國立科學工藝博物館
NATIONAL SCIENCE AND TECHNOLOGY MUSEUM

2025新加坡親子科學營

Science Camp in Singapore for Parent-Child 2025

一、簡介

自2017年起，本館與新加坡科學中心、國立新加坡大學及藝術科學博物館等機構合作開發適合親子在新加坡共學及同歡的海外科學遊學營，讓遊學不再是走馬看花，本營隊將提供給您全家一個寓教於樂、拓展視野、享受美食及展望世界的優質營隊。本營隊安排學生在新加坡科學中心(Science Center Singapore, SCS)、國立新加坡大學(National Singapore University, NSU)、新加坡藝術科學博物館(Art Science Museum)全程以英語研習科學；並另安排適合家長及親子異國文化行程。

A science camp with edutainment for your beloved family to enjoy having a prospective vision of journey in Singapore. Students will be having science workshop with whole English while the parents would be separately arranged with leisure-based tour in Singapore.

二、日期：2025年8月3日至8月8日(6天5夜)

三、對象：一般家庭親子(國小以上學生為宜，具英語溝通能力者為佳)

四、人數：30人(預計家長10人、學生20人)

五、費用：家長早鳥優惠價55,000元/人(一般價58,000元)、學生早鳥優惠價65,000元/人 (一般價68,000元)

六、行程

	日期	活動內容	備註
1	Day-1 8/3(日)	出發 Departure -桃園國際機場集合(Assemble at Taoyuang Int'l airport) 預定航班 Scheduled Flight: PM：新加坡航空 SQ877 TPE 14：10-SIN 18：55 (最終航班由得標旅行社辦理 The final flight schedule is to be set up by the bidden travel agency)	國內交通自理 (Domestic transportation to be arranged by self)
2	8/4(一)	新加坡科學中心(Science Center Singapore, SCS) 學生(For Students)： 10：00-12：00 Course-1：DIGITAL FABRICATION WORKSHOP (數位構圖工作坊) 13：00-14：30 科學秀：特斯拉高壓放電(Tesla Coil Show)/火龍捲(Fire Tornado)	Reference of Science Course 1: DIGITAL FABRICATION WORKSHOP (數位構圖工作坊)-STEM – Tinker

		14：30-16：30 Course 2：FOOD SCIENCE WORKSHOP (食物科學工作坊) 家長(For Parents)： Free Tour at SCS including: 大人變小人(Small Adult)-雪城(Snow City，需自費)、太空劇場(Omni Theatre)/裕華園(Chinese Garden) 晚上： 親子同遊小印度(Little India)	CAD Course 2: FOOD SCIENCE WORKSHOP (食物科學工作坊)- I Scream for Ice-cream 晚餐: 海南雞餐
3	8/5(二)	1. 藝術科學博物館(Art Science Museum) 親子(For Families) 1.1 藝術科學館建築藝術 Architecture of Art Science Museum Tour 1.2 虛擬實境 VR Gallery Experience 1.3 精選工作坊 Selected workshop at Art Science Laboratory 1.3.1 科學火花 (Scientific Sparks) 1.3.2 創意實踐(Creative Constructs) 1.4 未來世界(Future World)- 2. 參觀雨之窗(Rain Oculus)-水漩窩(Water whirlpool)，活動現場動手做探究以下2項科學實驗: 2.1 DIY-1：進動實驗(Hands-on Experiment of Precession)-為何會有漩渦現象 2.2 DIY-2: 康達效應(Coanda Effect)-聲音如何繞圓弧狀物體前進 3. 晚上：遊河(River Cruise)-–雷射水霧秀(Laser Light Water Show)-超級大樹(Super Tree) 3.1 DIY-3 : 超級大樹的燈泡並聯(Parallel Connection of bulbs)	Reference Science Courese-3: Art Science Laboratory 科工館帶隊人員規劃現場動手做實驗 DIY1-DIY-3 (DIY-1 ~ DIY-3 would be designed and conducted by accompanied staffs of NSTM) 晚餐: 濱海灣美食街
4	8/6(三)	國立新加坡大學(National University of Singapore, NUS) 學生(For Students)： AM+PM Course 4：科學實作與示範實驗室 Science Demonstration Lab 家長(For Parents)： AM：參觀新加坡大學(Go Strolling at the camp of NUS) + PM： Capita Spring 空中花園+烏節路(Orchard Road) DIY-4 : 頌缽的發聲原理(Explore how the earthenware works)	Reference of Science Course 4: Science Demonstration Lab 科工館帶隊人員規劃現場動手做實驗 DIY4- (DIY-4 would be demonstrated by accompanied staffs

