

2026

Workshops and Events Manual

02-11

November

2026

Supporting Partners

Technical Partner الشريك التقني

عمانتل
Omantel

Strategic Partner الشريك الاستراتيجي



Logistics Partner الشريك اللوجستي

اسياد
ASYAD

Banking Partner المصرفي

بنك مسقط
bank muscat

Main Partner الشريك الرئيسي



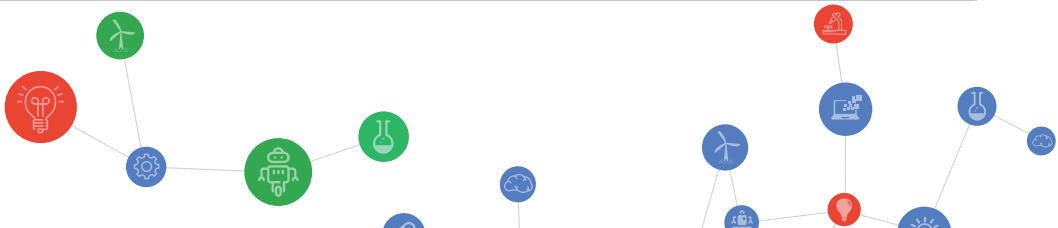
Silver Partner الشريك الفضي

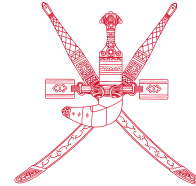
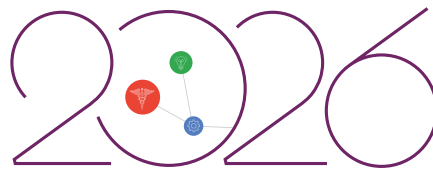


Golden Partner الشريك الذهبي



Bronze Partner الشريك البرونزي









The late Sultan of Oman
His Majesty Sultan Qaboos Bin Said



His Majesty
Sultan Haitham Bin Tarik





Introduction

When science is our compass, discovery becomes our destination, innovation our language, and the future a horizon we shape through our ideas and aspirations.

With this vision, the Oman Science Festival returns for its fifth edition under the theme “Science: Our Compass”, reflecting a nation’s journey founded on the belief that science drives change, knowledge provides a solid foundation for progress, and innovation is a pathway towards its future aspirations. The Festival draws inspiration from the objectives of Oman Vision 2040, which seeks to build a knowledge-based society equipped with the tools of creativity and capable of contributing to a more sustainable and prosperous future.

Following four successful editions that marked significant milestones in the Festival’s journey, the fifth edition returns with a renewed vision, broader horizons, and more diverse scientific experiences. It continues its mission of bringing science closer to society, inspiring curiosity and discovery among younger generations, and transforming knowledge from concepts learned into experiences lived, and from questions raised into innovative solutions.

In an environment where students’ passion meets the expertise of scientists and innovators, and where education intersects with sci-

entific research and emerging technologies, the Festival opens its doors to everyone to explore the world of science, understand its impact on our lives, and discover the opportunities and possibilities it holds for the future.

This edition reaffirms that science is not merely knowledge we acquire, but a compass that guides us in understanding the world and a powerful tool that enables people to address challenges and create opportunities. Through a rich variety of interactive workshops, activities, and experiences, along with international contributions that bring diverse scientific expertise and perspectives, the Festival invites visitors to move beyond being passive recipients and become active participants in experimentation, exploration, and discovery.

It also provides opportunities to experience scientific practices and perspectives from different cultures and environments, based on the belief that every question may be the beginning of an innovation, and every experiment may open the door to a new future. Through science, our horizons expand; through innovation, our possibilities are renewed; and through the ambition of the Omani people, we move confidently toward the future with science as our compass.

Festival Objectives

- Promote scientific literacy through interactive approaches that stimulate curiosity and creative thinking.
- Foster positive attitudes towards science, innovation, and scientific research.
- Inspire students to apply scientific knowledge in developing innovative solutions to real-world challenges.
- Promote awareness of scientific advancements and emerging technologies.
- Develop students’ skills and prepare them to contribute to a knowledge- and innovation-based economy.
- Encourage young people to explore scientific disciplines and pursue lifelong learning and research.
- Strengthen partnerships and promote the exchange of expertise among educational and research institutions and various sectors.

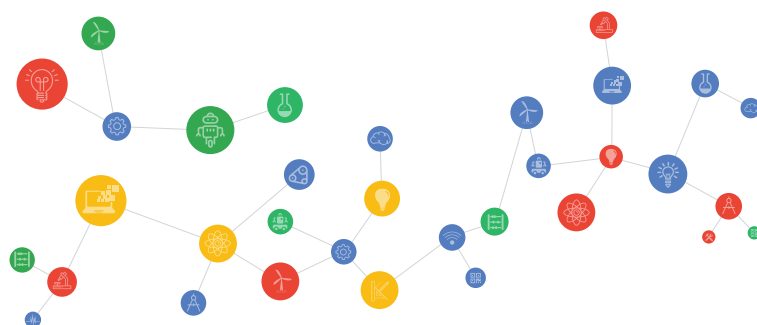


Target Audiences and Partners

- School students.
- Students from higher education institutions.
- Educators and parents.
- Ministries and civil and military government institutions.
- Civil society organisations.
- Private-sector institutions.
- Scientists, researchers, specialists, and academics.
- Individuals interested in science from different countries.

Festival Activities

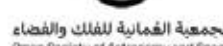
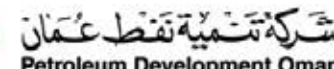
- Interactive scientific workshops.
- Scientific Innovations Fair.
- Scientific competitions.
- Science Theatre.
- Collaboration and partnerships with international organisations and institutions interested in science.



Participating Institutions



2026





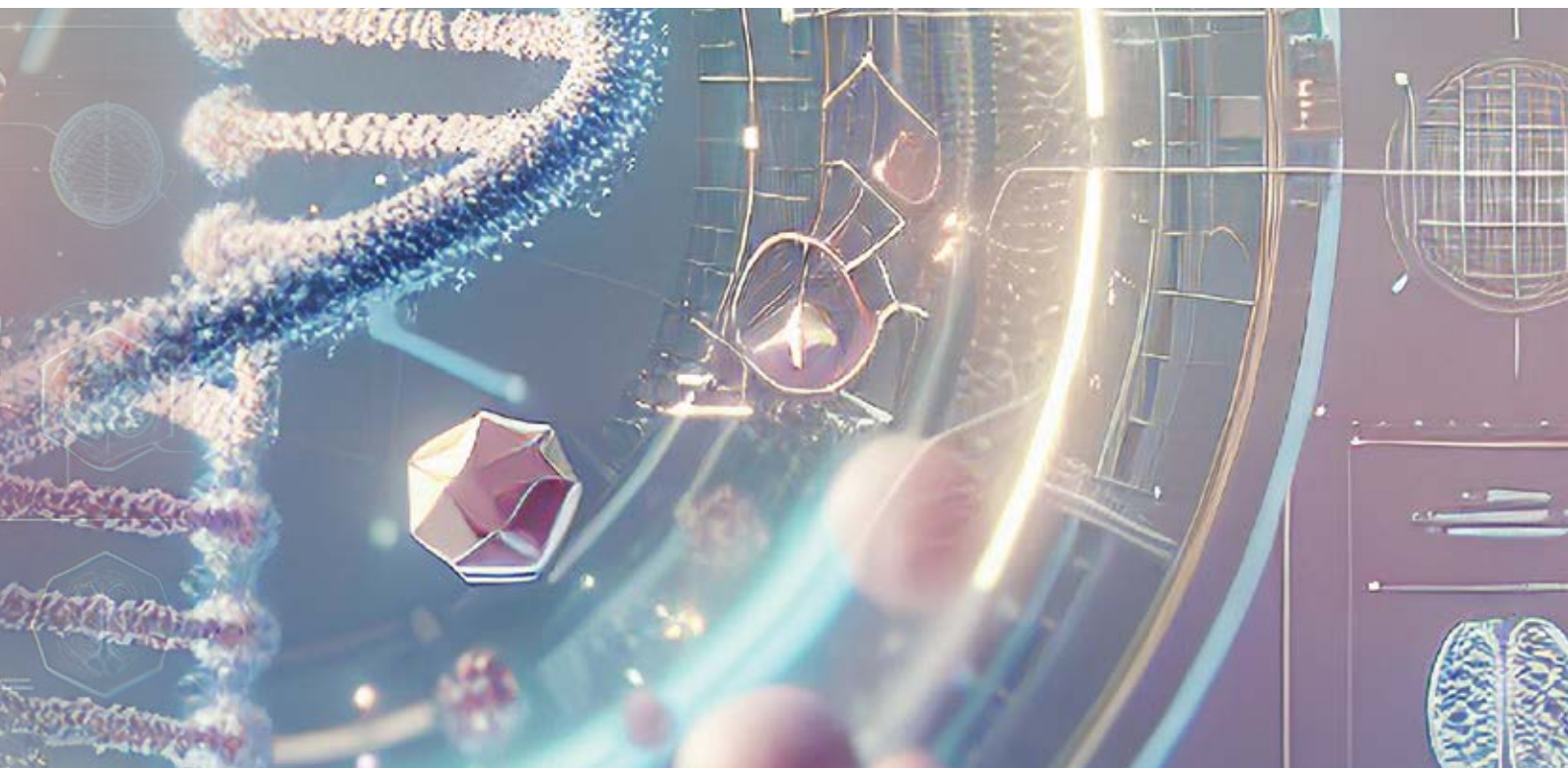
نغرس في الجيل الصاعد شغف العلم وروح الابتكار





Health and Life

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Exploratory Journey into the World of the Laboratory	Central Public Health Laboratory	Visitors follow a medical sample from reception, registration and preparation through reagent preparation and laboratory procedures. Specialist stations cover viruses, bacteria, tuberculosis, malaria and antibiotic awareness, introducing microorganisms and disease diagnosis. The journey concludes with analysis and validation of laboratory results, providing a complete view of laboratory work while encouraging scientific thinking and enquiry.	+5	15
Your Body Speaks, the Laboratory Translates	Al Sharqiyah University	Visitors explore four stations connecting laboratory tests with organ functions. They learn the basics of reading complete blood counts, glucose and cholesterol results, examine cells under a microscope and explore kidney and liver indicators. Interaction with real laboratory tools in a safe educational setting demonstrates the role of laboratory testing in diagnosis and health monitoring. The experience also highlights early detection, regular checks and preventive health.	+8	5
Wellness Is Your Choice	Knowledge Grid Academy	Visitors take part in body-composition measurements and a biological-age challenge to explore health indicators. They interact with an intensive-care model to discover the role of smart equipment in saving lives, then try activities involving bacterial-contamination detection, disinfection and occupational safety.	+7	30
Medical Simulation	Oman Medical Specialty Board (OMSB)	Visitors explore medical-training technologies through 3D printing and bone-modelling displays. Laparoscopic simulators demonstrate advanced training in surgical skills and hand-eye coordination for healthcare personnel in a realistic, simulated environment. An interactive area offers challenges using laparoscopic instruments to transfer small objects, encouraging concentration and interest in medical technology.	+8	6
Health Footprint	Oman College of Health Sciences	Visitors learn about child health and safety, including care and prevention. The activity also addresses drug misuse, its causes, possible signs, treatment and prevention, alongside smoking-related harm and disease. Practical guidance introduces approaches to quitting smoking and avoiding its risks.	+8	15



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Journey into the Depths of Dentistry	Oman Dental College	Visitors begin on an interactive journey into the world of dentistry, combining fun, knowledge and hands-on experiences. Starting with proper dental care techniques, visitors will then explore tooth anatomy through immersive three-dimensional virtual reality, before conducting simple scientific experiments that demonstrate the effects of different foods and beverages on tooth enamel. This engaging and innovative experience promotes awareness of oral and dental health in an enjoyable and interactive way.	+5	30
Be the Doctor and Save the Patient	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors step into the role of doctors and diagnose a virtual patient through a series of simple science stations. Working in a small team, they will check vital signs, analyse samples, review the patient's data, identify the illness and choose the most suitable treatment. This interactive experience combines challenge, teamwork and learning.	+12	20
Handling Medicines at Home	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore appropriate disposal of expired or unused medicines through models illustrating health and environmental risks from improper disposal into water systems or general waste. The activity introduces pharmaceutical pollution and practical guidance that supports public safety and environmental protection.	+12	15
Escape the Virus	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors follow simulated microbial transmission using fluorescent powder and ultraviolet light, then practice appropriate hand-sanitizing procedures. They move to a clinical station for a practical simulation of saving a patient's life, connecting infection control with medical response.	+12	15
Aseptic Preparation of Intravenous Medicines	University of Technology and Applied Sciences (UTAS)/ Muscat	Visitors enter a simulated clinical-pharmacy setting to explore aseptic preparation of intravenous solutions. They begin with protective equipment and hand hygiene, then practice preparation using safe medical tools under specialist supervision. The experience highlights medication safety, precision and the importance of asepsis in healthcare.	+7	15
Digital Pathology and Artificial Intelligence	University Medical City	Visitors explore digital pathology through a smart scanning system that converts tissue slides into high-resolution images for review and analysis. They discover how AI and image analysis support diagnosis and the detection of pathological changes, contributing to more efficient diagnostic procedures and improved quality of healthcare.	+9	5

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Virtual World Tour of Medical Laboratories	University Medical City	Visitors use virtual reality to explore modern clinical laboratories, including biochemistry, haematology and microbiology sections and their diagnostic roles. Within a safe, collaborative simulated setting, they follow samples from reception through instrument operation to final reports, discovering how laboratory results support medical decisions.	+7	10
Flow Cytometry: Separating Normal and Cancer Cells	University Medical City	Visitors examine a cell sample and its data on screen, comparing different characteristics. They discover how flow cytometry measures cells as they pass individually in front of a laser and learn about signals and markers that distinguish cell types. Analyzing and comparing results introduces normal and abnormal cellular patterns and the significance of cellular differences.	+9	15
DNA Extraction	University Medical City	Visitors extract DNA from strawberries using simple laboratory steps. They observe the extracted material and discover its characteristics and role in storing genetic information. Microscopic specimens complement the activity with an introduction to genetic material and its organization.	+7	15
The Drug's Journey through Clinical Research Stages	University Medical City	Visitors follow a roller-coaster-shaped art installation illustrating drug development and clinical trials. Visual stations represent research and testing stages, explaining their progression and differences in complexity, importance and cost through an accessible, memorable display.	+10	5
Technology in Service of Mobility	University Medical City	Visitors explore and try rehabilitation tools to discover how medical devices support patients in regaining movement. The activity explains their contribution to balance, standing, walking and improved quality of life.	+7	5
Medical Endoscopes	University Medical City	Visitors discover endoscopes, their components and diagnostic and therapeutic uses through a practical simulation with digestive and respiratory system models. Live demonstrations and a short explanatory video introduce applications such as cutting with electrocautery and offer an accessible view of modern endoscopic technology.	+8	10
Artificial Lung	University Medical City	Visitors discover extracorporeal membrane oxygenation (ECMO), a life-support technology used in critical illness. A practical display introduces the machine and its main components, while a live simulation shows blood-flow directions. An explanatory video complements the demonstration of temporary heart and lung support and its medical applications.	+8	5
Your Diet, Your Future	University Medical City	Visitors answer simple questions about everyday habits and view a virtual illustration of future health. The activity encourages awareness of good nutrition, physical activity and healthy routines, highlighting the relationship between present choices and future wellbeing.	+7	10
The Concept of Radiotherapy	University Medical City	Visitors explore radiotherapy and medical imaging through a short AI-produced video explaining treatment principles and applications and addressing common misconceptions. In "Spot the Difference", they compare normal CT images with images showing different medical conditions to discover imaging's role in tumour diagnosis and tissue assessment. The activities develop observation and analysis while introducing applications of nuclear science in medicine.	+7	5
Pre-Treatment Experience	University Medical City	Visitors make, colour and decorate a demonstration radiotherapy immobilisation mask, simulating patient preparation. The practical activity highlights why maintaining the patient's position matters for accurate and safe treatment delivery.	+7	5
Radiation Beams	University Medical City	Visitors explore radiotherapy planning through a simulation of tumour targeting. They arrange radiation beams to cover a tumour while limiting exposure of surrounding healthy tissues and organs. A laser pointer represents beam directions towards tumours shown on CT images. The experience explains the importance of precise planning and balancing treatment effectiveness with healthy-tissue protection.	+7	5



