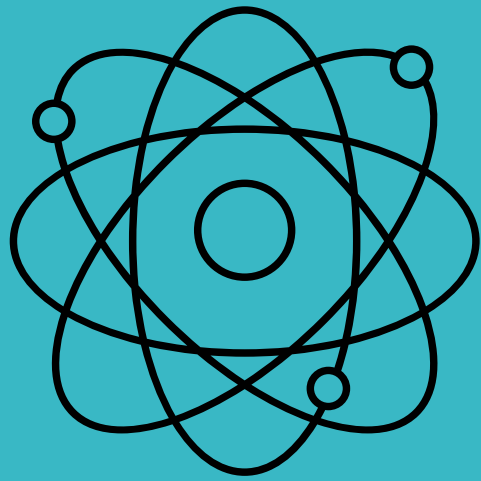
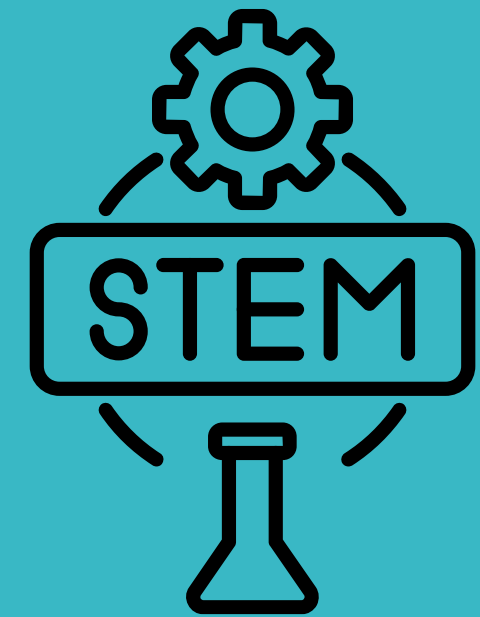




4TH OPEN SCIENCE FORUM (OSF-4)

U-SCIENCE: INITIATIVE TOWARDS CITIZEN SCIENCE EMPOWERMENT



ZAWAWI DATUK TIYUNIN - CHIEF LIBRARIAN UNIVERSITI MALAYSIA SABAH
DR MOHD FAIZAL HAMZAH – SENIOR LIBRARIAN UNIVERSITI MALAYA
MALCOLM JILIMIN – SENIOR SCIENCE OFFICER UNIVERSITI MALAYSIA SABAH

BACKGROUND & INTRODUCTION

- Established in **March 2020** as a **STEM engagement hub** at Universiti Malaysia Sabah (UMS).
- Mission: *Learn, Share, Inspire* through **inclusive, hands-on science**.
- Created to **bridge university and society**, bringing science beyond lecture halls into schools, communities, and everyday life.
- Responds to challenges in Sabah:
 - **1,298 schools, 540,891 students**, many in remote/rural areas.
 - **Demand for STEM educators high**, but **student participation in STEM low**.
- Aligns with Malaysia's **60:40 Science:Arts policy** and **inclusive education agenda**.



OUR OBJECTIVES

ENCOURAGING STEM INTEREST

Sustaining efforts to promote science at UMS in order to create impactful and far-reaching outcomes.

STEM LITERACY

Developing both technological and soft skills while enhancing technology literacy, with opportunities to generate income through the *learn and earn* concept.

FACILITIES & PLATFORMS

Providing accessible platforms to spark interest in STEM, particularly among school students and the UMS community.

KNOWLEDGE INTO APPLICATION

Enabling academics, researchers, and staff at UMS to apply their expertise and contribute to society through the development of STEM exhibition materials.