		晚上：牛車水(China Town)	of NSTM) 晚餐: 正宗肉骨茶餐
5	8/7(四)	文化體驗(Culture Experience) AM：馬來文化園區-甘榜格南(Malay Culture touring-Istana Kampong Glam)-哈芝巷(Haji Lane)-亞拉街(Arab Street)- PM：聖淘沙之旅(Touring at Sentosa)-環球影城(Universal Studio) DIY-5：How Surface Tension of Water Work?	Reference of Science Course 5: How does Surface Tension of Water Work? 科工館帶隊人員規劃現場動手做實驗 DIY5- (DIY-5 would be demonstrated by accompanied staffs of NSTM) 午餐: 馬來餐
6	8/8(五)	飯店-機場-參觀星耀樟宜 (Jewel Changi Airport) 賦歸：新加坡航空 SQ878 SIN 11：40- TPE 16：20	租車前往機場 參觀世界上最大室內人工瀑布(Go visiting the largest artificial water fall in the world) 佳餚: 亞坤餐點

七、報名方式：科工館科教活動網頁報名(https：//serv.nstm.gov.tw/)或07-3800089轉5137

7.1 訂金: 報名、繳交訂金每人2萬元，並依報名順序第1-16名每人享有活動費早鳥價優惠3,000元。

7.2 尾款: 確認成團可出團，再通知繳交尾款。

八、活動諮詢：07-3800089轉5100或0928-729611陳正治 NELSON

九、參加者權益依照交通部觀光局頒布之國外團體旅遊定型化契約範本辦理：

https：//www.ey.gov.tw/Page/AABD2F12D8A6D561/42ae2f66-a5d6-4787-baf1-dcc5357dfdd5

十、緊急醫療機構:

No.	活動地點/ 承辦窗口	鄰近醫療機構	電話
1	國立新加坡大學 林靖雄博士 Dr. Lim Kim Yong +65-98635173 (M)	新加坡國立大學醫院(National University Hospital, NUH) https://www.nuh.com.sg/ 5 Lower Kent Ridge Rd, 新加坡	+65 6908 2222
2	新加坡科學中心	黃廷芳綜合醫院 Ng Teng Fong General	+65 6908 2222

	Ms. Fenda Kai Ser NGO +65 64252821 (O) +65 82002953 (M)	hospital, 1 Jurong East Street 21, 新加坡	
3	藝術科學館 Emma Lee +65 6688 8888	Raffles Hospital, 585 North Bridge Rd, Singapore 188770,	+65 6311 2222
4	其他	新加坡綜合醫院(Singapore General Hospital) https://www.sgh.com.sg/ Outram Rd, 新加坡 169608	+65 6222 3322
5	新加坡緊急事故電話	1. 緊急報警 2. 緊急救護	+ 65 999 + 65 995

科工館隨隊聯絡人: 陳正治(+886-7-3800089 EXT 5124; +886 928729611)

黃振中(+886-7-3800089 EXT 5128; +886 929396652)

科工館緊急連絡人: 鄭瑞洲 (+886-7-3800089 EXT 5124; +886 928729612)

洪靜儀(+886-7-3800089 EXT 5193)

附件:

Reference-1：DIGITAL FABRICATION WORKSHOP (數位構圖工作坊)- STEM – Tinker CAD

In this workshop, the participants will explore the features and functions of Tinker cad. Tinker cad is a free, online 3D modelling program that runs on a web browser. It is known for its simple interface and ease of use. It is a popular platform for creating models for 3D printing. There would be a guided activity to create simple 3D designs. These designs can help people work around with different real world challenges!

Objectives: Participants will be given the opportunity create their own designs using Tinker cad!