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Radiation Measurement Devices	University Medical City	Visitors discover radiation-monitoring instruments and personal dose-measuring devices, including TLDs, through live demonstrations and interactive models. Displays explain how radiation levels are checked and introduce protective clothing and lead aprons. The principles of distance, time and shielding show how exposure can be reduced. Visitors also learn about procedures, local and international standards and regulations applied in radiology and nuclear medicine to protect patients and staff from unjustified exposure and support safety in medical workplaces.	+7	5
Ultrasound-Guided Sample Collection	University Medical City	Visitors simulate guiding a biopsy needle towards deep model tissue using live ultrasound imaging. They explore how imaging helps identify a precise route and avoid neighbouring structures. The activity introduces ultrasound-guided minimally invasive procedures and the role of modern technology in improving sampling accuracy and reducing surgical intervention and clinical risks.	+7	5
CT Scanner	University Medical City	Visitors discover how CT scanners reveal internal body structures by collecting images from multiple angles. They see how the X-ray tube and detectors rotate and how a computer converts the data into cross-sectional images. In a hands-on miniature-scanner activity, they pass an object through the scanning ring and view its internal details. The experience also compares CT with ordinary X-rays and introduces its role in rapid, accurate diagnosis.	+7	10
Radioactive Iodine Treatment Journey	University Medical City	Visitors follow the journey of a patient receiving radioactive iodine (I-131) for thyroid conditions such as hyperthyroidism and certain tumours. The activity introduces targeted treatment and therapeutic doses, explaining how radioactive material is used to treat thyroid tissue. Isolation and radiation-safety procedures show how surrounding people and the environment are protected during treatment.	+7	10
Cancer Treatment Journey	University Medical City	Visitors explore modern treatment approaches, including modified T cells that help the immune system target certain diseased cells. They discover the role of stem cells in cell and tissue renewal and their use in some treatments, then explore gene therapy and how changing or replacing genes can help address some diseases and disorders.	+12	15
Life-Saving Blood Journey	University Medical City	Visitors follow blood from donation through reception, testing and storage in a blood bank, discovering its role in saving lives. Then they explore the haematology laboratory's work in examining blood components and detecting unusual changes. Microscopy allows them to observe blood cells and learn about their shapes and characteristics.	+10	15
Interactive Brain Mapping	University Medical City	Visitors will explore an educational display that bridges physics and neuroscience, introducing the principles of electroencephalography (EEG). Using an interactive head model, they will learn how electrodes are distributed according to the 10–20 system and test their positions through educational games. They will also view a simplified demonstration of how brain waves change during sleep, and gain awareness of common epileptic seizures and how to respond to them safely within the community.	+5	5
Interventions and Operations Room	University Medical City	Visitors take a 360-degree virtual-reality journey through environments simulating surgery and precision medical procedures. They explore a cardiac catheterisation laboratory, interact with diagnostic equipment and discover medical-team roles. A neurosurgery setting introduces brain mapping and surgical navigation supported by detailed imaging and AI, highlighting technological developments in clinical care.	+6	6
"What Will We Do?" Game	University Medical City	Visitors explore everyday situations involving empathy, respect and standing against bullying, sharing ideas about positive responses. They conclude by adding a message or simple initiative to the "Tree of Kindness", encouraging a culture of support and empathy in the community.	+7	5

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
DNA Detectives	University Medical City	Visitors become molecular researchers, exploring cells and genetic material. They locate DNA, build a model of a DNA strand, compare two samples to discover genetic mutations and receive an introduction to polymerase chain reaction (PCR). The experience concludes with a certificate titled "Junior Molecular Pathology Specialist".	+9	10
Brain Waves Monitoring	Medical City for Military and Security	Visitors become molecular researchers, exploring cells and genetic material. They locate DNA, build a model of a DNA strand, compare two samples to discover genetic mutations and receive an introduction to polymerase chain reaction (PCR). The experience concludes with a certificate titled "Junior Molecular Pathology Specialist".	+9	10
Be a Health Hero	University Medical City	Participants explore hand-hygiene effectiveness using a fluorescent solution and UV light to detect unwashed microbe-prone spots in the "Glowing Germ Detective" experience. Cognitive and interactive activities, including puzzles and colouring, consolidate infection-prevention behaviours and proper respiratory etiquette when sneezing and coughing, building a community aware of prevention and disease reduction.	+5	10
Active Mind... Healthy Life	University Medical City	An interactive activity promoting mental health and developing executive brain functions. A digital application requires arranging balls in the fewest possible moves, stimulating neural pathways responsible for higher cognitive skills. The activity links interactive play with mental health awareness, highlighting logical thinking, planning, focus and decision-making as pillars of overall wellbeing and quality of life.	+7	10



أوكيو... استثمارات عُمانية برؤية عالمية



أوكيو، مجموعة عالمية متكاملة تستثمر في قطاع الطاقة، مقرها سلطنة عُمان، وتتمتع بحضور قوي في 17 دولة. تدير المجموعة محفظة استثمارية متنوعة تغطي سلسلة القيمة الكاملة للطاقة، بدءًا من استكشاف وإنتاج النفط والغاز مرورًا بالمصافي والبتروكيماويات وصولًا إلى المنتجات النهائية وتوزيعها وتسويقها في أكثر من 80 دولة حول العالم، مع التركيز على الاستدامة. فيما تركز أوكيو للطاقة البديلة على الاستثمار في مجالي الطاقة المتجددة والهيدروجين الأخضر في سلطنة عمان.



Shell Nawafidh

في عُمان شل.. نؤمن بأنَّ لكل جيل إمكانيات
تستحق أن تُفتح لها الآفاق؛ بالمعرفة،
والمهارات، والفرص التي تصنع الأثر.



Environment and Biodiversity

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Drawing Smiles with Our Birds	East Coast for Exhibition Organisation	Visitors learn how to take care of birds through a practical explanation of appropriate housing and nutrition. They also discover common bird diseases and methods of treating them.	+2	15
Mobile Laboratory	Research and Innovation Authority / Mawarid	Visitors explore a research laboratory housed inside a vehicle, with opportunities to carry out practical experiments involving animals and plant genetic resources. They learn how samples are preserved and stored, gaining a broader understanding of the role of laboratories in conserving resources and supporting scientific discovery.	+10	15
Types of Omani Environment	Knowledge Grid Academy	Visitors explore key Omani environments, including marine, agricultural and urban settings. They compare an unpolluted environment with one affected by environmental damage, then explore a section presenting creative solutions and choose suitable responses. This practical, interactive experience helps them identify environmental problems and understand approaches to addressing them.	+5	30
Discover Science at Safari World Zoo	Safari World	Visitors connect the natural sciences with Omani wildlife through practical stations. They begin by analysing and matching animal footprints, including those of the Arabian leopard and Arabian wolf, then examine feathers, fur and insects under a microscope. A digital animal-knowledge challenge concludes the experience, featuring a variety of questions.	+2	15
Educational Farm	Plmera Botanic Gardens	Visitors explore connections between the environment, agriculture and animal life. They discover the date palm as a symbol of sustainability and Omani food security, learn about animals and birds associated with agricultural systems, and consider the importance of biodiversity. Practical activities and experiments promote environmental and agricultural awareness.	+4	10
Journey through the Diversity of Omani Camels	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore the genetic diversity of Omani camel breeds and their adaptation to different geographical environments. Comparing breeds such as Batinah and Dhofari camels introduces differences in coat colour, body size and milk production. The activity links these inherited characteristics with local environments and the suitability of each breed for its home region.	7-10	5

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Omani Nature Orchestra	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors discover how tiny sensors attached to leaves of native Omani trees, such as Luban and Sidr, measure electrical signals and convert them into gentle musical notes through computer software. Touching a leaf changes the sound immediately, creating an interactive experience that connects plants, sensing technology and music.	+5	10
Exploring Plant Diversity in Different Environments	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore plant diversity across different ecosystems through an interactive digital experience presenting different species, their characteristics and biological functions. They compare coastal, desert and aquatic plants and their adaptations. The activity also contrasts a diverse, stable ecosystem with a less diverse one that is more vulnerable to deterioration, highlighting the importance of plant diversity in sustaining life.	+7	15
Interactive Food Chain	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore food chains and the movement of energy from the Sun to plants and then to animals. They arrange illustrated cards and hang them in the correct order, learning how energy passes between living organisms through a practical, interactive game.	6–10	10
Secrets of Marine Life in Oman's Seas	University of Technology and Applied Sciences (UTAS) / Sur	Visitors discover marine biodiversity in Oman and its importance for ecological balance, fisheries and sustainability. The activity features turtles, coral reefs, fish and dolphins, alongside environmental challenges including plastic pollution, overfishing and climate change. Interactive learning connects these threats with the protection of marine environments.	6+	10
Turtle Evo	Environment Authority / Envo Commandos Center	Visitors explore Oman's wildlife-protection achievements involving the Arabian leopard, Arabian oryx, turtles and Omani spiny-tailed lizards. Sensory routes and simulated experiences introduce the challenges these animals face, including poaching, habitat loss and illegal trade. The journey encourages empathy and understanding, deepening awareness of biodiversity conservation and a sense of responsibility and pride in Oman's natural heritage.	6–17	10
Your Name with Landsat	Ministry of Heritage and Tourism / Natural History Museum	Visitors explore Earth's geography, landmarks and landscapes through an activity connecting science and space technology. They type their names in English on a NASA platform and see their names formed from real satellite images of natural features. The experience encourages curiosity about the planet's beauty and diversity through learning, observation and interaction.	+6	10
Natural History Museum 360°	Ministry of Heritage and Tourism / Natural History Museum	Visitors take an immersive virtual-reality tour of Oman's Natural History Museum, viewing its design, galleries and contents in three dimensions. They explore key aspects of the country's natural history, including terrestrial and marine biodiversity, geological formations and environmental change through the ages. The interactive experience offers a preview of the museum experience.	+6	10
Geological History of Oman through the Ages	Ministry of Heritage and Tourism / Natural History Museum	Visitors discover Oman's natural history through a journey tracing environmental change across different periods. They examine fossil specimens and displays of extinct and preserved animals arranged in settings that recreate their original habitats. The experience reveals the country's geological and biological diversity over millions of years, helping visitors understand the evolution of life and Omani environments through visual exploration.	+6	10
Animal World in Omani Archaeology	Ministry of Heritage and Tourism / Department of Archaeological Surveys and Excavations	Visitors take part in simulated archaeological surveys and excavations, uncovering finds using approaches inspired by archaeologists. They also explore an exhibition of objects bearing animal motifs and tools used for hunting through the ages. The activity reveals links between people and the environment in Oman and introduces the value of archaeological heritage in documenting the country's natural and cultural history.	+6	10



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Excavating Archaeological Tombs	Ministry of Heritage and Tourism / Department of Archaeological Surveys and Excavations	Visitors join a simulated archaeological expedition, choosing a dig site, recording coordinates and preparing equipment and a field camp before excavation. They discover bones and artefacts in recreated burials dating from before the Common Era, then learn how finds are documented, handled, preserved and conserved for museum displays. The experience introduces the stages of archaeological work and its importance for protecting heritage.	+6	10
Traveller through Time	Ministry of Heritage and Tourism / World Heritage Department	Visitors begin with an introduction to Oman's historical and heritage landmarks, then use virtual-reality headsets to explore 99 sites, including castles, forts, historic neighbourhoods and archaeological locations. The immersive tour recreates the feeling of visiting these places. Drawing on a virtual-reality documentation project, it connects visitors with Oman's cultural heritage.	+6	10
Journey into the Deep Seas	Ministry of Agriculture, Fisheries and Water Resources / Directorate General of Fisheries Research	Visitors explore the marine environment and biodiversity of Omani waters through interactive science activities. Microscopes introduce marine organisms, plankton and algae, while practical activities explore food chains and marine ecosystem health. Visitors also learn about the effects of plastics and other pollutants on marine life and discover how technology and satellites help monitor and protect the seas.	6-18	15
Little Equine Veterinarian	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore veterinary care for horses and scientific practices that support their health and performance. They examine diagnostic equipment and discover clinical examinations, vital-sign measurement and horse anatomy. The activity introduces modern technologies for diagnosing and preventing injuries and disease, alongside nutrition, vaccination and first aid. Visitors also explore veterinarians' roles in caring for sport horses before, during and after races through an experience that connects knowledge with practical applications.	7-16	10
Internal Parts of Animals	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore veterinary medicine through an interactive audiovisual presentation on a television screen. Educational clips introduce animal anatomy, showing the structure and functions of organs and body systems. The experience explains how anatomy supports understanding of animal bodies and highlights veterinary medicine's importance in protecting livestock and supporting public health.	7-16	10
Wildlife Zoo	Royal Court Affairs / Directorate General of Veterinary Services	Visitors discover wild animals from Oman and other countries, alongside efforts to protect Omani species from extinction. They explore biodiversity conservation and technologies used in wildlife management and the care of animals. Observation and interactive learning provide a deeper understanding of animal life and the importance of protecting it.	+5	15
Museum of Taxidermy Animals and Birds	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore a taxidermy museum featuring wildlife found in Oman. They learn about the tools and stages used to preserve animals and birds, examine different body structures and compare related species. A display of bird eggs ranging from small to large highlights the diversity of bird life. The experience combines observation with an introduction to animal characteristics and diversity.	+5	15
Wildlife Map of Oman	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore a model map of Oman showing wild animals in their different natural habitats. They discover species living in or near their local area, their characteristics, ecological roles and importance to people. The activity also introduces ways to protect animals and their habitats, encouraging awareness of wildlife conservation through interactive exploration.	+5	15

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Interactive VR Garden	Royal Court Affairs / Directorate General of Veterinary Services	Visitors use virtual reality to observe and interact with wild animals in recreations of their natural environments. The immersive experience reveals details of animal behaviour, characteristics, habitats and needs. It helps visitors build a clearer picture of animal life and understand the importance of protecting wildlife and its natural habitats.	+5	5
Sample Journey in the Microbiology Laboratory	Royal Court Affairs / Directorate General of Veterinary Services	Visitors follow an animal sample's journey through a microbiology laboratory using a wooden model display. They learn about sample collection, culture on suitable media and incubation to grow bacterial colonies. The experience then introduces the VITEK system, which identifies bacteria and tests their susceptibility to antibiotics. Following this sequence reveals how laboratory work supports diagnosis and treatment selection for animals.	+4	5
Slide Staining Experience	Royal Court Affairs / Directorate General of Veterinary Services	Visitors prepare a simulated blood smear using safe red food colouring instead of blood. A pipette places a drop onto a glass slide, and a second slide spreads it horizontally into a thin layer with a tapered edge. The activity introduces the process of preparing samples for microscopic examination and blood-parasite testing. Visitors also learn that the slides and tools can be cleaned and reused.	7–14	10
Chemistry Chameleon	Royal Court Affairs / Directorate General of Veterinary Services	Visitors watch a solution change colour like a chameleon, moving from purple to green, yellow and brown. The demonstration explains how oxidation-reduction reactions change manganese oxidation states and alter the solution's colour. Using potassium permanganate, sodium hydroxide and glucose, the display provides a visual introduction to changing material properties during chemical reactions and an opportunity to explore chemistry through observation.	5–22	5
Journey to the World of Microorganisms	Royal Court Affairs / Directorate General of Veterinary Services	Visitors discover microorganisms that cannot be seen with the naked eye through preserved laboratory samples. They learn about different organisms, their characteristics, habitats and everyday roles, including useful applications and their roles in food spoilage and disease. The interactive introduction highlights microbiology's importance in health, food and the environment.	+8	5
Plant Diseases	Royal Court Affairs / Directorate General of Veterinary Services	Visitors learn how to plant and care for seeds and seedlings in pots and trays. They explore plant-disease diagnosis and its role in protecting plant resources, food security and environmental sustainability. Microscopy introduces fungal and bacterial plant pathogens, while an assembly game helps identify plant parts. The activity connects plant care with laboratory observation and practical learning.	7–18	15
Fetal Journey Inside a Camel (Fertilisation to Birth)	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore the development of a camel fetus through a three-dimensional model showing the reproductive system and stages of pregnancy. They follow an illuminated route, match information cards with growth stages and answer short questions at the end. The experience introduces the role of veterinary medicine and animal research in improving reproductive outcomes and productivity and in maintaining camel health.	13–18	10
Germ Transmission	Royal Court Affairs / Directorate General of Veterinary Services	Visitors take part in "Germ Transmission", exploring how microbes move between people. Simple practical activities demonstrate the importance of handwashing and personal hygiene and show how these habits help reduce germ spread and prevent disease.	4–10	5

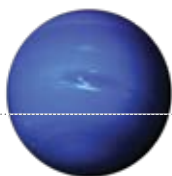
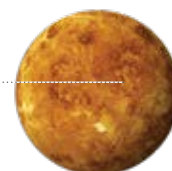


Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Camel Milk Quality Testing	Royal Court Affairs / Directorate General of Veterinary Services	Visitors take part in a camel-milk quality-testing activity and discover the role of pasteurisation in reducing bacterial risks associated with raw milk. They learn about sound hygiene practices and the importance of meeting the applicable Gulf standard, connecting milk quality with food safety and human health.	+12	10
The Molecular Laboratory in the One Health Approach	Royal Court Affairs / Directorate General of Veterinary Services	Visitors explore molecular diagnosis of animal diseases through the One Health approach. They choose an appropriate sample, learn about collection and DNA extraction, and simulate preparing a PCR test using safe models and tools. They then interpret results and identify the disease agent. The activity highlights how early molecular diagnosis helps limit diseases that can spread between animals and humans and protect human, animal and environmental health.	+10	20
Interactive Science World	Royal Court Affairs / Directorate General of Veterinary Services	Visitors use virtual-reality headsets to explore chemistry and microbiology laboratories and observe experiments that simulate laboratory work. Games and activities strengthen their understanding of scientific concepts within a safe, simulated setting. The experience encourages curiosity, experimentation and exploration while demonstrating how modern technology can make science more accessible and support new ways of learning.	+8	5
Animal House	Animal House	Visitors encounter local and imported animals and reptiles and discover their characteristics and contribution to biodiversity. They take part in a taxidermy experience, explore preservation techniques, and try cleaning and assembling skulls and skeletons to understand animal body structures and functions. The station combines observation with practical learning and an introduction to zoology and wildlife.	+5	5
Virtual Camel Racing	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will experience a virtual reality simulation of traditional camel racing, exploring digital simulation techniques and how they are used to reconstruct real-world environments. The activity also introduces this deep-rooted Omani cultural heritage, inscribed on the UNESCO Intangible Cultural Heritage list, blending science, technology and tradition.	+6	5
Virtual Omani Horse Display	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will immerse themselves in the atmosphere of the Omani horse display through an interactive virtual reality experience, exploring how digital simulation can present cultural scenes in an engaging immersive format — bridging technology, innovation and authentic Omani heritage.	+6	5
Virtual Journey aboard Shabab Oman	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will embark on a virtual tour inside Shabab Oman, discovering its components, its historical role in the Omani navy, and the activities held aboard — while exploring how virtual reality is used to simulate maritime environments and deliver knowledge through digital experience.	+6	5
Traditional Folk Games	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors discover a number of traditional Omani folk games — including Al-Anbar and Al-Sayyad — within a three-dimensional digital environment built with Unreal Engine, exploring how design and simulation technologies can reimagine cultural heritage in a modern and innovative format.	+6	5
Pottery Making	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will interactively experience the stages of traditional Omani pottery making, discovering the shaping steps, materials and techniques used in this ancient craft — connecting heritage knowledge with hands-on practice and modern interactive technologies.	+6	5

