БЛАГОМАЙ
благодійність заради майбутнього

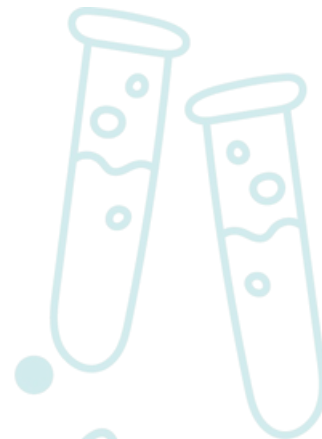# STEM: THE KEY TO FUTURE DEVELOPMENT AND INNOVATION

STEM: THE KEY TO FUTURE DEVELOPMENT AND INNOVATION

Project goal:

Improving access to quality education for children in Ukraine and popularizing STEM among the younger generation, which will contribute to the country's reconstruction and modernization in the future.

Objectives:

- Creation of modern STEM classrooms in local communities
- Improving the quality of teaching science subjects
- Developing students' interest in STEM subjects
- Rebuilding and restoring affected schools in frontline communities

Project issues

As a result of Russia's full-scale invasion of Ukraine, the educational infrastructure has suffered significant damage.

As of October 30, 2024

3 793 institutions
has suffered from bombing and shelling

**3 428** schools
were damaged

365 schools
completely destroyed

Many public schools face the problem of aging material and technical facilities, which makes it difficult to introduce modern educational technologies. This, in turn, generates low interest in STEM disciplines among students.

The Government of Ukraine has approved the Strategy for Digital Development of Innovative Activities until 2030. (mon.gov.ua) According to this strategy, special emphasis is placed on the development of specialists in the fields of information technology, cybersecurity, engineering and other high-tech areas.

10 429 Ukrainian scientists **(12% of all)** were forced to emigrate from the country or volunteered for the Armed Forces.

Global sustainable development goals that the STEM project in Ukraine helps to achieve
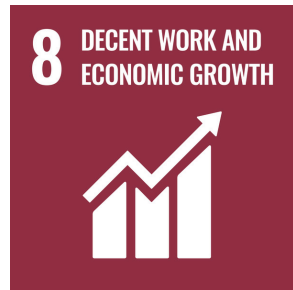
The main components of the project

1 MATERIAL COMPONENT

- Procurement
- Equipment upgrade
- Filling STEM classes in public schools

2 INFORMATION COMPONENT

- Competitions among schools
- Scientific conferences
- Hackathon
- Online activities
- Open lectures
- Mentoring
- Camps

3 EDUCATIONAL COMPONENT

- Podcasts
- Media
- Popularization of the project

Project schedule for 2025

March

Competition among schools in Trostianets and Petrivska community and restoration of physics and chemistry classes

March-April

New modern chemistry and physics classrooms in Trostianets and Petrivska community (2 classes)

May-June

Competition among schools in Sumy and Kyiv regions

May-December

STEM Hackathon

July

STEM camp

June-December

Creating STEM classes

September-November

STEM conference

September

STEM challenges

October

Starting the search for project ambassadors

STEM OFFICE ON A TURNKEY BASIS

A turnkey STEM classroom is a comprehensive solution for schools that includes modern equipment, software, teaching materials, and support. The equipment complies with the Order of the Ministry of Education and Science of Ukraine No. 574.

STEM equipment helps students develop skills in **modeling, engineering, IT, web design, architecture, and other areas.** This increases motivation and helps students learn better.

The cost of a STEM classroom — 3 473 654 UAH **(USD 80,000)**. It is an investment in the future of education that develops critical thinking, technical skills and an innovative approach to learning.