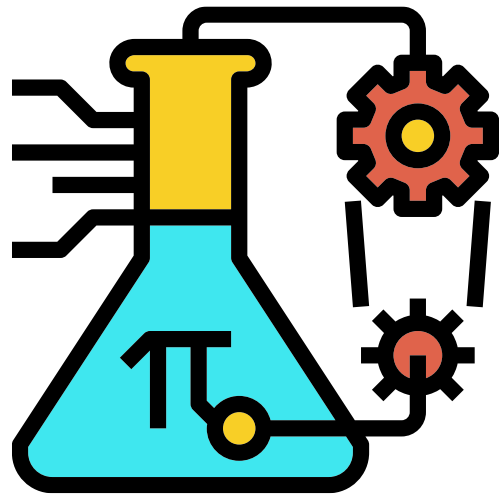
SHIFTING PERCEPTIONS

Challenging the notion that STEM is difficult or unappealing by offering creative, engaging, and interactive science activities and exhibits.

UMS REPUTATION

Positioning UMS as a people-friendly university that embraces edu-tourism.

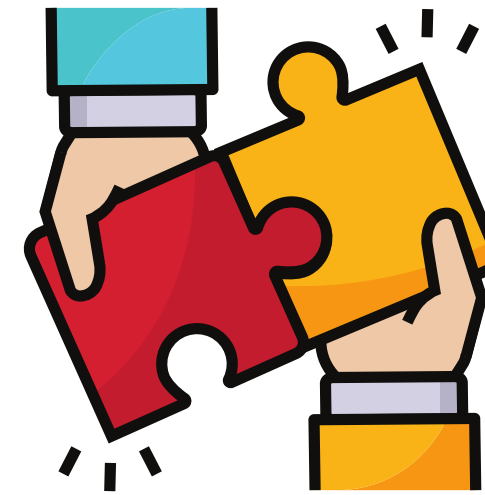
FUNCTIONS OF U-SCIENCE



STEM: PROMOTING LITERACY FOR ALL SEGMENTS OF SOCIETY.



ENGAGEMENT: INSPIRING SCHOOLS, COMMUNITIES, AND INDUSTRIES.