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Omani Folk Arts	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will interact with a rich collection of Omani folk arts — including traditional dances, musical instruments, heritage costumes and popular foods — through an interactive application that allows them to explore and engage with these cultural elements in stages that blend learning with digital technology.	+6	5
"Oman Tells" Story Series	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will engage with a collection of interactive written and audio stories — including entries from the "Oman Tells" competition — through reading, listening and content interaction, strengthening language and literacy skills while showcasing how digital technologies are transforming learning approaches for children.	+6	5
Under the Microscope	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will examine a variety of samples using magnification tools and technologies, uncovering fine details and components invisible to the naked eye — a scientific practice grounded in observation, experimentation, analysis and comparison to understand the microscopic world.	+6	5
Space Sciences	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will take part in interactive activities and experiments linked to space sciences, discovering key scientific concepts and major milestones in space exploration, before applying their learning through practical activities that combine experimentation, observation and scientific inquiry.	+6	5
Digital Sciences	Ministry of Culture, Sports and Youth / Children's Culture Centre	Visitors will engage in a diverse range of scientific experiments and applications across different science fields, applying concepts hands-on and interacting directly with tools and activities — developing skills in observation, experimentation, scientific thinking and problem-solving.	+6	5
Lantern of Knowledge	Ministry of Culture, Sports and Youth / Omani Encyclopaedia Department	Visitors will explore the scientific content of the Omani Encyclopaedia and the Young Learners' Encyclopaedia, discovering diverse topics in biodiversity, earth sciences, astronomy and navigation — enriching knowledge and nurturing scientific curiosity across all age groups.	+6	5
Scientific Facts and Phenomena	Ministry of Culture, Sports and Youth / Omani Encyclopaedia Department	Visitors will interact with digital infographics presenting scientific facts, concepts and phenomena in a clear visual format — covering topics in the animal and plant kingdoms and earth sciences, alongside highlights of contributions by scientists in medicine, astronomy and navigation.	+6	5
Scientific Flashes from the Omani Encyclopaedia	Ministry of Culture, Sports and Youth / Omani Encyclopaedia Department	Visitors will watch short digital films drawn from encyclopaedic content, covering prominent scientific figures, plants and scholarly works, presented in an engaging visual style that makes knowledge accessible and deepens engagement with Oman's intellectual heritage.	+6	5
Natural and Medical Sciences Laboratory	University of Nizwa / Natural and Medical Sciences Research Centre	Visitors explore the behind-the-scenes world of scientific research and discover the role of experimental animals and microorganisms in advancing scientific knowledge and benefiting humanity. They begin by examining preserved specimens of local insects and lizards to understand their role in ecological balance, then use microscopes to observe microorganisms and learn about the scientific standards for handling experimental models. This exploratory experience deepens their understanding of the importance of these organisms in drug development and environmental conservation.	8–12	15



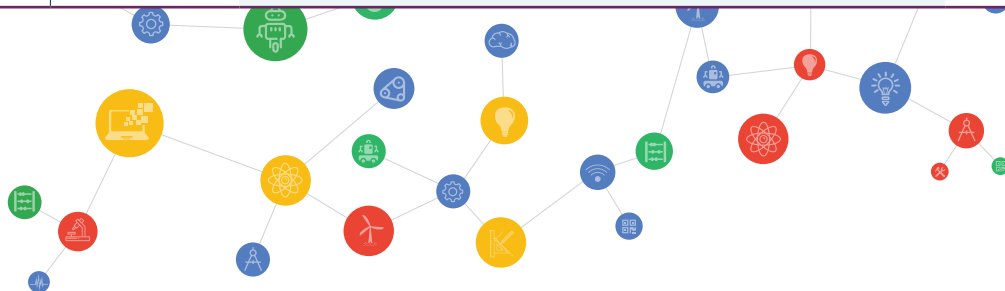
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Drone Heroes	Wing Tech	Visitors explore drones and first-person-view (FPV) flight through learning and hands-on participation. They begin with a headset-based flight simulation to learn control and manoeuvring in a safe setting. At an assembly station, they examine FPV components, discover how they work and help fit key parts. Finally, they watch or try flying a drone on a dedicated, safe flight area simulating realistic flight scenarios. The experience develops technical skills and introduces drone applications across different fields.	+10	10
From Earth to Orbit	Ankaa Space and Technology	Visitors combine aiming skills with space knowledge using nine models representing Solar System bodies. They throw balls at the targets, earning different points according to the target's size, with smaller targets rewarding greater accuracy. After hitting a target, they use its spinning board to select a question about its composition, size, temperature or position. Correct answers earn additional points, and the aiming and knowledge scores are combined for the final result.	+8	15
Future Pilot	Oman Aviation Academy	Visitors try piloting an aircraft through a flight simulator, learning basic control, take-off and landing, and how instruments and navigation systems work. The safe training environment simulates real flight conditions. Instructors and specialists from Oman Aviation Academy provide accessible explanations and guidance, helping visitors understand aviation principles and technology through an interactive experience.	+10	10
Your Guide in the Sky	Civil Aviation Authority (CAA)	Visitors explore civil aviation through interactive activities and a model of Muscat International Airport. They discover navigation systems and aeronautical information management, then join an educational quiz. Drone displays introduce uses, safe operation and licensing requirements, while a meteorology area presents weather instruments, forecasting and the importance of weather to aviation. The experience connects learning with practical exploration and highlights the authority's role in supporting civil aviation safety, security and efficiency.	+9	5



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Smart Omani Meteorology	Civil Aviation Authority (CAA)	Visitors explore meteorological observation and forecasting through digital experiences and displays. They discover measuring instruments, a ground weather station and a weather balloon, alongside AI's role in developing services and improving forecast accuracy. Virtual reality, holograms and three-dimensional models explain how weather is monitored and predicted. The exhibition combines science and technology with interactive learning suitable for different age groups.	+5	15
At the Heart of the Event	Civil Aviation Authority (CAA)	Visitors explore how natural hazards are monitored and early warnings issued, following weather and seismic observations through data analysis to alerts reaching authorities and the public. They join a simplified emergency decision-making simulation and learn appropriate responses to cyclone or tsunami warnings. The activity highlights early-warning systems' importance in protecting lives and property and reducing disaster risks.	+10	15
Weather Explorers	Civil Aviation Authority (CAA)	Visitors explore meteorology and climate phenomena through practical experiments and activities. In the "Young Weather Observer" experience, they discover monitoring tasks and instruments. They can ask about studying meteorology and related career paths and join quizzes that develop scientific understanding and curiosity. The experience highlights the importance of weather services in everyday life and society.	+10	15
Weather Presenter	Civil Aviation Authority (CAA)	Visitors become weather presenters in a simulated television studio, standing before a screen displaying real weather maps under specialist supervision. They learn how forecasts are prepared and how to read maps and symbols and interpret data. The experience develops communication and presentation skills while building confidence and introducing the professional and media aspects of meteorology.	+7	10
Muzn Activity	Civil Aviation Authority (CAA)	Visitors join weather- and climate-themed games and competitions, tackling science questions and challenges that introduce atmospheric phenomena. Creative activities encourage observation, thinking and problem-solving through hands-on participation. Opportunities to win prizes and gifts complement the experience, supporting scientific curiosity and interest in meteorology in a safe learning environment.	+5	15
Weather Balloon	Civil Aviation Authority (CAA)	Visitors explore how weather balloons measure atmospheric conditions, including temperature, pressure, humidity and wind speed. The interactive activity explains how these measurements support forecasting and the study of weather.	+10	15
Space Journey	Oman Society of Astronomy and Space	Visitors follow the human journey into space, from rocket launch to spacecraft carrying astronauts and a space station serving as a laboratory in microgravity. Three-dimensional models reveal each element's components and functions, supported by accessible explanations linking physics and space engineering with exploration. Footage of real missions brings concepts to life and introduces technologies and innovations that enabled humans to reach and explore space.	+9	10
Our Nearest Star	Oman Society of Astronomy and Space	Visitors explore the Sun through a three-dimensional model showing its layers, from the core to the outer atmosphere. They discover how energy is produced and transferred and why the Sun matters as Earth's nearest star and a source of light, heat and life. A scale model of Earth provides a visual size comparison. Questions, challenges and simple experiments encourage closer exploration of astronomy and space science.	+8	5
Interactive Space Gateway	Oman Society of Astronomy and Space	Visitors use a digital astronomy screen to explore the Solar System through scientific information, images and three-dimensional planet models. Questions and challenges introduce the planets' properties. Visitors can also compare their age in different planetary years and their weight on other planets with their values on Earth. The experience connects these comparisons with gravity and differing planetary characteristics through interactive learning.	+9	5

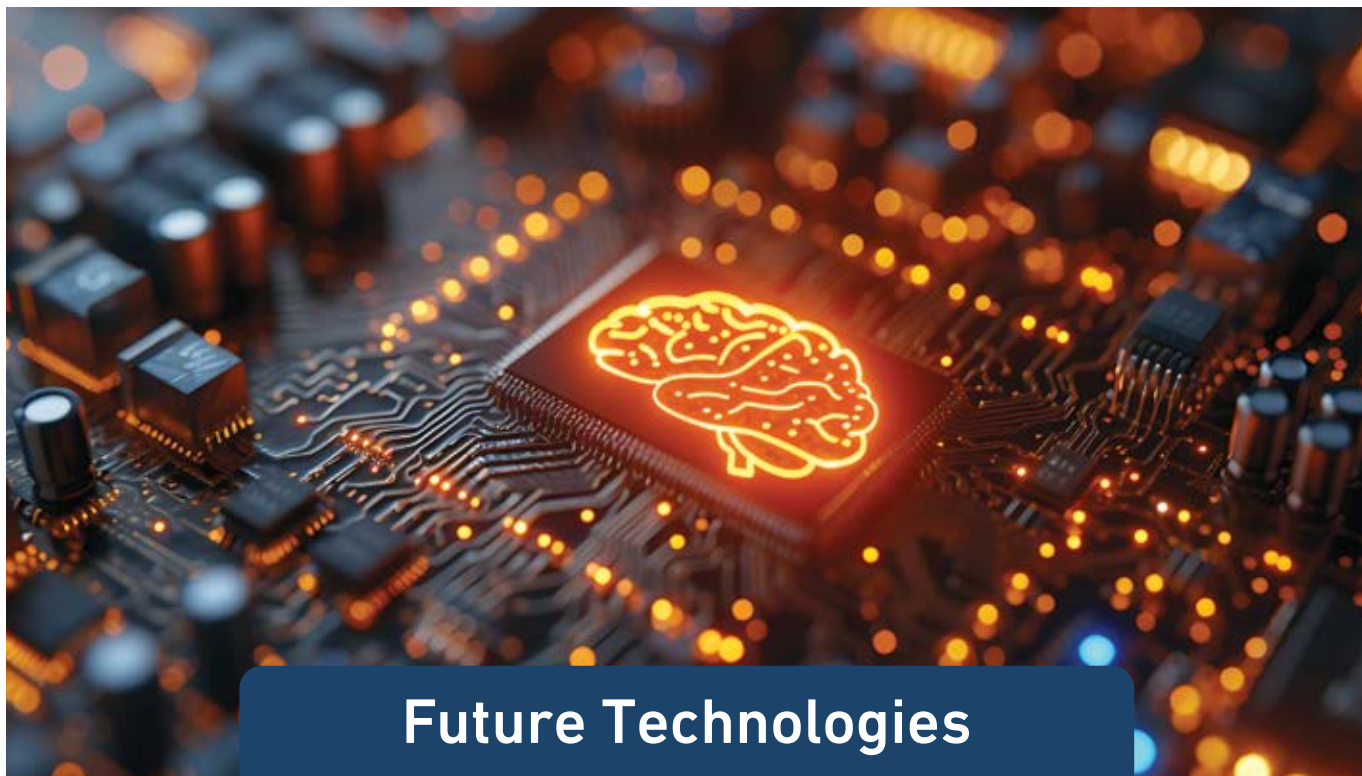


Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Race across the Galaxy	Oman Society of Astronomy and Space	Visitors explore an interactive cosmic maze and take part in individual and team games inspired by astronomy and space. Puzzles and scientific questions focus on planets, stars and space phenomena. The activities develop reasoning, analysis, exploration and teamwork, combining knowledge with entertainment and encouraging curiosity about the Universe.	+9	5
Window to Space	Royal Court Affairs / Directorate General of Royal Facilities	Visitors explore astronomy through posters and interactive videos featuring planets, stars, galaxies and cosmic phenomena. Displays introduce astrophotography equipment, how it works and its use in observing celestial objects. Opportunities to speak with specialists and ask questions help develop scientific awareness and interest in astronomy and space exploration.	+6	10
Fly Safely	Serb	Visitors discover drones through an introduction to safe flying and the conditions and regulations associated with hobbyist and individual licences. Then they try piloting through simulators and specialised flight systems. The practical experience combines learning and participation to explain how drones can be operated safely and within the applicable rules.	+5	10
Remote-Controlled Astronomical Observatory	Al Hawqayn Astronomical Observatory	Visitors discover how an astronomical observatory operates and can be controlled remotely. They try observing and photographing celestial objects, exploring basic observation methods and modern technologies used to study the sky through a practical experience connecting astronomy with technology.	+18	30
Drone Flight Plan	GIS Hub	Visitors take part in an interactive activity exploring how drone flights are planned for surveying and aerial photography. They begin by choosing take-off and landing locations, then use a small drone model and coloured strings to design a flight path that covers the entire target area while avoiding buildings, mountains, power lines and restricted zones. They then compare their route with a reference flight plan and discover the importance of complete coverage, image overlap and flight safety. The activity demonstrates how drones are used to produce maps, aerial images and three-dimensional models.	+10	15
Passport to Space	University of Technology and Applied Sciences (UTAS) / Rustaq	Visitors take part in the Astronomy and Space Club activity, moving between educational stations that introduce fundamental concepts in astronomy and physics, including black holes and gravity, the speed of light and electromagnetic waves, signals from space and the relationship between astronomy, navigation and architecture. They collect a stamp in their 'Space Passport' at each completed station and receive a symbolic visa to Mars at the end of the journey, making learning through exploration an exciting and memorable experience.	+9	20





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Future Technologies

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
The Future of AI and Digital Transformation	Gulf College	Visitors explore artificial intelligence, machine learning, data analysis, the Internet of Things and digital transformation through accessible interactive activities. Practical models show applications in education, business, digital security and smart services, highlighting their role in innovation and future development.	+12	20
Eye of the Future: Beyond Reality	IG-Tech	Visitors try a virtual-reality first-aid experience in a safe setting and explore an interactive laboratory simulating different science activities, including first aid and a journey inside a human cell.	+7	5
Create with Artificial Intelligence	Ministry of Transport, Communications and Information Technology	Visitors choose to create an image, produce a short video or design a simple game using AI tools. Facilitators help them write suitable prompts that express their ideas. Then they watch AI transform the description into digital output, gaining practical insight into the tools and their role in supporting creativity and digital innovation.	+7	20
City of the Future	Creative Vision	Visitors explore smart cities, artificial intelligence and the Internet of Things through practical activities. They help transform a traditional city model facing congestion and high energy consumption into a smart city using sensors and modern technologies. Experience encourages innovation and interest in future technologies.	+8	15
Journey from Idea to Model	Plamore	Visitors follow a complete model-making journey, developing an idea into a three-dimensional design and watching it being printed. Then they clean and finish the model, colour it and add personal touches. The experience shows how an idea becomes a physical object, which visitors keep as a souvenir.	+5	10
Future Pathways	University of Technology and Applied Sciences (UTAS) / Al Musanaa	Visitors explore robotics, drones, the Internet of Things and Python programming through practical activities and live demonstrations. They learn the principles of design, programming and operation and their applications in education, industry and everyday life. Robot programming, flight simulation, smart-device exploration and digital-security activities encourage technical thinking, innovation and further interest in science and technology.	+9	15

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Mixed Reality Experience	University of Technology and Applied Sciences (UTAS) / Musandam	Visitors explore interactive three-dimensional models using a Merge Cube. Pointing a phone or tablet camera at the cube reveals virtual objects that can be viewed from different angles and manipulated. A QR code also opens a customised Kivicube experience, displaying digital objects blended with the surrounding environment.	+9	10
Smart Vehicle Safety and Protection System	National College of Automotive Technology	Visitors explore smart-safety systems and how sensors and AI can help reduce road accidents by detecting hazards and alerting drivers. A driver-monitoring demonstration checks seat-belt use and distraction in real time, showing how these technologies can support road safety.	+10	20
Interactive Scientific Exhibits Laboratory	Science Land	Visitors explore locally made platforms built using digital manufacturing. In an engineering challenge, two teams assemble 3D-printed structures and test their strength with earthquake-like vibrations. A second challenge links concentration and stress-related biosignals with an interactive race. A digital-geography activity combines augmented reality with a sandbox whose displayed terrain changes as its shape is altered. The station promotes learning and creativity through practical exploration.	+7	10
Robot Hero	Global College of Engineering and Technology (GCET)	Visitors control robots in interactive competitions inspired by sporting matches. They compete to achieve the best results through challenges combining enjoyment, strategy and technical exploration. The experience offers an accessible introduction to robotics and modern technology.	+9	20
Virtual Reality for Conscious Consumption	Consumer Protection Authority	Visitors explore informed purchasing and consumption through virtual reality, including an interactive grocery experience and activities identifying non-compliant or adulterated goods. Educational games, the "Young Consumer" tablet app and interactive screens support the experience. Real product samples highlight potential risks and strengthen consumer awareness.	+6	15
Technology Pulse	Knowledge Grid Academy	Visitors explore smart systems, sensing, artificial intelligence and augmented reality through projects including smart parking, ultrasonic distance measurement and an interactive robot. They also investigate computer components and maintenance, try an interactive programming platform and learn about robotics and Arduino boards. The practical activities develop technical skills, creativity and innovation.	+13	30
The Connected Home	Creativity Centre for Culture and Innovation	Visitors try an AI-powered mirror that analyses facial expressions and estimates emotions, followed by a smart-home model demonstrating connected devices and voice control. An interactive three-dimensional model of Al Aqr neighbourhood in Nizwa allows exploration of historical and cultural landmarks, with questions and immediate feedback. The experience connects AI and modern technology with Omani heritage.	+6	30
Technical Tomorrow	Code Academy	Visitors follow five consecutive stations, exploring artificial intelligence, robotics, the Internet of Things and future networks (5G and beyond). A competitive code-breaking challenge concludes the journey, allowing visitors to apply the knowledge and skills gained along the way.	+8	30
Journey to the City of Money	Central Bank of Oman (CBO)	Visitors explore an interactive digital financial city using a card that simulates a bank card. Stations introduce digital payments, simple investment concepts, financial security and protection from online fraud. A short interactive quiz and a gift complete the journey, connecting financial learning with practice and greater confidence in digital finance.	+6	5
Build, Design and Programme	Top Tecno	Visitors discover how robots work and their applications in education and future life. Using UBTECH educational solutions, they assemble and programme a robot to perform movements, tasks and challenges. Activities combine logical thinking, problem-solving, creativity and teamwork, while displays introduce different robots and their capabilities. The experience offers a practical introduction to STEM, AI and programming.	+5	30