Total amount of UAH 21,000,000 (USD 504,000)

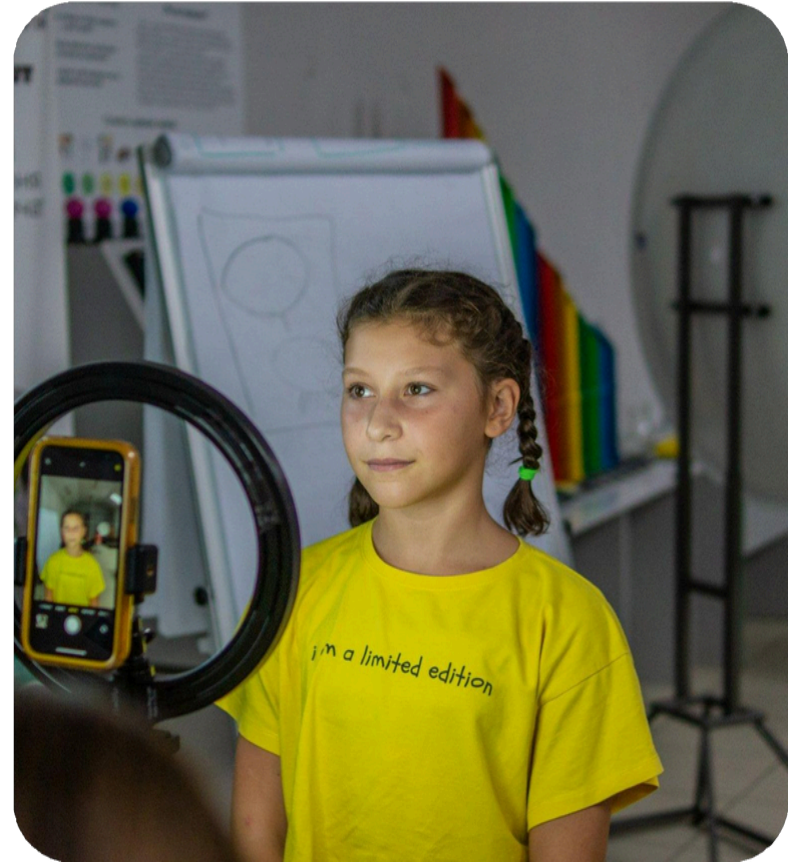(6 schools in Kyiv, Sumy, Kharkiv, and Chernihiv regions).

STEM-CHALLENGES

STEM-challenges for affiliates - is a program to unite STEM branches through joint competitions.

The Goal
of the Affiliate Challenges is to encourage 7-9th grade students to study STEM subjects through FUN.

STEM-CHALLENGES

Educational institutions:
70

Coverage:
3500+

Geography:
18 regions

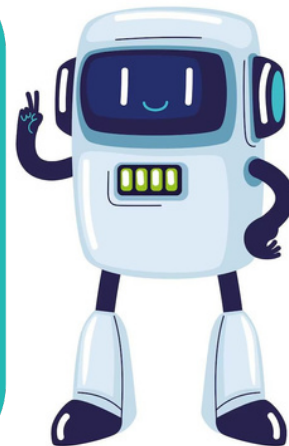# STEM-CHALLENGES

Challenge: Building a robot

Participants build a robot using robotics kits (e.g., LEGO Mindstorms, Arduino, or similar). **The task** is to create a robot that can perform certain functions (e.g., move or react to obstacles).

Budget Robotics kits (LEGO, Arduino, etc.) - **$200-$500 per team.** Software and programming tools - **$50-$100.**

Total budget for the event (10 teams) - **$2,500-$5,000.**

Time: 3-4 hours.
Objective: Learning the basics of robotics and programming.

Coverage: 15-20 schools. Geography: Kyiv, Kharkiv, Lviv, Odesa, Dnipro, Zaporizhzhia, Vinnytsia, Ternopil (8 regions).

STEM-CHALLENGES

Challenge: Bridge construction

Participants are given limited materials (e.g., ice cream sticks, string, glue) to build a bridge that can support a certain weight.

Time: 1-2 hours. Objective: Development of engineering skills, understanding of physical principles.