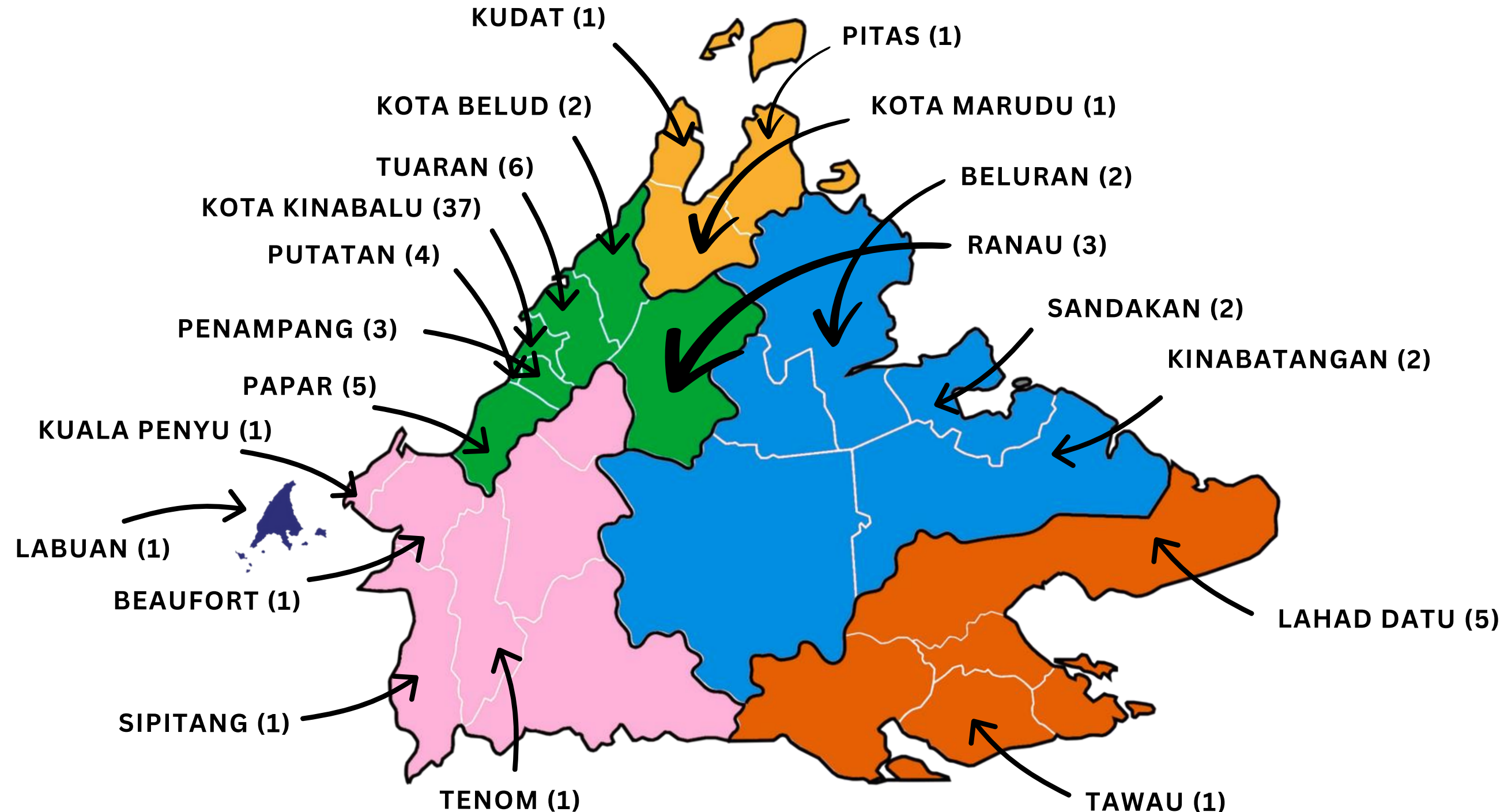


COLLABORATION: STRENGTHENING NETWORKS WITH MINISTRIES, FACULTIES, AND GLOBAL PARTNERS



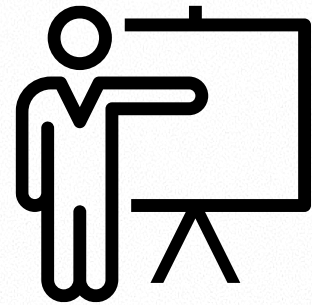
FAIR EDUCATION: DRIVING INCLUSIVE EDUCATIONAL APPROACHES, ESPECIALLY FOR RURAL AND UNDERSERVED COMMUNITIES.

2024 ACHIEVEMENTS



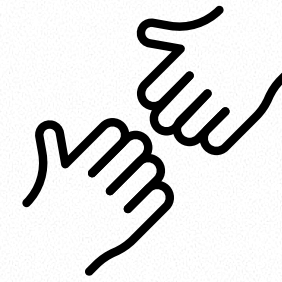
- 113 PROGRAMS IMPLEMENTED STATEWIDE.
- 19 DISTRICTS & 1 TERRITORY (SABAH & FT LABUAN) COVERED.
- 109,775 PARTICIPANTS REACHED (STUDENTS, TEACHERS, COMMUNITIES, PARENTS).
- STRATEGIC COLLABORATIONS WITH FACULTIES, MINISTRIES, NGOS, AND INDUSTRIES.

U-SCIENCE INITIATIVES



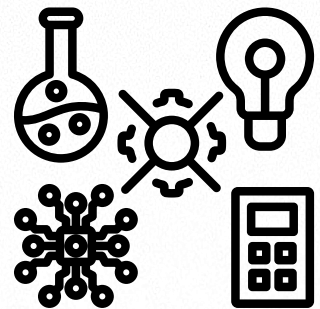
Professor@School

ACADEMICS TO SCHOOLS, STIMULATING CURIOSITY AND ROLE-MODEL EXPOSURE.