Food and Agricultural Technologies

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
My Garden Is Beautiful	AlJenan Company	Visitors attend short sessions about indoor plants and their care, garden design and maintenance. Simple explanations introduce home growing, irrigation, fertilisation and plant care, encouraging agricultural awareness and interest in green spaces.	+10	5
Organic Waste Treasure	AlAryaf Nursery	Visitors explore ways to recycle household organic waste into liquid and solid natural fertilisers. They learn how these can be used in home growing and discover practical ideas for making effective use of small spaces to cultivate plants and crops.	+12	15
From Data to Harvest	Vocational College/ Seeb	Visitors try an electronic simulation demonstrating AI in smart agriculture. Sensor-based soil and environmental data inform decisions such as irrigation and fertilisation to improve production. Visitors compare their own choices with those of the intelligent system, exploring the future of sustainable farming through a practical activity.	+10	5
Smart Agriculture	University of Technology and Applied Sciences (UTAS) / Al Musanaa	Visitors try a smart plant-diagnosis platform that analyses images using models trained on local and international crop diseases. They compare their own observations with AI-generated results and can access the system directly on their phones through a QR code to view findings and treatment guidance. Games and interactive challenges highlight the role of technology in early disease detection, crop protection and improved agricultural production.	+7	10
The Food Chemical Investigator	University of Technology and Applied Sciences (UTAS) / Ibri	Visitors collect achievement stickers in a health passport as they move through themed stations. "Vitamin Radar" introduces signs of vitamin deficiencies, followed by the "Reagents Laboratory", where the vitamin laboratory detects vitamin C, the energy laboratory detects starch, and the building-block laboratory detects proteins, all using safe reagents. On completing the passport, visitors receive a ready-to-eat snack, such as dried fruit or nuts, and an information card summarising their learning journey.	+7	15

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Stages of Date Palm Growth	Nakheel Oman Development	Visitors follow date-palm development from laboratory tissue culture through growth and care to a plant ready for cultivation. The interactive experience introduces modern propagation technologies and their role in producing high-quality planting material through accessible explanations and observation.	+9	15
Agricultural Pest Control	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors explore how AI can support agricultural pest management through recommendations on appropriate control methods. Displays introduce pests and their natural enemies, with comparisons between chemical and biological control. Models explain insect body parts and beneficial organisms, while a virtual-reality experience presents pest-management scenarios linked to sustainable agriculture.	+12	10
Beekeeping and Honey Products	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors explore bees and beekeeping in Oman by discovering the bee colony, observing a live hive and using virtual reality to view its components. They learn about colony multiplication, queen rearing, beekeeping tools and honey production. A display of hive products complements an introduction to bees' role in pollination and agricultural sustainability.	+5	15
Dairy Factory Corner	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors follow milk production from farms and barns through processing. Models and audiovisual presentations explain milking, pasteurisation and dairy manufacture. Practical product tests demonstrate their importance for food safety, alongside displays of processing equipment and hygiene and safety standards in food factories. Interactive competitions and a dairy-tasting area complete the experience.	+5	10
Modern Saffron Cultivation	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors explore saffron cultivation using modern agricultural technologies and enclosed systems. The workshop introduces the plant's life cycle and requirements for growth and production, followed by harvesting, collecting and drying saffron stigmas. Practical activities demonstrate how modern techniques can improve productivity and support agricultural sustainability.	+5	10
Olive Oil Extraction and Pickled Olive Production	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors follow olive-oil and pickled-olive production, beginning with selecting and sorting suitable fruit. They observe oil extraction using a press and a model demonstrating modern processing stages, then practise preparing pickled olives. The workshop also introduces quality assessment, grading and good production practices through hands-on activities.	+5	10
Traditional and Modern Rose Water Production	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors explore Omani rose-water production, from identifying the roses and preparing petals to distillation. They compare traditional Jabal Akhdar methods with modern techniques, discovering how distillation equipment extracts aromatic oils and natural compounds. Practical participation allows them to follow extraction, learn about factors affecting quality and explore rose water's food, cosmetic and medicinal uses.	+5	10
Earth's Pulse: The Story of Seeds, Flowers and Plants	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors follow plants from tiny seeds to flowering plants in "Earth's Pulse". They discover the parts of seeds, flowers and plants and the role each plays in growth and life. Practical activities introduce plant propagation and growth stages. The journey encourages an appreciation of nature, environmental awareness and sustainable practices that contribute to protecting a healthy, green environment.	5–15	15
Food Safety Inspection for a Healthier Community	Muscat Municipality	Visitors discover Muscat Municipality's work in inspecting food premises through laboratory experiments and the use of inspection devices. They try the tools themselves to explore how product safety is assessed.	+7	10
The Food Label	Ministry of Agriculture, Fisheries and Water Resources / Food Safety & Quality Center	Visitors decode food labels and identify suitable storage temperatures for different foods through games and activities. Acting as detectives investigating hidden contamination, they learn everyday practices for handling food properly.	9+	10



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Our Resources, Our Decision	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore the variety and importance of natural resources through a city-management simulation involving water, energy, land and forests. They decide how resources should be used, observe environmental and economic consequences and compare overexploitation with sustainable management. The experience connects resource protection with human needs and development.	+8	5
Minerals Beneath the Earth	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors try technologies used in natural-resource exploration, including metal detectors, ground radar and seismic sensors associated with oil exploration. They examine real mineral, rock, water and oil samples and compare them with instrument readings. The practical experience shows how technology helps investigate resources beneath the Earth's surface.	+6	5
Water on Earth's Surface	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore the global distribution of water through an interactive map and three-dimensional geological models showing oceans, rivers, ice caps and groundwater. Dynamic lighting gradually reveals the limited fresh water available for human use. The experience concludes with an introduction to desalination as one way to strengthen water security.	+6	5
Sustainable Mining	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors discover minerals as important natural resources and learn why extraction and use should follow sustainable-mining principles. An interactive experience explores mineral properties and how they respond under different conditions, connecting these characteristics with modern technologies, industries and innovation.	+10	5
World of Bees	Al-Beimani Honey	Visitors watch bees at work through transparent hives and learn about honey varieties, extraction, filtering, production stages and hive products. Activities include a bee maze, honey tasting, modelling with natural wax, preparing a healthy drink and a virtual-reality experience inside the hive.	+5	5
The Rock as Eyewitness	Geological Society of Oman	Visitors become geological detectives exploring Oman's formation and history. They examine a real rock using magnifiers, hardness-testing tools and acid tests, then compare their findings with a geological guide. The rock's properties provide clues about rock type, age and events that shaped Oman over millions of years.	+8	5
Ocean Guardian	Vocational College/ Al-Khabourah	Visitors explore marine resources, fisheries and their sustainable use through modern monitoring technologies. They interact with a ship model fitted with tools that simulate observation and cleaning operations, discover how technology supports marine protection and fisheries monitoring, and take part in a practical activity about ocean sustainability.	+8	5

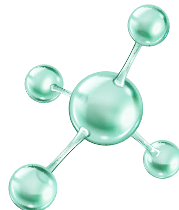
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Smart Laboratory for Ore Analysis and Separation	Knowledge Grid Academy	Visitors examine copper, gypsum and limestone samples using portable AI-supported spectroscopic instruments to analyse their components and chemical composition. They also try magnetic separation to explore the removal of iron-bearing impurities and improved ore quality through automated systems. The activity introduces technology's role in advancing the mining sector.	+8	5
Green Hydrogen Production	Knowledge Grid Academy	Visitors explore hydrogen production through water electrolysis using smart sensing systems and learn about green hydrogen. They consider its potential future use in powering exploration machinery in deserts and remote areas, connecting cleaner energy with more efficient resource exploration and reduced dependence on fossil fuels.	+8	5
Technologies for Sustaining Our Resources	Ministry of Agriculture, Fisheries and Water Resources / Directorate General of Fisheries Research	Visitors explore fisheries as an important natural resource and trace fishing equipment from traditional methods to smart technologies. In an interactive simulation, they choose tools for different fish species and marine environments, discovering how modern approaches can improve efficiency, reduce environmental impacts and conserve fish stocks.	+8	5
Our Sustainable Garden	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors discover the role of rangelands and vegetation in biodiversity conservation, soil protection and preventing land degradation. They explore plants and flowers and their water and light needs, then design a virtual planted space. Plant care, fertiliser use and extending cut-flower life connect the activity with conserving vegetation and using it sustainably.	+6	5
Our Resources, a Trust	Royal Court Affairs / Directorate General for Royal Gardens and Farms	Visitors explore social responsibility and the roles of individuals and organisations in protecting natural resources. Examples introduce the conservation of vegetation, rangelands and water. Interactive scenarios and challenges require visitors to make decisions that show how responsible behaviour supports resource sustainability and preservation for future generations.	+6	5
Our Marine Resources	Ministry of Agriculture, Fisheries and Water Resources / Aquaculture Center	Visitors explore Oman's marine biodiversity and fisheries as natural resources that support the economy and diversify income. Interactive learning introduces sustainable use, modern technologies and aquaculture, highlighting their role in developing marine resources and supporting a greener economy.	+6	5
Simulation of Water Flow Paths in Nature	Ministry of Agriculture, Fisheries and Water Resources / Dams Department	Visitors operate an interactive dam model, controlling water flow and storage levels and deciding how water should be released and managed. They observe how their choices affect rainwater use and water loss, exploring the role of dams in conserving and sustainably managing water resources.	+6	5



نطوّر المهارات.. ونمكّن شباب عُمان Developing Vocational Skills.. Shaping Oman's Youth



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Water: From Precipitation to Sustainability	Ministry of Agriculture, Fisheries and Water Resources / Dams Department	Visitors explore modern technology in dam operation and water management through a model simulating flow and storage levels. They try smart sensing and monitoring systems to inform decisions, discovering how these technologies support rainwater use and more efficient management of water resources.	+6	5
Subsurface Resources	Great Wall Drilling Company (Oman)	Visitors explore oil and gas exploration and extraction through simulations of rock layers, drilling and access to reservoirs, learning how sensors and data help locate resources. They also investigate renewable technologies such as solar and wind power and their roles in clean energy, energy diversification and efficient, sustainable resource use.	+8	5
Mineral Expert	Sultan Qaboos University (SQU) / College of Science	Visitors examine mineral samples directly and under a microscope, then tackle identification challenges using colour, properties and available clues. Difficulty varies to suit different ages, while the experience introduces mineral uses and their significance as natural resources.	+6	5





Cybersecurity

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Digital Watermarks for Image Copyright Protection	University of Technology and Applied Sciences (UTAS) / Ibri	Visitors discover digital watermarking and its role in protecting images and media against theft or manipulation. After an introduction to ownership rights, they embed an invisible watermark in an image without changing its visual quality, then extract it to check ownership or detect modification.	10–23	30
Is Your File Safe? Discovering Cyber Attacks	University of Technology and Applied Sciences (UTAS) / Nizwa	Visitors investigate suspicious files and emails and learn how to identify potential cyberattacks before becoming victims. They discover ransomware and phishing, analyse messages and files for safety, and observe scanning methods. Warning signs and good practices support safer use of email and digital files.	+15	15
Digital Security Fortress	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore the human side of cybersecurity and how curiosity, trust and rushed decisions can be exploited. Hands-on tools, short challenges and electronic simulations support learning through play and practice. Two main stations offer an educational game and a practical challenge addressing the same topic.	6–21	10
Cybercrime Investigation Laboratory	Global College of Engineering and Technology (GCET)	Visitors explore cybersecurity, computer science, artificial intelligence and business computing through simple practical activities based on realistic scenarios in a safe, age-appropriate educational setting. The experience develops analytical thinking, problem-solving, teamwork and decision-making.	+12	30
Digital Analysis and Investigation Centre	Tatweer Cyber Security	Visitors become digital-forensics investigators in a simulated breach. They examine files, logs and metadata to establish how the incident happened and identify the responsible party. The station introduces evidence collection and analysis and concludes with a short report of the investigation's findings.	10–23	30



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Attack and Defence Laboratory	Tatweer Cyber Security	Visitors join either a red team attempting to breach a virtual system or a blue team detecting and responding through a dedicated dashboard. The simulation introduces cybersecurity operations, attack and defence, teamwork under pressure and rapid decision-making when facing threats.	10–23	30
"Spot the Scammer" Workshop	Tatweer Cyber Security	Visitors explore common fraud and social-engineering methods, including phishing emails, scam calls and fake links. Presentations, realistic scenarios and open discussion help them recognise warning signs and practise appropriate responses. The workshop features a different topic each day and presents accessible guidance for different visitors.	10–23	30
Cyber Escape Room	Tatweer Cyber Security	Visitors work in teams against the clock to solve digital and paper-based cybersecurity puzzles. Decoding, identifying vulnerabilities and analysing evidence help them complete the escape challenge before time runs out. The experience combines learning with critical thinking, problem-solving and teamwork under pressure.	10–23	30





Education and Digital Transformation

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
4D Frame Workshop and Watermill	4D FRAME	Visitors assemble two- and three-dimensional structures and representations of four-dimensional shapes using frames and flexible connectors. They also build a watermill model to explore how the energy of flowing water produces movement, developing spatial awareness and problem-solving skills.	6–18	20
Technical Experiences Platform	Basmat Fakhama Company	Visitors use virtual reality to enter three-dimensional digital environments and explore applications in science, medicine, education, smart cities and space. Virtual games and challenges encourage creative thinking and awareness of modern technologies and future skills.	+5	10
Educational Future Gateway	Knowledge Grid Academy	Visitors explore the transition from traditional to digital education through learning platforms, artificial intelligence, virtual reality, holograms and vocational education. A future school simulation and digital competitions demonstrate how technology supports educational development and future skills.	+5	30
The Secret Chemist	Al Sharqiyah University	Visitors investigate an unknown chemical compound through stations on symbols, reactions, properties and molecular construction. They gather clues and combine the evidence to determine the compound's chemical structure in a science-based puzzle game.	15–18	25
Interactive Chemistry Experiments	University of Technology and Applied Sciences (UTAS) / Al Musanaa	Visitors watch chemistry demonstrations involving colour changes, oxidation-reduction reactions and precipitation. The interactive displays also explore how chemical conditions and pH affect reactions.	9–17	30



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Photovoltaic Energy System	Shams Ad-Dhahirah Generating Company	Visitors explore electricity generation through a simulated photovoltaic system, discovering its components, operation and factors affecting performance and efficiency. Practical activities involve monitoring the system and its electricity output, investigating common operating faults and learning how they can be addressed.	+12	10
Green Mosques Laboratory	Al-Seeb Public Endowment Foundation	Visitors explore sustainability in mosques through solar-powered lighting and facilities. After an introduction to clean energy and reduced electricity consumption, they assemble a miniature mosque with solar panels and operate its electrical components. Interactive stations allow them to test different loads and observe the effect of solar power in reducing consumption, while a calculation station demonstrates potential energy savings and emission reductions from renewable energy.	+10	5

A network diagram consisting of numerous circular nodes connected by thin grey lines. The nodes are color-coded: yellow, blue, green, red, and purple. Each node contains a white icon representing a specific field or concept. For example, yellow nodes feature icons of a laptop, a lightbulb, and a gear; blue nodes show a lightbulb, a gear, and a lightbulb; green nodes include a lightbulb, a gear, and a lightbulb; red nodes display a lightbulb, a gear, and a lightbulb; and purple nodes show a lightbulb, a gear, and a lightbulb. The overall structure is a complex web of interconnected ideas.