Educational institutions: 10-15 schools technical direction.
Coverage: 12-15 schools.
Geography: Kyiv, Lviv, Khmelnytsky, Chernivtsi, Cherkasy (5 regions).
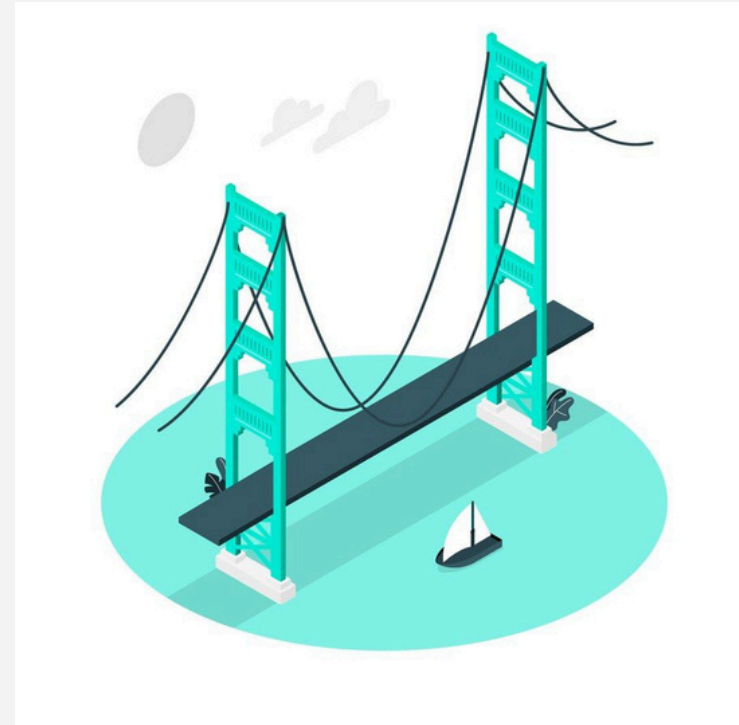
The total budget for the event is $1,000-$2,000.

STEM-CHALLENGES

Challenge: Ecological city

Participants will have to design and build a model of an ecological city, taking into account the principles of sustainable development.
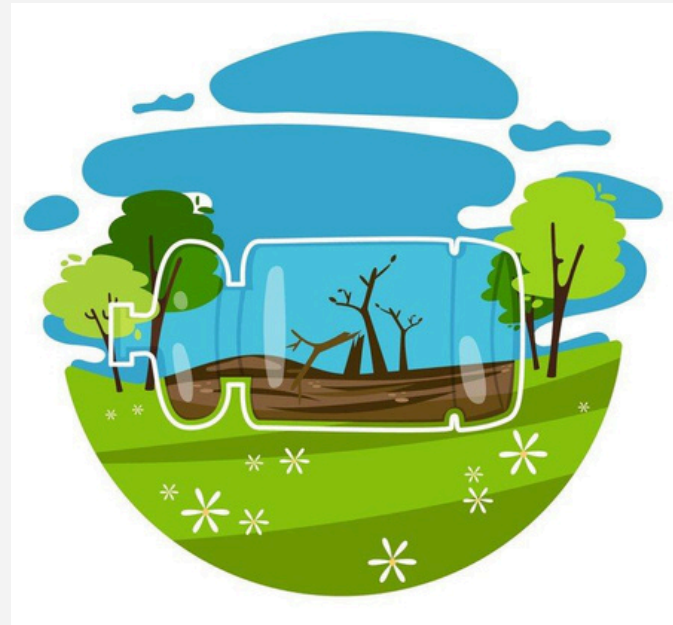
Educational institutions: Schools with schools with natural science programs.
Coverage: 15-20 schools.
Geography: Kyiv, Kharkiv, Lviv, Poltava, Chernihiv (5 regions).

Time: 1 day.
Objective: Familiarization with environmental principles and sustainable development.

The total budget for the event is $2,000-$4,000.

PROJECTS THAT CAN BE IMPLEMENTED

Repair and equipment
of STEM classes
$96 800

Conducting challenges
$20 000

Summer STEM camp
"Future Engineers"
$50 000

Mini-Startups STEM: Hackathon for pupils
and students
$5,000 - $10,000

STEM Conference "The Future
of Science and Innovation"
$15,000 - $25,000

Together we can secure the future of our children!

Supporting educational initiatives is a step towards better access to quality education for every child in Ukraine!