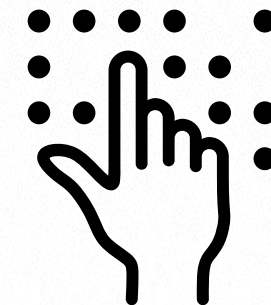
STEM Inreach

PROGRAMS THAT ALLOWS STUDENTS AND THE PUBLIC TO JOIN STEM ACTIVITIES AT UMS.



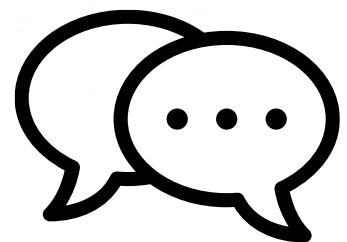
STEM4U@UMS

CAMPUS-BASED LABS, DEMONSTRATIONS, AND LEARNING JOURNEYS.



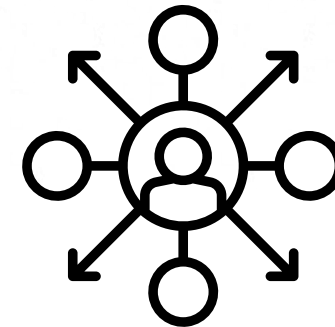
Per-SENSE

MULTISENSORY, INCLUSIVE MODULES; ALIGNS WITH EVIDENCE THAT MULTISENSORY APPROACHES ENHANCE LEARNING/TRANSFER.



Stem Speaker Series (3S)

EXPERT TALKS/WORKSHOPS (INCLUDING INDUSTRY).



STEM Outreach

PROGRAMS THAT BRINGS STEM ACTIVITIES TO SCHOOLS SUCH AS EXHIBITION, WORKSHOP AND MORE.

GLOBAL ALIGNMENT

During the 89th World Library and Information Congress held in Astana, Kazakhstan, U-Science on the Impact & Initiatives of U-Science and this represents an initial but important move to foster ideas and coordinated actions among member states.

Impact & Initiatives
Promoting "STEM" Education in Sabah Through U-Science's UMS Vision

by Zawawi Tiyunin (Universiti Malaysia Sabah) | Mohd. Faizal Hamzah (Universiti Malaya, Malaysia)

About U-Science UMS
LEARNING SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) IN CREATIVE WAY TO SPARK PUBLIC INTEREST.

Behind U-Science
The proposal for the Science Centre was approved during the 227th University Management Authority Meeting (PBBU) No. 2/2019 (Series 1), held on 28 March 2019 (Thursday). The UMS Science Centre was officially launched on 11 March 2020 by Professor Datuk ChM. Ts Dr. Taufiq Yap Yun Hin, Vice-Chancellor of UMS, and has since been known as U-Science UMS, located in the Library Building.

Achievements 2024
83 PROGRAM IN TOTAL
19 DISTRICT & 1 TERRITORY COVERED
109,775 PARTICIPANTS

Function of U-Science

- STEM**: STEM PLATFORM FOR ALL SEGMENTS OF SOCIETY
- ENGAGEMENT**: BRINGING SCHOOLS CLOSER TO THE UNIVERSITY
- COLLABORATION**: STRATEGIC COLLABORATION WITH EXTERNAL AGENCIES
- FAIR EDUCATION**: INCLUSIVE APPROACH

U-Science Initiatives

- Professor@School**: THE PROGRAM INVOLVING LECTURERS FROM UNIVERSITY MALAYSIA SABAH.
- STEM4U@UMS**: THE CARNIVAL-STYLE PROGRAM OFFERS FUN & INTERACTIVE STEM ACTIVITIES FOR PEOPLE OF ALL AGES.
- Stem Speaker Series**: A REGULAR TALK SERIES WITH STEM EXPERTS TO SHARE KNOWLEDGE AND INSPIRE STUDENTS AND THE COMMUNITY.
- STEM Inreach**: THE PROGRAM THAT ALLOWS STUDENTS AND THE PUBLIC TO JOIN STEM ACTIVITIES AT UMS.
- Per-SENSE**: ITS A FUN STEM PROGRAM MADE FOR STUDENTS WITH SPECIAL NEEDS TO SUPPORT INCLUSIVE LEARNING.
- STEM Outreach**: A PROGRAM THAT BRINGS STEM ACTIVITIES TO SCHOOLS SUCH AS EXHIBITION, WORKSHOP AND MORE.