Climate Change

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Purifying Industrial Gases with Green Nano Filters	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors investigate air pollution through a challenge beginning with simulated contamination measured by a digital air-quality sensor. Air then passes through a filtering membrane made with pomegranate-peel extract and zinc oxide nanoparticles. A second measurement allows comparison with the initial readings, showing how the material's pollution-reducing performance can be tested. The experiment introduces sustainable environmental solutions and encourages climate awareness and innovation.	12–25	10
Planet Earth: Between Global Warming and Sustainability	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors examine a large globe made of two adjoining halves mounted on a base. Constructed from lightweight materials such as foam, compressed cardboard, plastic or 3D-printed components, the model offers a visual introduction to climate change and its effects on Earth and the environment.	7–15	15
Virtual Reality Simulation of Ecosystems	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors take a virtual-reality journey through time, beginning in a healthy ecosystem and then observing the effects of pollution and carbon emissions, including rising temperatures, melting ice and biodiversity loss. The journey concludes with sustainable solutions for restoring ecological balance, encouraging awareness of climate action and planetary protection.	10–18	10
Biodiversity Facing Climate Change	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors move through five stations representing bacteria, protists, fungi, plants and animals. Realistic models and enlarged three-dimensional representations of microorganisms accompany interactive activities showing how these groups contribute to ecosystems and how climate change affects them.	8–18	20
Renewable Energy Race	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors race miniature cars powered by solar cells, using sunlight or powerful lamps to convert light energy into movement. The race provides a practical introduction to renewable energy and highlights the importance of clean energy sources in responding to climate change.	10–18	20



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
A Seedling for a Green Future	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors practise planting seeds and seedlings to explore how vegetation absorbs carbon dioxide and helps reduce climate impacts. They discover how plants cool the air, protect soil and support biodiversity, connecting these benefits with Oman's efforts towards carbon neutrality and sustainability.	6–18	15
Sustainable City of the Future: Green Footprint	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors transform a polluted model city into a green, clean one using guided colouring and environmental stickers. They explore sustainability and environmentally responsible choices through an artistic activity. Those earning the title "Environment Protector" are celebrated with an interactive photo opportunity featuring backgrounds and props made from recycled materials, reinforcing messages about sustainability and reuse.	5–18	15
Green Minds	Green Minds	Visitors join challenges, competitions and practical games exploring everyday environmental issues such as waste management and efficient resource use. They practise making environmentally responsible decisions and solving problems linked to protecting natural resources, strengthening environmental awareness and sustainable behaviour.	12–30	20
Explore Climate and Sustainability	National University of Science and Technology	Visitors take on an interactive smart city-building challenge, designing a sustainable city and selecting innovative solutions in energy, transport and resource management. They discover how to balance urban development with environmental preservation.	+12	10
Our Planet Is Changing	National University of Science and Technology	Visitors explore climate change through interactive models and experiments, observing changes in temperatures and weather patterns and exploring the causes and effects of this phenomenon in a fun and accessible way. The experiments help them understand the role of human activities in climate change and explore solutions that can reduce its impacts and protect the environment.	+7	10





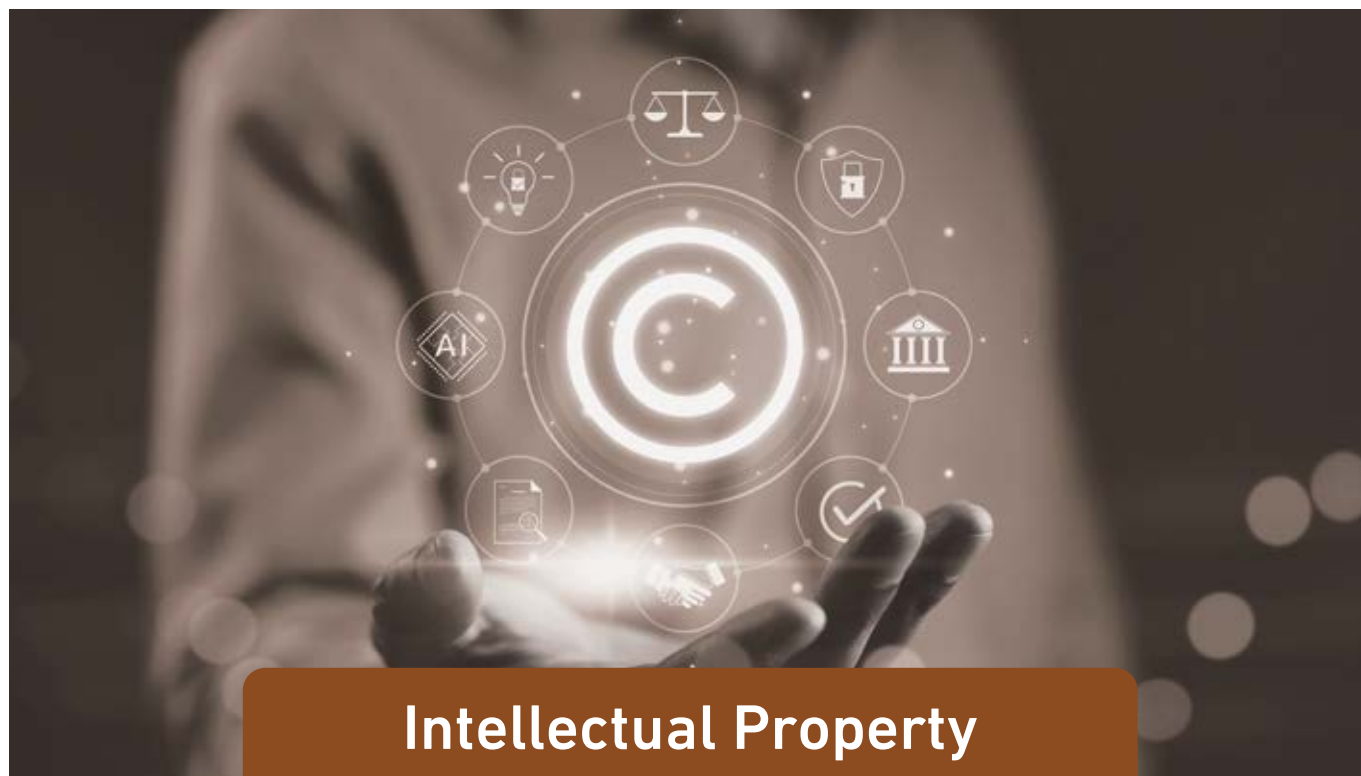
Environmental Sustainability and Urban Planning

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
How Can We Make Soil Stronger?	University of Technology and Applied Sciences (UTAS) / Muscat	Visitors explore soil properties and the role of silica fume in improving performance. They begin with a compaction test, pressing soil to observe how reducing gaps between particles affects its strength while taking measurements of density and weight. Then they compare different samples and try to identify the strongest. A final consistency-limit test introduces soil behaviour in liquid, plastic and solid states. Together, these practical activities make basic soil-engineering concepts more accessible and help visitors understand how soil behaves through observation, comparison and hands-on exploration.	+10	5
Green Breaths	University of Technology and Applied Sciences (UTAS) / Ibri	Visitors explore air pollution and its effects on the environment and human health through practical activities featuring air-purifying plants. They discover the plants' properties and their role in improving environmental quality, then learn about an oxygen analyser and how it measures oxygen levels in the air. The experience encourages environmental awareness, interest in planting and positive habits that help reduce pollution and protect health and the environment.	+7	5
Urban Comfort in Muscat	Sultan Qaboos University (SQU) / College of Art and Social Sciences	Visitors explore urban comfort and how surrounding conditions affect people, using geospatial intelligence and remote sensing. Real thermal maps of Muscat show the influence of heat, vegetation, air quality, building density and urban services. Visitors then interact with a smart-city model, trying to improve comfort by adding green spaces and reducing heat stress and pollution. The experience highlights how environmental sustainability and intelligent urban planning can support healthier, more comfortable cities and a better quality of life.	+7	15



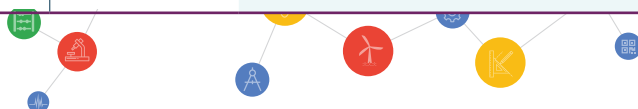
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Smart Solar-Powered Dam	Al Sharqiyah University	Visitors discover how smart technology and renewable energy support water management. They explore a smart-dam model featuring solar panels, water-level sensors and a control unit, then observe how water levels are monitored and gates open or close automatically as needed. The model also demonstrates how flowing water drives a turbine to generate energy. This practical experience connects environmental sustainability with efficient water management and the use of technology to address challenges such as flooding and water shortages.	+8	15
Green Solutions Factory	ECORA	Visitors enter an interactive city facing challenges involving climate, water, food and waste. Acting as solution-makers, they develop sustainable responses across four stations based on realistic situations. Simple models reveal how their decisions affect both the environment and society. The experience introduces sustainability, resource management and the circular economy while encouraging creative thinking and problem-solving through hands-on practical participation.	+7	10
The Sustainable Neighbourhood: A 3D Model	Global College of Engineering and Technology (GCET)	Visitors explore a three-dimensional model of a sustainable neighbourhood and discover how urban planning and design can improve quality of life and support sustainable transport. The display also highlights outdoor activities and public spaces suited to Oman's climate. Visitors investigate solutions involving waste recycling, renewable energy, water management and green infrastructure. Exploring these features connects sustainable practices with the aims of Oman Vision 2040 and the Oman National Spatial Strategy.	+5	15

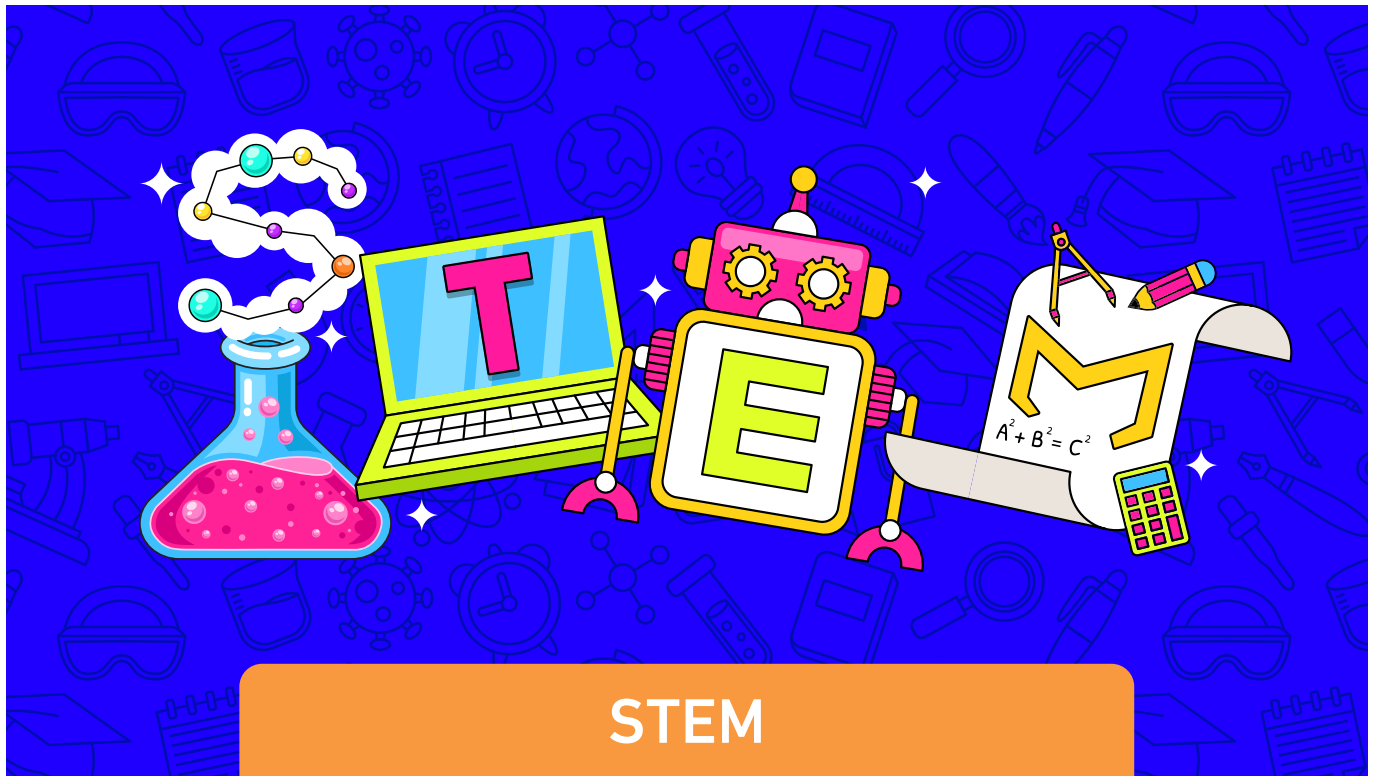




Intellectual Property

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Innovation Fortress	University of Technology and Applied Sciences (UTAS) / Al Musanaa	Visitors explore creativity and learn how ideas can be protected and developed into assets with intellectual and financial value. Practical activities and quick challenges involve recognizing trademarks, discovering patents and designing visual identities. Games and demonstrations introduce creators' rights, the formulation and legal protection of ideas, and their application in business and industry.	8–18	15
Intellectual Property Challenge	Al-Flayj School (Grades 1–12)	Visitors discover intellectual-property concepts and five related fields through two digital games. In "IP Drone Challenge", they pilot a virtual drone, collect coins and pass knowledge gates to unlock questions and tasks. In "Nebras Cases", they work through a case, solving questions, puzzles and challenges to earn points and rewards. At the end, participants receive a performance assessment and a personalised certificate.	+15	5
Intellectual Property Legal Clinic	Al Sharqiyah University	Visitors will take part in an interactive experience simulating a legal clinic, discussing innovative ideas and legal scenarios with specialists. They will learn about inventors' rights and why protecting an innovation before presenting or marketing it matters, distinguish between patents, trademarks, copyright and industrial designs, and identify the right form of protection for each case. Visitors will also discover common mistakes that can lead to ideas being exploited, and the first steps to document them and secure their rights, building awareness of intellectual property and encouraging responsible innovation.	+7	10
From Idea to Intellectual Property	The Omani Association for Intellectual Property	Visitors will explore the concept of intellectual property and its role in protecting ideas and innovations, taking part in hands-on activities that help them distinguish between patents, trademarks, copyright and industrial designs. They will also learn the steps for turning a creative idea into an entrepreneurial project ready for development and investment, raising awareness of innovators' rights, building creative thinking, and linking innovation with entrepreneurship.	+7	10





Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
The Science and Mathematics Challenge	Ministry of Education	Visitors will take part in quick rounds of simplified multiple-choice questions in science and mathematics, presented on tablets. They will accumulate points with each correct answer, fuelling a spirit of positive competition and encouraging a love of continuous learning.	+12	15
The Knowledge Wheel	Ministry of Education	Visitors will spin a wheel divided into three categories, Science, Mathematics and General TIMSS Knowledge then answer a question linked to whichever category the wheel lands on, in an experience that blends excitement with learning and nurtures a spirit of positive challenge.	+12	15
Puzzle and Reasoning Lab	Ministry of Education	Visitors will explore the TIMSS reasoning skills through short puzzle cards inspired by the assessment, which can be solved individually or collaboratively developing logical thinking and strengthening the spirit of teamwork.	+12	30
A Journey into the World of TIMSS	Ministry of Education	Visitors will watch a simplified two-minute visual presentation entitled "What is TIMSS?", produced with child-friendly language and graphics, introducing the study, its objectives and its significance. The presentation is displayed on a loop on the corner screen.	+12	2
Share Your Practice	Ministry of Education	Visitors will explore the three TIMSS cognitive domains Knowing, Applying and Reasoning through an informational brochure and selected past TIMSS questions categorised by grade and cognitive domain. Visiting teachers will also share their successful teaching ideas and strategies via a shared interactive board, enriching professional knowledge exchange and classroom practice. Visitors can use a QR code to download the full guide and question samples for use in teaching, training and exam preparation.	+12	15
The Family's Role in the TIMSS Journey	Ministry of Education	Visitors will learn about TIMSS and its importance through a simplified brochure explaining the family's role in supporting students at home in a positive, pressure-free way strengthening the family's partnership in the learning journey. Parents will also receive a guidance card with concise tips for supporting their children academically and emotionally during the international study, with a QR code for full content access. At the close of their visit, visitors will complete a short survey via QR code to measure how much they benefited from the corner's activities and reflect on their next steps in supporting science and mathematics learning.	+12	15

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
The Wonderful Steam Boat	Ministry of Education	Visitors will watch a small boat glide across the water with no motor or battery, powered entirely by heating water inside fine tubes. The experience begins with a key question: what made the boat move? Visitors will then observe the effects of heat, steam formation and water motion, arriving at a clear and engaging explanation of how thermal energy converts into kinetic energy.	+6	7
The Tornado in a Bottle	Ministry of Education	Visitors will experience a simulation of vortex formation, watching water spiral inside a bottle in a motion that resembles a tornado. The activity begins with the question: can you create a tornado inside a bottle? Visitors will spin the water themselves, observe the resulting vortex, and discover in a simplified way how fluid motion, rotation and pressure give rise to natural phenomena.	+5	5
The Magical Magnetic Liquid	Ministry of Education	Visitors will watch a liquid change shape and move without being touched when a magnet is brought near it, a scene that sparks curiosity about the invisible force at work. Visitors will shift the magnet and observe how the liquid responds and moves, then explore the concept of magnetic fields, the properties of magnetically responsive materials, and their modern technological applications.	+7	5
The Magic Box	Ministry of Education	Visitors will take on a challenge that seems impossible: can a light bulb glow without any wires? They will approach the mysterious box, try it themselves, and be surprised to see the bulb light up with no direct electrical connection. The experience encourages observation, questioning and reasoning, culminating in a reveal of the scientific secret, a short activity that blends wonder, exploration and scientific thinking.	+8	5
The Single-Sheet Bridge	Ministry of Education	Visitors will challenge their expectations about the strength of paper by transforming a single sheet into a bridge capable of bearing increasing weights. They will test different folding shapes, compare load-bearing capacities, and discover that structural strength depends not only on the material but on how it is shaped and engineered, a hands-on application of the concepts of force, stability and load distribution.	+6	7
The Tower That Would Not Fall	Ministry of Education	Visitors will test models of towers and structures on a vibrating platform that simulates an earthquake, beginning with the question: which design will survive the quake? They will observe the effect of base shape, supports and mass distribution on structural stability, make simple modifications and re-test their designs, gaining a practical understanding of the engineering principles used to build earthquake-resistant structures.	+7	8
The Air-Powered Rocket	Ministry of Education	Visitors will launch a small rocket model powered entirely by compressed air and observe the relationship between thrust force and the distance travelled. The activity opens with the question: how does a rocket launch without an engine? Through hands-on experimentation, visitors will discover Newton's third law of motion and explore how pressure and aerodynamic design affect the movement of objects.	+6	6
The Safe Landing Challenge	Ministry of Education	Visitors will tackle an engineering challenge: protect a fragile object when dropped from a set height. Using lightweight materials, they will design a landing device (such as a parachute or protective frame), test it and refine it. The experience demonstrates in a practical way the effects of air resistance, force distribution and shock absorption, showing how engineers use design to protect objects during a fall.	+7	10
The Magic Cards	Ministry of Education	Visitors will choose a number in their minds without revealing it, then identify which cards - each bearing many numbers - contain their chosen number. After a few simple answers, they will be astonished to have their number revealed without ever saying it aloud. The experience raises the question: how was it known? Visitors will discover that what appeared to be magic conceals a clever mathematical pattern, in a challenge that combines wonder, logic and the joy of uncovering the secrets of numbers.	+7	4
Tangram Challenge	Ministry of Education	Visitors will use seven geometric pieces to form various shapes and figures without adding or removing any piece. The challenge begins with a target shape to be reconstructed within a set time, then progresses to more complex forms. The activity draws on concepts of shapes, area and geometric transformations, developing spatial awareness and the ability to analyse and reconstruct composite figures.	+5	7