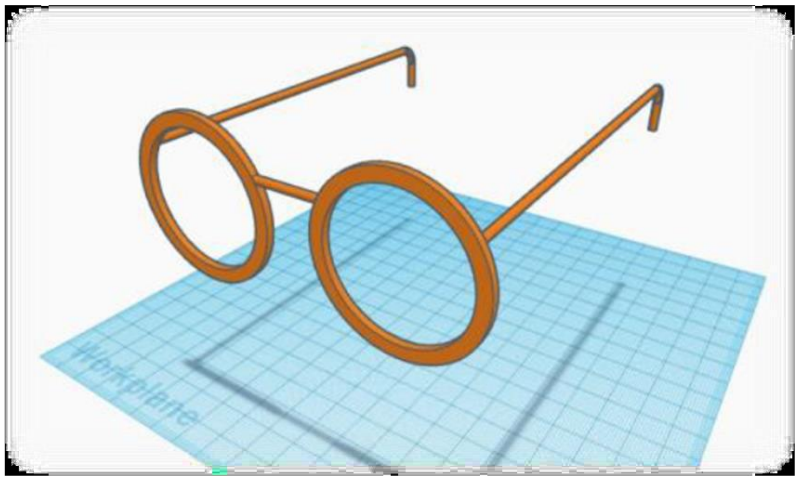
Specifications:

Duration: 2 Hours

Min Group Size: 15 students per class

Max. Capacity: 20 students per class

Age Group: 7 – 12 years old



Reference-2：FOOD SCIENCE WORKSHOP (食物科學工作坊)- I Scream for Ice-cream

Participants will learn the processes involved in ice–cream making. They will discover how using different types of ingredients affects the final product.

Topics covered： Physical and chemical reactions in food, Nutrients (carbohydrates, proteins and fats), Emulsifiers, Stabilizers

Objectives：

1. Learn terms such as Emulsifiers and Stabilizers and their significance.
2. Participants will get to sample the ice–cream that they make.

Specifications

Duration: 2 hours

Time: 9.30am or 2.30pm

Min Group Size: 25 students per class

Max. Capacity: 40 students per class

Age Group: 10 – 16 years

Remarks: Workshop available in English or Chinese (subject to educator availability)

Reference-3：藝術科學館(Art Science Laboratory, Art Science Museum.)

Art Science Laboratory

感受啟發，發揮創造力，滿足好奇心！「Art Science Laboratory」(藝術科學實驗室）是一處學習知識的空間。在這裡，藝術、科學和技術透過意想不到的方式相互交融，產生各樣啟發。

透過最新技術和創意表達，體會藝術與科學的相互關係。在各式各樣的活動中感受多學科合作的樂趣、學習解決問題的創意方式，培養環境保護意識。「ArtScience Laboratory」是一處專為遊客開闢的空間，讓他們得以在這裡了解新概念，獲悉面臨的全球挑戰，分享塑造未來的想法。

期望體驗：創意活動和動手實踐，涵蓋多個主題和平臺，幫助學習新技能。

加入我們：從幼兒園到高等教育，無論是家庭還是參觀團體，都歡迎參與。

五個主題：「Art Science Laboratory」的活動分成五個主題，分別是啟發工作坊、創意活動、工程探索、永續發展倡議和康體活動。

Be inspired, creative and curious! Art Science Laboratory is a learning space where art, science and technology converge in inspiring and surprising ways.

Learn about the interconnectedness of art and science using emerging technology and creative expression. Through a diverse range of programmes that embrace interdisciplinary collaboration, creative problem-solving and environmental care, Art Science Laboratory is a dedicated space for visitors to discover new concepts, navigate global challenges and share ideas to shape the future.

What to Expect: Creative activities and hands-on explorations across diverse themes and platforms to learn new skills.

Join Us: All learners are welcome, from preschool to tertiary education, families, and visiting groups.

Five Themes: Art Science Laboratory’s programmes are organized into five themes that span inspiring workshops, creative activities, engineering explorations, sustainability initiatives and wellness sessions.

Discover more about the themes and workshops below.