BY ZAWAWI TIYUNIN (UNIVERSITI MALAYSIA SABAH) | MOHD. FAIZAL HAMZAH (UNIVERSITI MALAYA, MALAYSIA)



LESSONS FROM THE GROUND

01

Strong Grassroots Demand

109,775 annual participants indicate robust grassroots demand. Against a 540,891 student base, U-Science's 2024 touchpoints suggest meaningful statewide penetration

02

Geographic Inclusion Is Essential

U-Science operated across all divisions and districts (including interior Nabawan, Kalabakan, Kinabatangan), aligning to Sabah's dispersed settlement pattern and large school footprint (1,298 schools).

03

Partnerships Are Powerful

Key strength of U-Science lies in its partnership with ministries, NGOs, industries and local communities.

04

Inclusive Model / STEM Is For Everyone

Per-SENSE maps onto strong evidence for multisensory learning to support diverse learners (including special education integration under Malaysia's inclusive education agenda).



OUR AMBITIONS

U-Science's 2024 program scale and inclusive design demonstrate that university–community partnerships can measurably advance STEM literacy in developing and geographically large regions like Sabah.



WHAT CAN WE DO?

Open Science & Citizen Science Platforms

- Launch statewide projects (e.g., biodiversity logging, water quality, micro-weather) that use National Digital Network enabled mobile upload; target 10% of secondary schools contributing at least once per term in Year 1

Strengthen the Digital Learning Spine

- Package U-Science modules as National Inclusive OER, co-designed with teachers and to aim for 100 schools to adopt at least 3 modules (blended) within 12 months.