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
The Giant Sheet of Paper	Ministry of Education	Visitors will take on a mathematical challenge using only a single A4 sheet and scissors, discovering how to transform a small piece of paper into a loop large enough to step through without adding any extra material. The experience relies on a carefully planned sequence of folds and cuts, inviting visitors to predict the outcome before carrying it out and then discover how geometric patterns can dramatically transform the dimensions of a shape.	+7	6
The Puzzling Sticks	Ministry of Education	Visitors will be given six equal-length sticks and challenged to form four equilateral triangles using all of them without breaking any stick. The challenge pushes visitors to try different geometric solutions and make the leap from flat two-dimensional thinking to exploring three dimensions in order to reach the answer, presenting a mathematical concept that unites geometry, spatial visualisation and thinking outside the box.	+8	5
The Fruit Piano	Ministry of Education	Visitors will transform pieces of fruit into the keys of a musical instrument using an electronic board, discovering that touching each piece produces a different sound. The activity opens with the question: how did fruit become part of an electronic circuit? Through experimentation, visitors will explore electrical conductivity, circuits and digital signals, and discover how technology can turn everyday objects into innovative interactive tools.	+5	6
The Hand That Moves Without Touching	Ministry of Education	Visitors will watch a robotic hand respond to the approach of their own hand without any physical contact, then test it themselves by varying the distance and observing the model's reaction. The activity raises the question: how did the machine know your hand was near? Visitors will discover the role of sensors in capturing information and converting it into motion commands, and explore their applications in robotics and intelligent systems.	+7	6
The Line-Following Robot	Ministry of Education	Visitors will watch a robot navigate a defined track and wonder: how does the robot know its path when it has no eyes? They will modify parts of the track and observe how the robot responds, then discover the role of sensors and programming in reading the environment, making decisions and executing movements, a simplified introduction to how intelligent robotic systems work.	+6	7
The Smart Light	Ministry of Education	Visitors will interact with a light that switches on automatically when the surrounding brightness drops and turns off when light returns. The experience begins with the question: how does the light know the room has gone dark? Visitors will adjust the light level around the sensor and observe the system's response in real time, then explore how a light sensor collects data to control the bulb, connecting this to smart lighting applications and energy efficiency.	+6	5



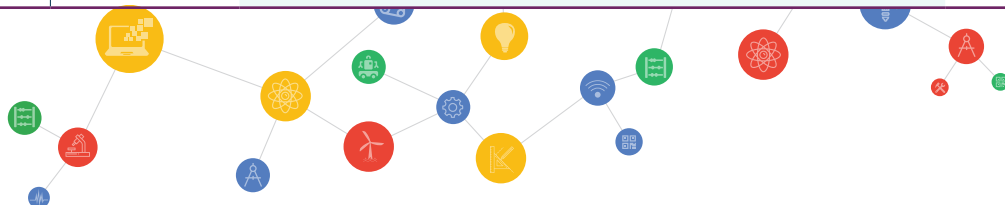
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Planetarium Dome	Petroleum Development Oman (PDO)	Visitors watch educational presentations about astronomy, stars, galaxies, comets and the Solar System. A range of optical and mechanical technologies simulates the complex movements of celestial bodies.	+5	7

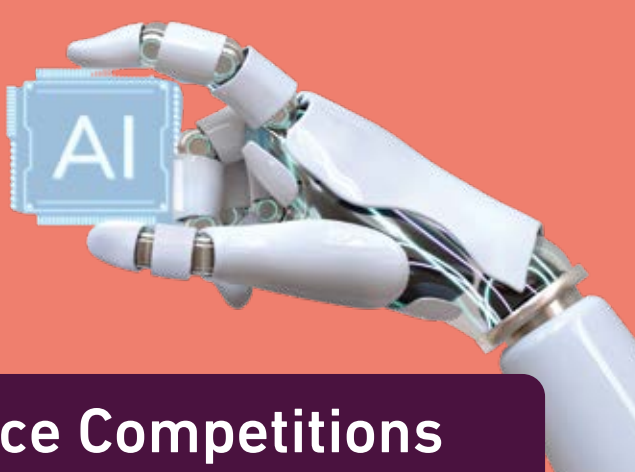


Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Cloud Chamber Experiment	Peaceful Nuclear Sciences and Technology Team	Visitors observe traces of subatomic particles invisible to the naked eye inside a cloud chamber, where fine tracks appear as charged particles pass through supercooled alcohol vapour. This provides a striking visual introduction to particle physics and radioactive decay.	+12	5
Discover Radiation Around You	Peaceful Nuclear Sciences and Technology Team	Visitors measure radiation levels in various natural material samples using a Mr .Gamma device, becoming familiar with the presence of natural background radiation in everyday surroundings. They also calculate their estimated annual natural radiation dose based on lifestyle and occupation, developing a better understanding of radiation exposure, its sources and associated risks.	+12	5
Geiger Counter Simulation	Peaceful Nuclear Sciences and Technology Team	Visitors use a simulated Geiger counter built with an ESP8266 to detect radiation pulses emitted during radioactive decay, discovering that radioactive decay is a random process. They also explore the concept of half-life for radioactive elements in an interactive and engaging way.	+12	5
Journey Inside a Nuclear Reactor Using Augmented Reality	Peaceful Nuclear Sciences and Technology Team	Visitors use a tablet application alongside A3-printed augmented reality sheets to explore the interior of a nuclear reactor through the tablet's camera, learning about its components and how it operates in an immersive and interactive experience.	+12	5
ANSTO Periodic Table Using Augmented Reality	Peaceful Nuclear Sciences and Technology Team	Visitors use a dedicated augmented reality application on a tablet with an A3-printed periodic table to identify radioactive elements and their positions in the periodic table and view three-dimensional representations of their atomic and chemical structures.	+12	5



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
From Atom to Application (AR Educational Apps with Practical Uses)	Peaceful Nuclear Sciences and Technology Team	Visitors explore augmented reality applications illustrating the electronic and chemical structures of atoms, their natural forms and the uses of various elements, including radioactive ones. They also discover educational resources on the peaceful uses of nuclear science and virtual reality content available on the International Atomic Energy Agency (IAEA) website.	+12	5
Peaceful Nuclear Sciences Competitions	Peaceful Nuclear Sciences and Technology Team	Visitors take part in interactive web-based competitions that provide immediate correction and feedback, with each question linked to a verified source. They gain knowledge in an engaging and educational way, including through a dedicated competition about the authorities responsible for overseeing the peaceful uses of nuclear science in the Sultanate of Oman.	+12	5
CROCUS Research Reactor Model	Peaceful Nuclear Sciences and Technology Team	Visitors learn about the low-power CROCUS experimental reactor as an example of a research reactor, exploring how nuclear research reactors operate in a simplified and interactive way. They discover the key components of a reactor, the principle of nuclear fission, how chain reactions are controlled and the role of research reactors in education, training and scientific research.	+15	7–10
Radiation Protection Experience	Peaceful Nuclear Sciences and Technology Team	Visitors learn the fundamental principles of reducing radiation exposure time, distance and shielding through a hands-on experiment. They see how reducing exposure time, increasing distance from the source and using appropriate shielding materials all contribute to lowering the radiation dose and protecting people.	+15	7–10
Nuclear Medicine Application	Peaceful Nuclear Sciences and Technology Team	Visitors explore the role of nuclear technologies in medicine and discover how radioactive materials are used in disease diagnosis and treatment. Through a simplified interactive experience, they learn about nuclear medicine imaging of body organs, the detection of diseases and tumours and the role of radiation in treatment and medical follow-up.	+15	5
The Omani Engineer: Discover the Hidden Defect	Peaceful Nuclear Sciences and Technology Team	Visitors will simulate the role of an industrial inspection engineer, examining three pipe models that appear to be in good condition from the outside using a scanner or simulation screen, then identifying which pipe contains an internal defect and deciding whether it is safe or requires maintenance. The experience demonstrates the role of radiographic imaging within non-destructive testing in detecting defects without damaging the material, and connects this to the safety of pipes and industrial facilities in the Sultanate of Oman.	+12	3–5
Nuclear Fuel Enrichment and Power Generation Efficiency	Peaceful Nuclear Sciences and Technology Team	Visitors will explore the importance of nuclear fuel enrichment in improving the efficiency of electricity generation from nuclear power. Through an interactive experience, they will examine models showing the difference between enriched and non-enriched fuel using differently coloured foam balls, then discover a model of a nuclear reactor core to understand the mechanism of nuclear fission and how it is harnessed to generate electricity.	+16	4–6





Artificial Intelligence Competitions

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
VEX 123	Digital MQR	Visitors take part in a competition designed especially for younger children, using touch controls and colour-coded cards to learn the fundamentals of logic and programming. They build simple programming sequences that encourage early computational thinking in a safe, fun and age-appropriate interactive environment.	4-5	15
VEX GO	Digital MQR	Visitors build interactive robots and programme them using coding blocks in a fun and straightforward way. The competition helps them transform abstract ideas into real, moving robotic models, testing their creativity and nurturing an interest in engineering and technology.	8-11	15
VEX IQ	Digital MQR	Visitors compete in small teams to solve advanced engineering challenges using robots they build and programme, navigating different competition courses each day. The competition develops teamwork and problem-solving skills under pressure, encouraging visitors to think like engineers and apply scientific and mathematical concepts in practice.	10-14	5
VEX EXP	Digital MQR	Visitors build advanced metal robots designed to solve real engineering challenges that require precision and a high level of skill. The competition places them in a competitive engineering environment where they apply scientific, mathematical and programming concepts directly on the playing field.	12-18	15
CTE Workcell	Digital MQR	Visitors explore an advanced six-axis robotic arm that simulates industrial automation systems and modern production lines with high precision. The activity helps prepare them for careers in technical fields by providing hands-on experience in programming and operating smart manufacturing applications in an interactive way.	+18	15
VEXcode VR	Digital MQR	Visitors explore a platform for programming a virtual robot directly from a web browser, with no software installation or complex setup required. The platform provides a safe environment to test algorithms and tackle diverse programming challenges in interactive three-dimensional virtual worlds.	+8	15
Horizon H2GP	Digital MQR	Visitors take part in a comprehensive programme that allows them to design, build and race cars powered by advanced hydrogen fuel cells. The programme provides hands-on learning about clean energy principles in a fun, competitive format that connects environmental sustainability with a spirit of adventure.	+6	15
Umety VR	Digital MQR	Visitors embark on immersive three-dimensional educational journeys that transport them to fascinating interactive virtual worlds exploring modern science and advanced technology. Using virtual reality headsets, they discover concepts related to energy and innovation under the guidance of a specialist team.	5-18	15

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Military and Security Technologies

Ministry of Defence

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Speed Challenge: Assembling SCUBA Diving Gear	Royal Navy of Oman	Visitors learn about essential diving equipment, its components and how it works through a simple explanation of parts like the air cylinder, pressure regulator, and safety gear. They then take part in a hands-on competitive challenge to assemble the equipment quickly and accurately, linking marine science with practical skills and professional safety.	12-18	20
Oil Spill Skimmer Device	Royal Navy of Oman	Visitors explore innovative solutions for tackling marine pollution by viewing a model of a remote-controlled boat fitted with oil-absorption and separation technology. They learn about the development stages of this local invention, how it is operated remotely, and its role in rapid response to protect marine life and natural resources.	+12	10
Journey to the Depths of Omani Seas	Royal Navy of Oman	Visitors discover the secrets of the marine environment and the depths of Oman's seas through an interactive scientific experience that simulates an exciting exploration journey. Using educational games and modern simulation technology, they experience virtual diving and control a marine vehicle, learning about key tools used in navigation and marine research.	+7	10
Mechanical Lifting Operation	Royal Navy of Oman	Visitors learn about ship-lifting systems used in dry docks and marine maintenance facilities by operating an interactive model and following the process of moving a ship from water to land. They gain a practical understanding of concepts such as centre of gravity, balance, load distribution and mechanical torque that ensure ship safety and stability.	+10	10
Bridge of a Kharif-Class Vessel	Royal Navy of Oman	Visitors explore the interior of a ship's bridge through an exciting virtual reality (VR) experience, immersing themselves in a realistic environment that replicates the helm, instrument panels, gauges, and sea-view windows.	+10	5
Sailor Experience Aboard Shabab Oman II	Royal Navy of Oman	Visitors explore the interior design of the military bridge aboard Shabab Oman II through an interactive virtual reality (VR) experience, allowing them to immerse themselves in the realistic environment of the helm, instrument panels, and gauges. They can interact with control buttons and gaze through windows overlooking the open sea.	+10	5
Nautical Chart Correction Challenge	Royal Navy of Oman	Visitors learn about the importance of nautical and electronic charts and their role in navigation safety through a simple explanation of how to read charts, interpret symbols and update chart data. They then take part in a practical challenge to make specific corrections using coordinates and approved symbols, developing focus and analytical skills in an interactive way.	+14	5



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Tide Gauge Device	Royal Navy of Oman	Visitors learn about the tides and how devices monitor changes in sea level through a working model consisting of an educational water tank that simulates rising and falling water while displaying readings in real time. They understand the importance of this data for maritime navigation, port management and ocean science education.	+7	10
Energy Generation Through Vibration	Royal Navy of Oman	Visitors explore the concept of energy harvesting and how mechanical vibrations and otherwise wasted kinetic energy can be converted into sustainable electrical energy through a live demonstration where the conversion process is shown directly using lighting indicators and real-time measurement screens. They learn about the piezoelectric effect and its innovative applications in ships and modern infrastructure.	+7	10
Marine Knots: Challenge and Art	Royal Navy of Oman	Visitors learn about traditional marine knots historically used by Omani sailors to secure ships and cargo through an explanation of fascinating physics concepts such as tension, friction, and force distribution. They then participate in a hands-on activity and quick knot-tying challenges, developing focus and engineering thinking in a way that connects science with national heritage.	+7	10
Reverse Engineering	Royal Army of Oman	Visitors learn about reverse engineering and the process of disassembling devices and software to understand their design through a hands-on activity using a three-dimensional scanner to convert parts into digital models and reproduce them using three-dimensional printers. They recognise the importance of this technology in development, innovation, cybersecurity, and specialist maintenance.	+10	15
Project Ghaith Drone	Royal Army of Oman	Visitors learn about the role of drones in saving lives and responding quickly to medical emergencies through a presentation of the Ghaith drone's mechanical design and smart GPS navigation systems. They understand how it is automatically directed to deliver medical supplies to remote areas and appreciate the importance of integrating artificial intelligence into crisis management and community service.	+8	10
Barq Digital Commander Platform	Royal Army of Oman	Visitors explore the next generation of smart workstations that integrate physical control of equipment with programming environments through an interactive interface featuring a high-resolution screen and an AI-powered assistant. They experience direct monitoring and dual control of digital design and manufacturing operations, including three-dimensional printers, CNC machines, and PCB assembly.	+9	10
Electricity Journey Model (From Power Station to Home)	Engineering Services	Visitors learn how electricity is generated, transmitted and distributed by viewing a model showing the path of electrical current from the power station all the way to the home. The demonstration covers the steps involved, different types of current and the conductive materials used throughout the process.	+13	10
Hydrogen Production	Engineering Services	Visitors learn how hydrogen is produced through electrolysis by observing how electricity is used to split water molecules into hydrogen and oxygen. They also take part in a hands-on experiment involving hydrogen combustion to understand its properties as a clean and sustainable energy source.	+12	15
Electricity Distribution Box Fire Suppression System	Engineering Services	Visitors learn about smart safety systems that protect electrical networks through a live simulation of smoke and heat sensors working inside distribution boxes. They see how the device automatically suppresses fires as soon as they start, using clean, non-conductive extinguishing gases and learn about the importance of sensing systems in preventing disasters and protecting infrastructure.	+10	10
How Do We Keep Aircraft Safe on the Ground?	Royal Air Force of Oman	Visitors learn about Foreign Object Debris (FOD) in aviation and the serious risks it poses to aircraft and personnel through an interactive experience exploring the modern technologies and devices used to detect and remove such objects. They understand the critical role FOD prevention plays in securing air operations and maintaining aircraft readiness.	+8	5
How Is Air Traffic Managed?	Royal Air Force of Oman	Visitors learn about the role of the air traffic control tower in regulating aircraft movement and ensuring safe take-off and landing operations through a simplified simulation of the aviation environment and air traffic management. They explore how approach radar works and the modern technologies used to guide aircraft and maintain safe flight paths with high precision.	+8	5