3.1 科學火花 (Scientific Sparks)

透過創意遊戲和實踐學習，激起對科學和工程的興趣。

在這裡，遊客是思考者，亦是創造者。遊客在思考的同時，還能透過多學科趣味活動探索看似枯燥實則有趣的科學與技術領域。一起透過遊戲了解人工智能：透過遊戲和互動體驗了解生成式 AI，感受 AI 如何模仿出人類智能。一起透過樂高積木了解粒子物理學：透過樂高積木，將粒子物理學的抽象概念轉換成可感知的實驗。樂高積木代表亞原子，展現宇

宙如何被構建。

Spark interest in science and engineering topics using creative play and hands-on learning.
This series invites visitors to be both thinkers and makers. Visitors can put on their thinking caps and get engaged with seemingly daunting areas of science and technology through a fun and playful interdisciplinary lens.
Let's Learn Artificial Intelligence with Games: Get to know generative Artificial Intelligence (AI) through games and interactive activities that demonstrate how AI mimics human intelligence.
Let's Learn Particle Physics with LEGO: Transform abstract concepts of particle physics into tangible experiments using hands-on play with LEGO blocks to represent subatomic particles—the building blocks of our universe.

3.2 創意實踐(Creative Constructs)

親手運用藝術技巧和數碼技術，學習新的創作技能。該環節聚焦在不斷變化的世界中不斷學習。遊客可在工作坊中親手實踐，探索手工和數位素養技能，在學會新技能的同時帶走自己的原創作品。
創造數位模型：躍入數位建模的世界，運用 3D 掃描和表面噴塗技術將現實世界的物體轉換成數碼雕塑。
製作環保小袋：學習塑料和永續發展的知識，了解如何運用簡單的縫製技巧，用循環再用材料製作環保手袋。
Learn new creative skills using hands-on artistic techniques and digital technologies.
This series is focused on lifelong learning in an ever-evolving world. Visitors can explore both tactile and digital skills through hands-on workshops where they will take away a new skill and an original creation.
Create a Digital Model: Dive into the world of digital modelling by using 3D scanning and surface painting technologies to transform real-world objects into customized digital sculptures.
Create an Eco-Friendly Bag: Learn about plastics and sustainability practices and how to use simple sewing skills to craft your own eco-friendly bag made from recycled materials.
Rference-4 國立新加坡大學科教中心(Science Demonstration Lab of National University Singapore , NUS)
NUS Science Demonstration Lab (SDL) was developed in the spirit of adopting a hands-on, minds-on approach to teaching and learning science. The laboratory aims to embrace and embody the spirit of allowing students and visitors to discover and re-discover science through hands-on activities and interactive learning; and to build understanding around visually and intellectually

impactful science demonstrations. To date, the SDL has received more than 40,000 visitors from more than 250 organizations, tertiary institutions, and schools locally and internationally.

The Science Demonstration Laboratory highlights a variety of illuminating science experiments and demonstrations. More importantly, our team of dedicated guides is on hand to communicate the most exciting aspects of scientific concepts to the participants.

Reference-5：水表面張力作動原理 How does Surface Tension of Water work ?

There are lots of phenomenon about the surface tension of water at the site of Universal Studio, Singapore. So, a series of surface tension of water can be explored on site by way of hands-on kits.

1. What is the simple explanation of surface tension?
2. What causes water to have surface tension?
3. Which best explains the surface tension of water?
4. How do we explain surface tension?
5. What would it happen if water did not have surface tension?
6. What liquid has the highest surface tension?
7. How to break surface tension of water?
8. What is the theory of surface tension?
9. How can the surface tension be reduced?
10. How does surface tension of water influence the daily life?

活動照片

	
▲ 國立新加坡大學	▲國立新加坡大學 Demo Lab
	
▲ 國立新加坡大學 Demo Lab Hands-on	▲ 國立新加坡大學 Demo Lab Hands-on
	
▲新加坡科學中心	▲新加坡科學中心 Workshop

	
▲新加坡科學中心特斯拉 Science Show	▲新加坡科學中心火龍捲 Science Show
	
▲新加坡濱海灣 RIAN OCCULUS 科學探究	▲新加坡濱海灣 RIAN OCCULUS 科學探究
	
▲ 藝術科學館 Art Science Museum	▲ 藝術科學館 Art Science Museum
	
▲ 新加坡地標-濱海灣	▲新加坡科學中心大人變小人展示