Replicable “Hub-and-Spoke” Model

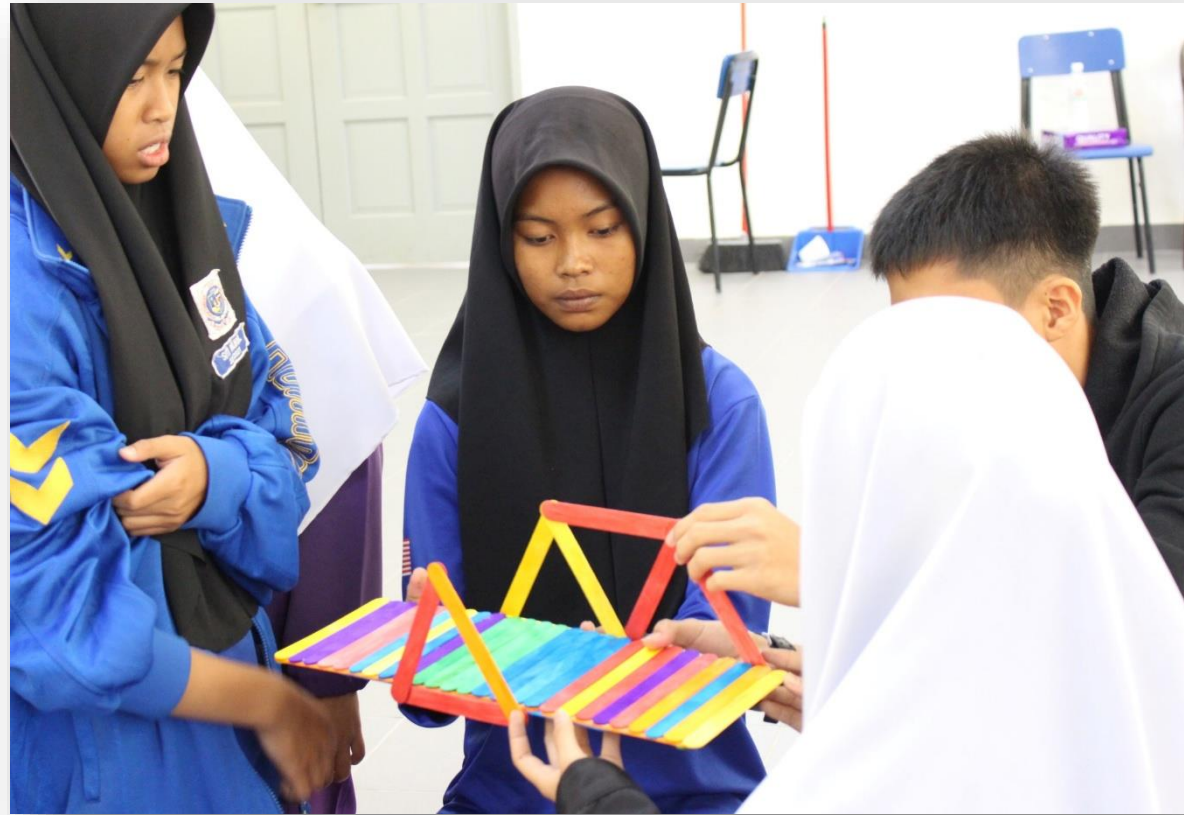
- Document the U-Science playbook (logistics, partnerships, safety, monitoring & evaluation) for UMS, followed by other Malaysian universities/ASEAN, for instance pilot in one Borneo and one Peninsular state with matched KPIs (participants per school, rural reach %, female participation %, special-needs inclusion)

CALL TO ACTION



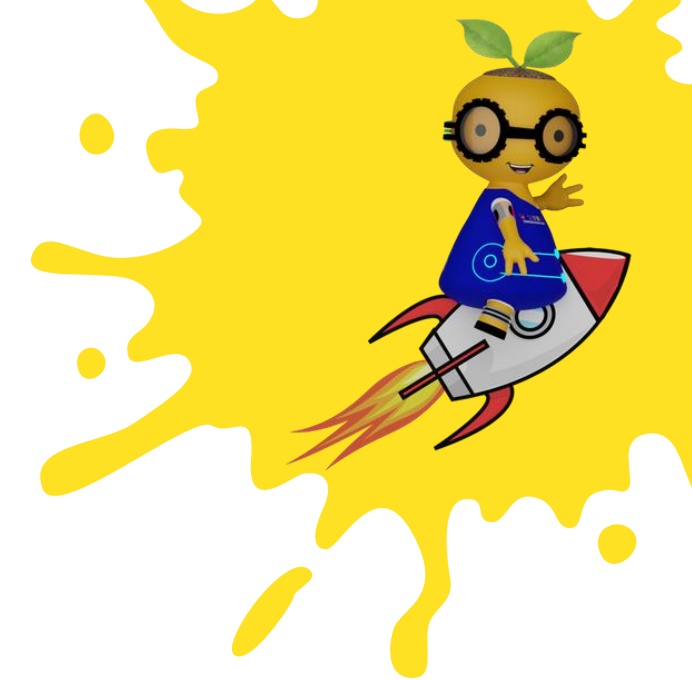
That children are not disinterested in science—they are waiting for it. That geography doesn't limit curiosity, only access. That universities are not just for students, but for society.

Science is not confined to labs or lecture halls. It belongs in classrooms, in communities, in each home, in fields. It belongs everywhere.