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
How Do Pilots Train to Handle Risks Before Flying?	Royal Air Force of Oman	Visitors learn about aviation medicine simulators used to train pilots and prepare them for potential challenges. Through an interactive experience, they explore how a spatial disorientation simulator and a low-pressure simulator work, understand the physiological effects on the human body during flight and discover the role these technologies play in enhancing air safety.	+8	5
Can You Fly a Fighter Jet?	Royal Air Force of Oman	Visitors explore the world of flight simulation and how modern simulators are used to train pilots. They experience an interactive virtual simulation of flying a fighter jet, learning the basics of flight and aerial manoeuvring in a safe, realistic, and thrilling environment.	+8	5
How Do You Detect Invisible Materials?	Royal Air Force of Oman	Visitors learn about chemical and radiological detection devices and how they work through an interactive experience exploring their role in detecting hazardous materials and enhancing safety and protection measures. This is presented through a clear and direct demonstration of the advanced technologies used in environmental and security monitoring.	+8	5
What Does a Pilot Wear When Flying?	Royal Air Force of Oman	Visitors learn about the military pilot's helmet and its key components through an interactive experience exploring the digital technologies integrated into it, such as helmet-mounted display systems, head-tracking, and night vision. They understand its vital role in improving communication, protecting the eyes from lasers, and enhancing pilot efficiency and safety during missions.	+8	5
How Do Paratroopers Jump Safely from the Sky?	Royal Air Force of Oman	Visitors learn about the essential equipment used by paratroopers during jumps using virtual reality (VR), and explore parachute parts and how they work from deployment to landing. The interactive experience provides a simple explanation of safety principles and the physical and mechanical technologies used to ensure a safe landing.	+8	5
Precision Measurement Makes the Difference	Royal Air Force of Oman	Visitors learn about calibration and its vital importance in improving the performance of measurement devices across physical, medical, and electronic fields. Through interactive introductory workshops, they practice calibrating electrical devices and communication systems and explore the role of calibration in verifying the performance of radiation equipment to ensure accurate medical diagnosis and protect human health.	+8	5
Journey Through the Geospatial World	National Survey and Geospatial Information Authority	Visitors learn how Continuously Operating Reference Stations (CORS) networks work and their role in enhancing the accuracy of surveying and positioning operations through a virtual tour that demonstrates how data flows from satellites to users. A three-dimensional display showcases the latest geospatial technologies such as drone systems, mobile mapping, and the production of point clouds and digital maps.	+10	10
The Paper 3D Explorer	National Survey and Geospatial Information Authority	Visitors explore geographical locations, three-dimensional models, and prominent national landmarks through an enjoyable visual experience using anaglyph glasses. Images and video clips designed using Anaglyph 3D technology are displayed, providing a realistic sense of depth and three-dimensional perspective.	+10	10
Discover Oman Piece by Piece	National Survey and Geospatial Information Authority	Visitors learn about the geography of the Sultanate of Oman, its governorates, and key landmarks through an interactive game that involves assembling a giant A0-sized map and placing its pieces in the correct locations. They then scan a QR code that reveals an official three-dimensional model of Oman's map, developing spatial thinking and teamwork skills.	+5	15
Aerial Survey and Digital Mapping Simulator	National Survey and Geospatial Information Authority	Visitors learn about the stages of producing aerial maps using drones through an educational simulation and a comprehensive hands-on experience. They follow the workflow from flight mission planning and data collection, through the use of ground control points and image processing, to producing an orthomosaic map and understanding the components of a geospatial map in detail.	+5	15
Global Navigation Satellite System (GNSS)	National Survey and Geospatial Information Authority	Visitors learn about the Global Navigation Satellite System (GNSS) and its importance in positioning, surveying and smart mapping applications. Through an interactive workshop, they explore the basic principles of systems such as GPS and GLONASS, how signals are received and how locations are accurately calculated. They also learn about the factors affecting measurement accuracy and applications in engineering, transport and smart agriculture.	+10	20



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Earth Observation Centre	National Survey and Geospatial Information Authority	Visitors learn about the role of the Earth Observation Centre in collecting and analysing remote sensing data to support decision-making through a workshop covering how satellite images are received and processed, and the latest technologies used to monitor environmental changes, urban planning, and disaster management. They understand how geospatial data is analysed to produce accurate spatial information that supports sustainable development.	+10	20
National Continuously Operating Reference Network	National Survey and Geospatial Information Authority	Visitors learn about the Continuously Operating Reference Station (CORS) network and its role in providing high-accuracy positioning services using GNSS satellite technologies. Through a workshop covering how stations correct measurement errors and improve coordinate accuracy using Real-Time Kinematic (RTK) positioning, they learn about its practical applications in surveying, engineering, infrastructure management, and national projects.	+10	20
Water Quality Monitoring System	Military Technological College	Visitors learn how to assess water suitability and quality through a safe interactive station where they test different water samples using advanced digital sensors to measure turbidity, pH, and Total Dissolved Solids (TDS). They compare the real-time readings displayed on screen and classify the samples in a way that connects science with environmental protection and everyday life.	+8	10
Nature-Inspired Drone	Military Technological College	Visitors learn about the concept of biomimicry and how the movement of birds and insects has inspired the design of drones through an interactive screen simulation. They control wing angles and speed to complete a short flight, learning about the direct relationship between wing shape, balance, and the ability to fly and manoeuvre in modern aviation technologies.	+10	10
Fully Autonomous Fixed-Wing Aircraft Design	Military Technological College	Visitors learn about autonomous flight and its modern technologies through an interactive display of a fixed-wing aircraft operating via an autopilot system without human intervention. They draw and plan a simple route on a digital map using waypoints and watch the aircraft simulation follow the route and make automatic corrections using GPS and smart sensors.	+12	10
Mudar Project (Composting)	Military Technological College	Visitors learn how food waste can be recycled and turned into organic fertiliser for soil through a comprehensive interactive system. They add food waste samples and observe the different stages of decomposition in sequential containers, seeing the role of microorganisms and moisture in the process, and understanding how to reduce waste, protect the environment, and produce a natural alternative to chemical fertilisers.	+7	5
Life-Saving Device	Military Technological College	Visitors learn about smart safety systems and Internet of Things (IOT) applications for child protection through an interactive simulation model of a school bus environment, exploring how the system responds when a passenger is trapped. They learn about the principles of data monitoring and analysis and how instant audio alerts and SMS messages are sent in emergencies, highlighting the importance of innovative solutions in enhancing school security standards.	+7	10
Sustainable Composite Material for Drone Structures	Military Technological College	Visitors learn about advanced materials engineering and sustainable aviation applications by testing models of lightweight composite materials made from natural fibres used to build drone frames. They compare the properties of these innovative fibres with traditional glass fibres through hands-on testing, learning about principles of material dynamics, stress resistance, cost-reduction techniques, and environmental impact.	+12	10
The Sectioned Engine	Military Technological College	Visitors learn about the principles of mechanical engineering and internal combustion engines by rotating an interactive model of a sectioned petrol engine and following the synchronised movement of its dynamic parts. They explore the movement of pistons, valves, and the crankshaft to understand petrol engine cycles, heat energy conversion, and how the fuel, ignition, and lubrication systems work together to produce mechanical motion.	+12	10
Electronic Fuel Injection Control Panel	Military Technological College	Visitors learn about automation engineering and electronic control systems in industrial machinery by interacting directly with a digital control panel designed to manage and pump petrol. They start and stop the system and adjust flow settings to gain a practical understanding of data processing principles, hydraulic pump operation and how to read key indicators on digital screens.	+12	10

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Jet Aircraft Engine	Military Technological College	Visitors learn about aerodynamics and aviation engineering by operating an interactive educational model that simulates a jet engine and directly observing the sequence of mechanical operations inside it. They trace the path of air from intake and compression through combustion to the expulsion of exhaust gases, understanding Newton's third law of motion and how thrust is generated to propel aircraft.	+12	10
Virtual Reality Chair	Military Technological College	Visitors learn about immersive simulation technologies and the new generation of digital education through a comprehensive interactive experience using a virtual-reality (VR) chair and three-dimensional learning environment. They are transported to realistic scientific environments where the chair's physical movement is synchronised with the visual scenes, understanding spatial orientation principles, instantaneous motor response, and how digital technology transforms complex theories into tangible experiences.	+12	10

Royal Oman Police

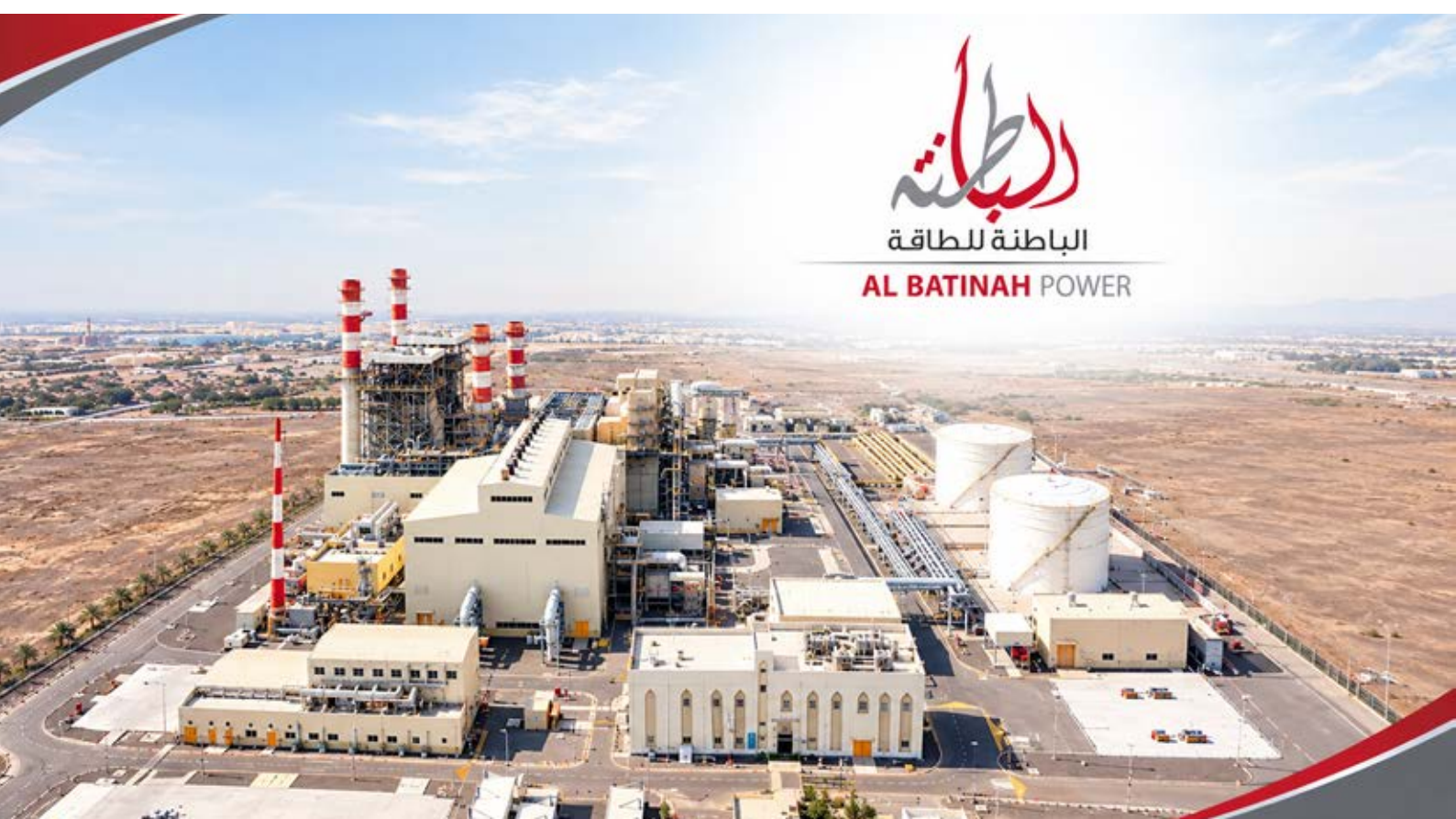
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
AI-Based Traffic Violation Detection System	Royal Oman Police	Visitors learn about the smart systems and devices used to automatically detect traffic violations through an illustrative model and interactive screen displaying all components of the system. They observe how artificial intelligence detects speeding, running red lights, mobile phone use, and failure to wear a seat belt, understanding the role of modern technology in enhancing road safety and reducing accidents.	+10	10
Vehicle Simulators	Royal Oman Police	Visitors explore the latest approaches to smart training and assessment for obtaining a driving licence through advanced driving simulators based on Omani road environments across different governorates. They experience driving under simulated environmental conditions such as rain and fog, and practise avoiding hazards, understanding how to apply Oman's traffic law requirements and enhance road safety.	+10	10
Innovation and Smart Solutions Platform	Royal Oman Police	Visitors learn about key projects, initiatives, and research achievements through interactive displays including the AEGIS smart platform for safety management and emergency response, powered by artificial intelligence and the Internet of Things (IoT). They experience the Time Gate journey through historical stations in virtual reality, interact with a smart service robot, and design electronic projects in an IoT corner to develop their technical and creative skills.	+12	20
AEGIS Smart Platform	Royal Oman Police	Visitors learn about a smart operational platform that uses artificial intelligence, the Internet of Things (IoT), and predictive analytics to manage health, safety, security, and environmental risks. They see how the platform monitors data in real time, analyses risks, predicts potential incidents, and issues early alerts to support rapid response and decision-making in work environments.	+12	5
Using Virtual Reality to Transform Scenes into Real Experiences	Royal Oman Police	Visitors learn about important historical events in an exciting way that combines the past and present through virtual reality technologies and interactive digital media. They have an immersive experience that transforms the presentation of events from mere silent viewing into a realistic and educational journey that enhances understanding and engagement, suitable for all age groups.	+12	5

Royal Guard of Oman

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
FEA Force Analysis Simulation	Royal Guard of Oman Technical College	Visitors learn about Finite Element Analysis (FEA) technology used in engineering and manufacturing by running a digital simulation programme and applying different physical forces to computer-designed models. They gain a practical understanding of concepts of stress, strain, temperature distribution, and vibration that determine how safe and durable products are in the real world without needing to build physical prototypes.	+15	10
Engineering Drawing Using Hand and Computer	Royal Guard of Oman Technical College	Visitors experience a comprehensive journey simulating the lifecycle of an engineering product through three successive technical stations: they begin with freehand engineering drawing to learn the principles of projection and measurement, then move to Computer-Aided Design (CAD) to build digital models and understand assembly and range of motion, and finally progress to physical production using three-dimensional printers and CNC machining.	+10	10
Watching Chemistry Experiments via Virtual Reality	Royal Guard of Oman Technical College	Visitors learn about digital simulation technologies in laboratory science through an interactive three-dimensional (3D) experience using virtual reality (VR) that transports them into a fully equipped chemistry laboratory. They observe and conduct various chemical reactions, gaining a practical and visual understanding of abstract chemical concepts and complex molecular bonds in a safe, interactive environment.	+7	5
Laser Engraving Machine	Royal Guard of Oman Technical College	Visitors learn about digital manufacturing and laser engraving technologies by operating a laser engraving machine and watching the high-energy beam create designs with extreme precision. They begin by designing their logo or name digitally, understanding principles of instant thermal vaporisation, optical focusing, and non-contact manufacturing, and end by receiving their own personalised souvenir.	+10	10
Smart Wheelchair for People with Disabilities	Royal Guard of Oman Technical College	Visitors learn about biomedical engineering technologies and artificial intelligence applications that support people with disabilities through a smart simulation system that tracks eye movement to control a wheelchair designed for people with severe motor disabilities. They guide the system using eye movements to practically understand digital image processing principles, real-time data analysis algorithms, and how to enhance user independence.	+10	10
Converting Used Cooking Oil into Biodiesel	Royal Guard of Oman Technical College	Visitors learn about environmental chemical engineering technologies and renewable energy solutions by tracing and simulating the stages of recycling used cooking oil and converting it into biodiesel. They explore the chemical reactions involved in producing clean alternative fuel, gaining a practical understanding of sustainability, reducing carbon emissions, and how the circular economy can transform waste into biofuel.	+10	10

Civil Defence and Ambulance Authority

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Introduction to the "Nidaa" App	Civil Defence and Ambulance Authority	Visitors take part in a live interactive experience where they learn the basics of first aid and how to act quickly and appropriately in emergency situations. The activity allows visitors to practise the most important life-saving steps, giving them the confidence and skills needed to provide initial support safely and effectively until emergency teams arrive.	+8	10
First Aid Activities	Civil Defence and Ambulance Authority	The Civil Defence and Ambulance Authority provides a visual presentation and hands-on demonstration to introduce the basics of first aid and the correct ways to respond to various emergency situations. This includes demonstrating the correct procedures and steps for dealing with injuries and medical emergencies, and giving visitors the opportunity to participate in practising them, helping develop proper response skills and enhancing their ability to provide assistance until specialist teams arrive.	+6	15
Virtual Rescue Simulation	Civil Defence and Ambulance Authority	Visitors learn about preventive safety technologies and smart firefighting systems through an immersive interactive experience using virtual reality (VR) that simulates fire emergencies in a safe digital environment. They practise evacuation procedures and virtually operate fire extinguishers, learning about fire control principles and how to respond appropriately to emergency hazards while reinforcing a culture of safety.	+6	5





