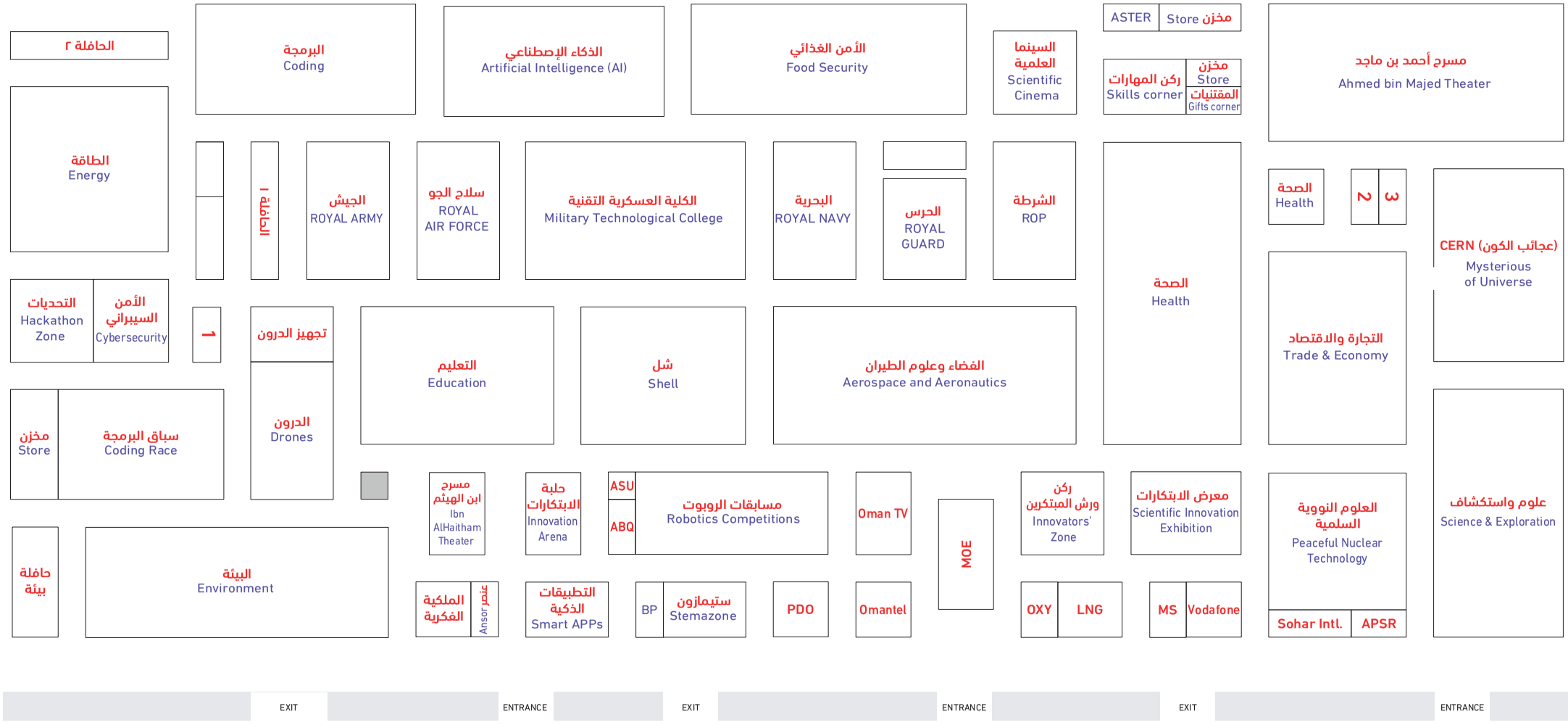
Omantel's

Event	Implemented by	Description
Lego Spike Competitions	Omantel's	A. Sumobot: Students will learn how to design , build and program a robot that is similar to sumo wrestlers. Through that they will learn the engineering 6 design steps in making a successful strong robot and get introduced to the world of vehicular automation which would be impossible without telecom and network companies such as Omantel. B. Super Cleanup: Students will gain awarness on the importance of technology by helping to create a cleaner environment. They will learn how to design, build and program a robot with force sensors which will give them a practical fun introduction to AI (Artificial intelligence) which relies on telecom and network companies such as Omantel.
Video Game Creation	Omantel's	The students will learn how to create their own video games using a scratch program. Which creates a fun environment of students seeing their programming progression with improvements in the game live and instantly and that motivates further education and exploration in coding and programming which is essential for all future technology.
Wire Maze using Makey Makey	Omantel's	The kids will learn how to design a maze game using makey makey kit & scratch program. And they will get to see their programming in a physical model.
Virtual Reality(VR)	Omantel's	The VR zone supports experiencing and interacting with the 3D smart cities video through Virtual Reality technologies and large displays, offering improved data visualization capacity.

Corner

Portable Fab-Tech Lab

Event	Implemented by	Description	Age	Duration
Portable Fab-Tech Lab	Innovative Technology for Educational Solutions "Inotec"	At this corner, visitors will learn about manufacturing technologies that are related to programming, electronics, engineering designs and 3D printing/printers. This corner aims at enabling visitors to formulate fabricable/manufacturable ideas, and learn about the fundamentals of engineering designs and 3D printing.	Above 8	60



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