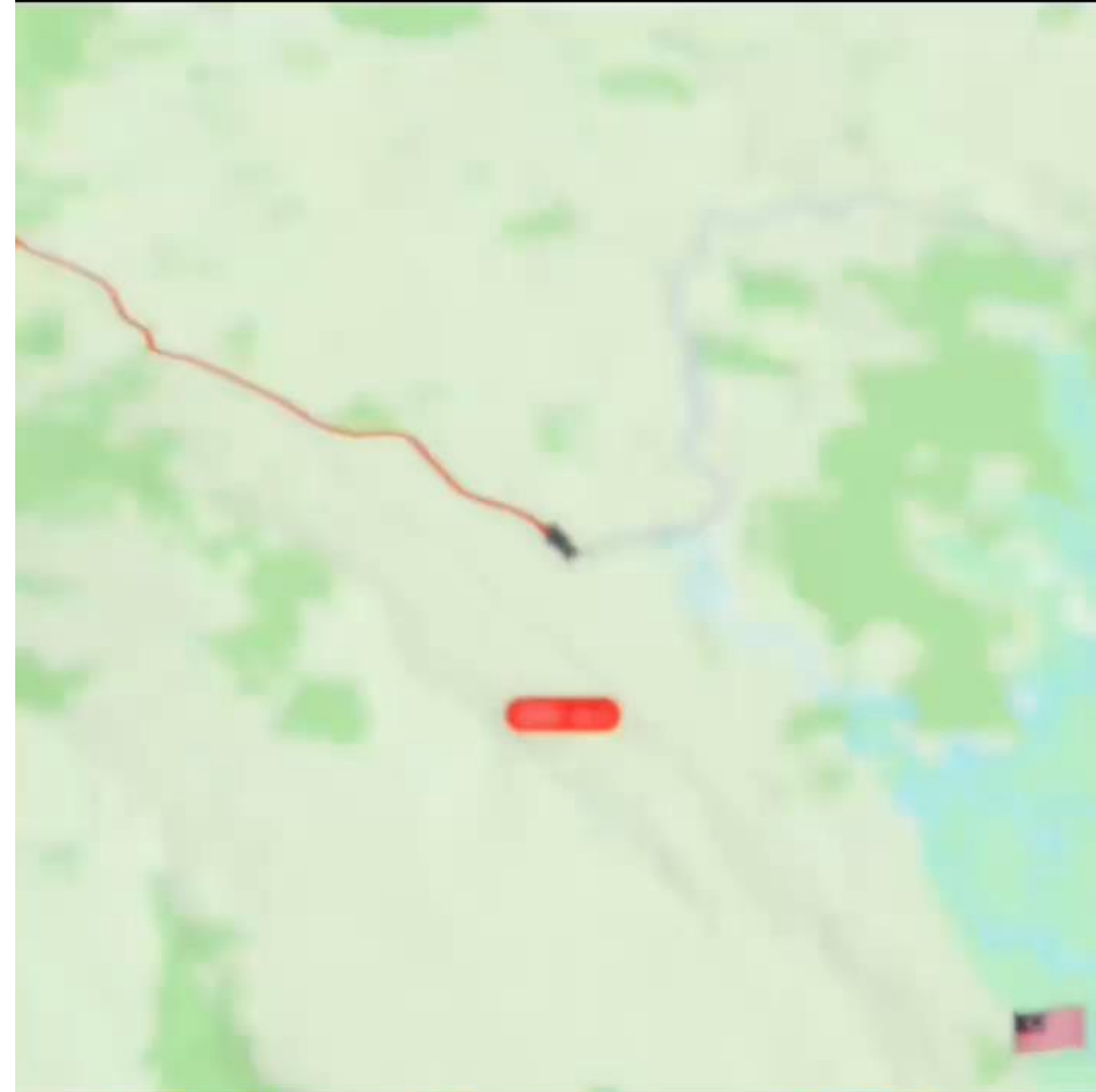


OUR JOURNEY SO FAR





THANK YOU



U-Science Membawa STEM
ke Kalabakan
bersama MPP UMS & UPSI