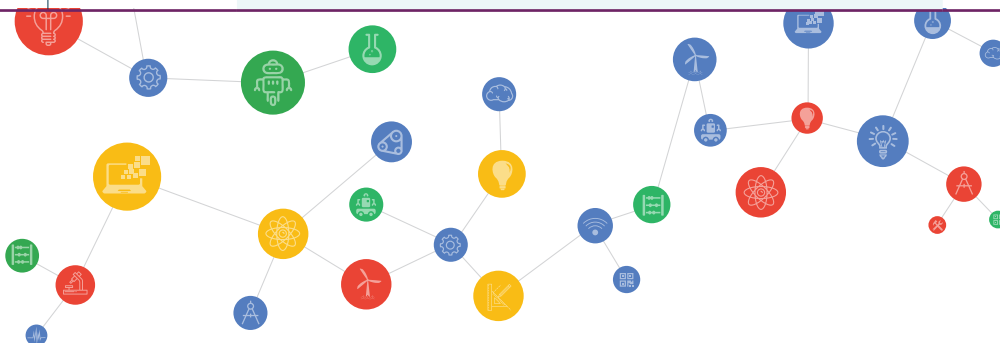
Bridges of Science

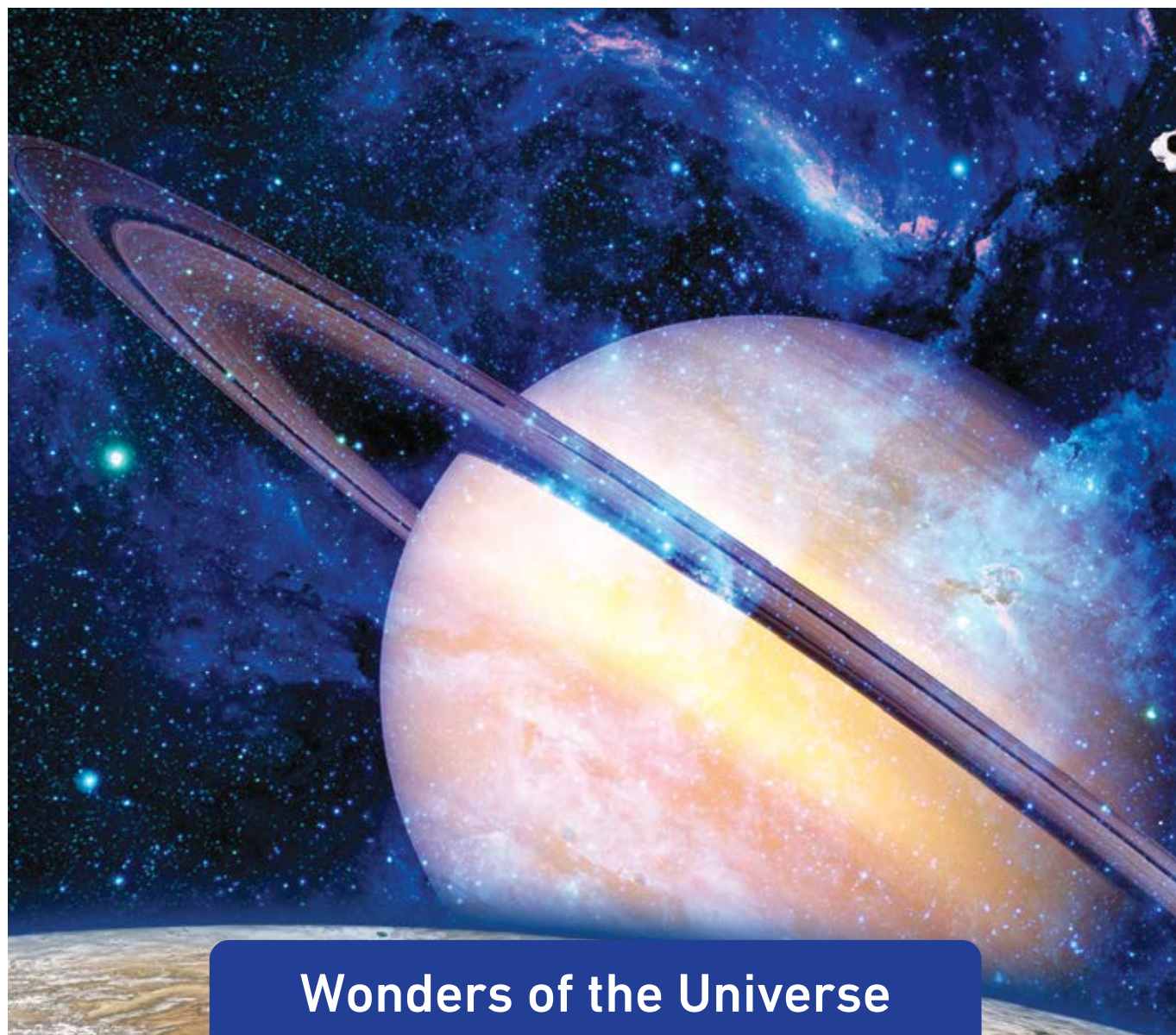
Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Water Music Laboratory	PERMATA@Pintar UKM Malaysia	Visitors explore the concepts of sound, vibration, frequency and pitch in an interactive science workshop by striking glasses filled with different amounts of water, observing how the water level affects the tones produced and then using those tones to create simple musical melodies.	+7	20
Miniature Elephant Toothpaste	PERMATA@Pintar UKM Malaysia	Visitors take part in an interactive chemistry experiment demonstrating the decomposition of hydrogen peroxide into water and oxygen gas using yeast as a catalyst, producing rapidly rising foam. They discover the concepts of catalysts, chemical reactions, gas production and the release of thermal energy.	+7	15
Kinetic Mathematics Challenge	PERMATA@Pintar UKM Malaysia	Visitors take part in an interactive physical activity that blends thinking and movement by viewing a maths question on screen, solving the problem and then racing to stand on the correct answer on a floor board. The activity develops quick thinking and problem-solving skills in a fun and engaging way.	+7	5
The Art of Mathematical Tiling	PERMATA@Pintar UKM Malaysia	Visitors discover the concept of geometric tessellation by designing repeating patterns of shapes without gaps or overlaps. They explore geometric transformations — translation, rotation and reflection — combining geometry, symmetry and creativity to produce distinctive mathematical artworks.	+7	10
Digital Discovery Laboratory	PERMATA@Pintar UKM Malaysia	Visitors explore digital games developed by students of the PERMATA@Pintar Negara UKM Centre in an interactive space designed to introduce foundational concepts in computer science, nurture creativity and develop problem-solving skills. They also discover how technology can be harnessed to create enjoyable and meaningful learning experiences.	+7	10
Mixed Reality Experiences (SCOTSS) Build a Sustainable Colony on Mars & Assemble a Nano-satellite	Ellinogermaniki Agogi Academy / Greece	Visitors engage in two collaborative mixed-reality experiences from the SCOTSS project. In the Mars Colony Design activity, they work together to create a sustainable human settlement on Mars by balancing essential resources, environmental needs and engineering constraints. In the Nano-satellite Design activity, they assemble a CubeSat by selecting and integrating satellite subsystems to meet specific mission requirements.	+12	15–20

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
SEISMO-LabExplore an Educational SeismographDiscover How Earthquakes Are Detected	Ellinogermaniki Agogi Academy / Greece	Visitors explore how earthquakes are detected and measured using an educational seismograph developed within the SEISMO-Lab project. They interact with its main components and discover how ground motion is transformed into a measurable seismic signal ready for analysis.	+10	10
RQ LAB	RQ Science & Technology /UAE	Visitors take part in an interactive scientific experience that begins with an introduction to the laboratory environment and the concepts of acids and bases. They then choose from seven hands-on experiments, including examining cells under a microscope, testing everyday materials using litmus paper, measuring pH levels and observing colour changes using natural indicators such as turmeric and red cabbage. The activity simplifies scientific concepts and connects them to everyday life, developing observation and scientific thinking skills through a flexible approach suitable for visitors of all ages.	+7	10
VEX AIM Robot	RQ Science & Technology /UAE	Visitors discover the fundamentals of programming through a fun, interactive activity in which they control a VEX AIM robot and complete simple challenges. The experience develops logical thinking skills and brings computing concepts to life in a hands-on and engaging way.	+7	10
Exploring the ELEG00 Smart Robot Car	RQ Science & Technology /UAE	Visitors explore the ELEG00 Smart Robot Car Kit V4.0 through an interactive, hands-on demonstration, discovering the components of the robotic car and learning how to programme and operate it. The experience introduces robotics and programming concepts in a practical and accessible way.	+7	10
3D Printing Live Demonstration	RQ Science & Technology /UAE	Visitors watch a live 3D printing demonstration from start to finish, discovering the technologies behind digital manufacturing. At the end of the demonstration, they receive 3D-printed souvenirs.	+15	10
International Space Station Docking Simulation	RQ Science & Technology /UAE	Visitors experience a realistic, interactive simulation of the steps involved in docking with the International Space Station, facing technical challenges similar to those encountered by astronauts. The activity combines excitement with scientific and technological learning.	+15	10
Animal Taxonomy Workshop	Kuwait Foundation for the Advancement of Sciences (KFAS) / The Scientific Center of Kuwait	Visitors explore The Scientific Center's taxidermy collection in an interactive workshop on regional biodiversity and how scientists classify living organisms. The experience combines science, discovery and enjoyment.	+5	10–15
Sharks Workshop	Kuwait Foundation for the Advancement of Sciences (KFAS) / The Scientific Center of Kuwait	Visitors dive into the world of sharks through a hands-on, interactive workshop, exploring their extraordinary senses, the diversity of shark species and their role in marine ecosystems. The experience combines scientific knowledge with excitement.	+5	10–15
Cubelets	Kuwait Foundation for the Advancement of Sciences (KFAS) / Sabah Al-Ahmad Centre for Giftedness and Creativity (SACGC)	Visitors assemble modular robotic blocks to build a variety of robots with different functions. This hands-on experience develops engineering thinking, creativity and problem-solving skills in a fun and engaging way.	+6	15



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Junior Racer	Kuwait Foundation for the Advancement of Sciences (KFAS) / Sabah Al-Ahmad Centre for Giftedness and Creativity (SACGC)	Visitors explore aerodynamics by designing and assembling paper cars, then testing them in a wind tunnel. This interactive workshop connects physics and engineering with the excitement of scientific competition.	+8	15
Math MRI Fraction Diagnosis	i-Scream Media / South Korea	Visitors solve fraction problems by writing their solutions by hand on a tablet, while AI instantly analyses their working. The system identifies correct answers that may not reflect genuine understanding and incorrect answers reached through appropriate methods. It also tracks self-corrections and hesitation time and explores learners' confidence levels, revealing insights into the learning process that correct answers alone cannot provide.	+8	10
LumiTeach Live Demo	i-Scream Media / South Korea	Visitors step into a live LumiTeach classroom and experience how a standard lesson becomes an interactive, data-driven learning experience. They respond to quizzes, participate in discussions and complete drawing-board activities involving everyday fractions. They see the whole class's answers displayed live on screen before the lesson transforms into a game with a live leaderboard. At the end, they discover how AI identifies learners who need additional support and delivers personalised flashcards to help them improve.	+8	15
Kinderboard	i-Scream Media / South Korea	Visitors discover how Kinderboard transforms everyday classroom moments into ready-to-use educational documents. Teachers simply take photos of classroom activities, and the app automatically organises them by child and activity before generating observation reports, lesson plans and activity records with minimal manual effort.	Teachers	10
Future Creator Challenge	i-Scream Media / South Korea	Visitors explore creativity, science and innovation through digital drawing, using a tablet and stylus to take part in two interactive activities: 'Blooming Blobs' and 'Like Da Vinci'. Their completed creations are displayed in a digital gallery alongside other visitors' work, demonstrating how digital tools support STEAM learning, encourage creative expression and help transform ideas into shareable visual creations.	+6	10
Explore Muscat by Journeying with TrueTrue Robots	i-Scream Media / South Korea	Visitors explore a map of Muscat featuring historical and heritage sites, navigating between locations by programming and controlling TrueTrue robots using colour-coded cards or a dedicated app. The activity combines basic programming, logical thinking and local culture in an enjoyable, interactive experience.	+5	10





Wonders of the Universe

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
From Particle Physics to Gravitational Waves	CERN, ORIGIN, ALICE, ATLAS, CMS LHCb, FCC, AMS-02, LIGO, VIRGO, Einstein-telescope, LISA, KAGRA, IceCube	Visitors embark on an engaging scientific workshop that begins with an introduction to the origin of the universe and gravitational waves, followed by concise mini-lessons on particle physics. The journey concludes with an exciting interactive virtual visit to the depths of the cosmos.	+5	30
Dimensions of Particle Physics and How to Find Hidden Information		Visitors enjoy a captivating interactive experience designed especially for younger audiences, exploring the sizes and scales of particles in the universe in a simple and enjoyable way that sparks curiosity and enriches scientific knowledge.	10–12	30
Virtual Visit to CMS / Virgo / IceCube		Visitors embark on a live virtual journey to CMS, Virgo and IceCube, exploring their facilities, key components and operations through an up-close, real-time experience.	+5	60
The Universe in Your Hands		Visitors explore the wonders of the universe through a variety of interactive scientific activities and hands-on experiments, alongside artistic and creative experiences inspired by space, stars, planets and cosmic phenomena. The activity simplifies scientific concepts while encouraging exploration and creativity by combining science and art in an engaging and enjoyable way suitable for different age groups.	+5	15



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Shell Energy Corner	Shell Development Oman	Visitors embark on an interactive journey into the world of energy, innovation and engineering. They simulate seismic imaging through a jumping activity to explore what lies beneath the Earth's surface, race on a miniature track using saltwater-powered cars to learn about different energy sources and take on the 'Carbon Challenge' to understand the principles of carbon capture. They also examine rocks, sand and geological samples under a microscope in a mini laboratory. The experience makes Earth and energy sciences more accessible and inspires the next generation of scientists and engineers.	8-18	20



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Duqm Refinery Science Experience	OQ8 – Duqm Refinery	Visitors step into the Duqm Refinery pavilion for a short, entertaining science experience presented as a theatrical show in an interactive cinematic setting. They become part of the action and explore scientific concepts in an unconventional and engaging way.	5-18	5



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Reservoir Video Game	Oxy Oman	Visitors take on the role of a reservoir engineer, completing a series of tasks in an interactive video game before solving oil and gas puzzles to test their knowledge in a fun and engaging way.	+5	5
Digital Safety Hero	Oxy Oman	Visitors compete against a 'hacker' in an interactive game that raises awareness of digital safety. In each round, they race against the hacker to reach an unprotected device. Visitors advance by answering digital security questions correctly, while the hacker moves closer with every incorrect or delayed answer.	+6	5



الجمعية العمانية للطاقة Oman Energy Association

Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Engineering Maintenance Laboratory	Takatuf Petrofac Oman Institute	Visitors will carry out live electrical and mechanical connections and tests with their own hands, train on intelligent fault-detection and repair systems, wire PLC circuits, and disassemble and reassemble pumps and valves under safe technical supervision building practical hands-on skills in a realistic industrial environment.	+12	15
Mechanical Manufacturing Engineering Lab	Nizwa Academy Training and Development	Visitors will watch live practical demonstrations of precision engineering measurement tools and mechanical manufacturing models, observing how an industrial 3D printer and a miniature lathe produce components and spare parts in real time, and discovering the deep connection between modern manufacturing and the advanced industrial revolution.	+12	15
The Art of Welding and Metal Forming	Sohar Industrial Training Institute	Visitors will practise interactive welding under specialist supervision and explore innovative welding equipment, then discover ultrasonic testing technology used to detect welding defects inside metal blocks — a live workshop that develops precision and applied engineering skill.	+12	15
Lifting and Lowering Operations Simulation	Polyglot Institute	Visitors will operate a forklift simulator equipped with control panels and interactive screens that place them in a safe, realistic work environment, experiencing the operational and occupational safety skills required in modern warehouses and industrial facilities.	+12	15
Innovation in Hard Facility Maintenance	Safety Cooperation Services	Visitors will explore modern approaches to facility and industrial maintenance through advanced HVAC maintenance technology with a demonstration model, alongside an electrical training panel that explains wiring connections and inspection methods in a practical, accessible way.	+12	15
Occupational Health and Safety System	Oman Energy Association (OPAL)	Visitors will explore a comprehensive smart safety system featuring fire and gas detection sensors and alarm panels, and train through an interactive simulation platform on rapid emergency response scenarios in professional and industrial environments in accordance with the highest safety standards.	+12	15
Entrepreneurship and Digital Innovation Incubator	Majan Academy	Visitors will discover an e-learning programme designed for BTEC Business Management diploma students, harnessing artificial intelligence to track learning progress and provide diverse learning resources enabling learners to develop their skills and submit projects with ease and effectiveness.	+12	15
Modern Tourism and Innovative Hospitality Experience	Oman Tourism College	Visitors will explore the fields of tourism, hospitality and events through an interactive experience that harnesses modern technologies, allowing them to try sector-related applications and enjoy virtual reality experiences showcasing the tourist and heritage landmarks of the Sultanate of Oman.	+12	15
Professional Pathways and Capabilities Discovery Station	Oman Energy Association (OPAL) & Directorate General of Vocational and Technical Education	Visitors will analyse their interests and capabilities at a digital closing station, receiving personalised guidance towards the most suitable vocational or engineering specialisation in the Omani labour market, along with printed brochures on career opportunities and success stories in the field.	+12	15



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Stages of Poultry Production	A'Saffa Foods	Visitors will explore the farm and the different stages of poultry production in an interactive experience, then try their hand at cooking, linking each production stage to the food that reaches their table.	6-12	10



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
Cupcake Decorating Workshop	Atyab Food Industries	Visitors learn the basics of cupcake decorating in a creative and fun way, then decorate their own cupcakes using a variety of colours and toppings. The activity combines learning, creativity and enjoyment.	7-11	15



Activity Name	Organiser	Description	Age (Years)	Duration (Minutes)
AI-Powered Smart Glove: Sign Language to Speech	Al Sharqiyah University	Visitors discover a wearable smart glove designed to facilitate communication between sign-language users and people unfamiliar with sign language. Flexible sensors and an MPU6050 motion sensor capture hand and finger movements, while an ESP32 and Raspberry Pi 5 process the data to convert recognised signs into text and speech in near real time. The experience demonstrates how artificial intelligence can support human communication.	15-30	5



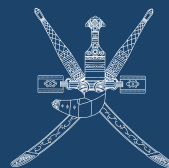








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