AUGUST
2024

NEWSLETTER

GOAL6 :
CLEAN WATER AND SANITATION

(Sustainable Development Goals)

JM International School
Dwarka, New Delhi

OVERVIEW OF SUSTAINABLE DEVELOPMENT GOALS

- The 70th Session of the UN General Assembly held on 25th September 2015 adopted the Sustainable Development Goals (SDGs) with 17 goals and 169 targets, under the official agenda "Transforming our world: the 2030 Agenda for Sustainable Development". India is a signatory to this landmark agreement.

70 Session of UN General Assembly, New York , 25th Sept. 2015

- Officially, the SDGs came into effect from 1st January 2016.
- Member Countries have the responsibility for follow-up and review the progress made in implementing the goals and targets.
- SDGs is an inter-governmentally agreed set of goals relating to international development which aims at meeting the needs of the present without compromising the ability of future generations to meet their own needs.

17 GOALS OF SDG

WHAT IS GOAL 6

CLEAN WATER AND SANITATION

Sustainable Development Goal 6 (SDG 6) aims to ensure the availability and sustainable management of water and sanitation for all. This goal focuses on providing universal access to safe and affordable drinking water, adequate and equitable sanitation and hygiene, and improving water quality by reducing pollution.

UNDERSTANDING THE CHALLENGE:

SDG 6 emphasizes the importance of sustainable water management, including efficient use, protecting and restoring water-related ecosystems, and enhancing international cooperation to support capacity-building and water-related activities in developing countries. By achieving these targets, SDG 6 seeks to address global challenges related to water scarcity, quality, and accessibility, contributing to the overall health and well-being of communities and ecosystems.

WHAT IS THE GOAL HERE?

The main goal of Sustainable Development Goal 6 (SDG 6) is to ensure the availability and sustainable management of water and sanitation for all.

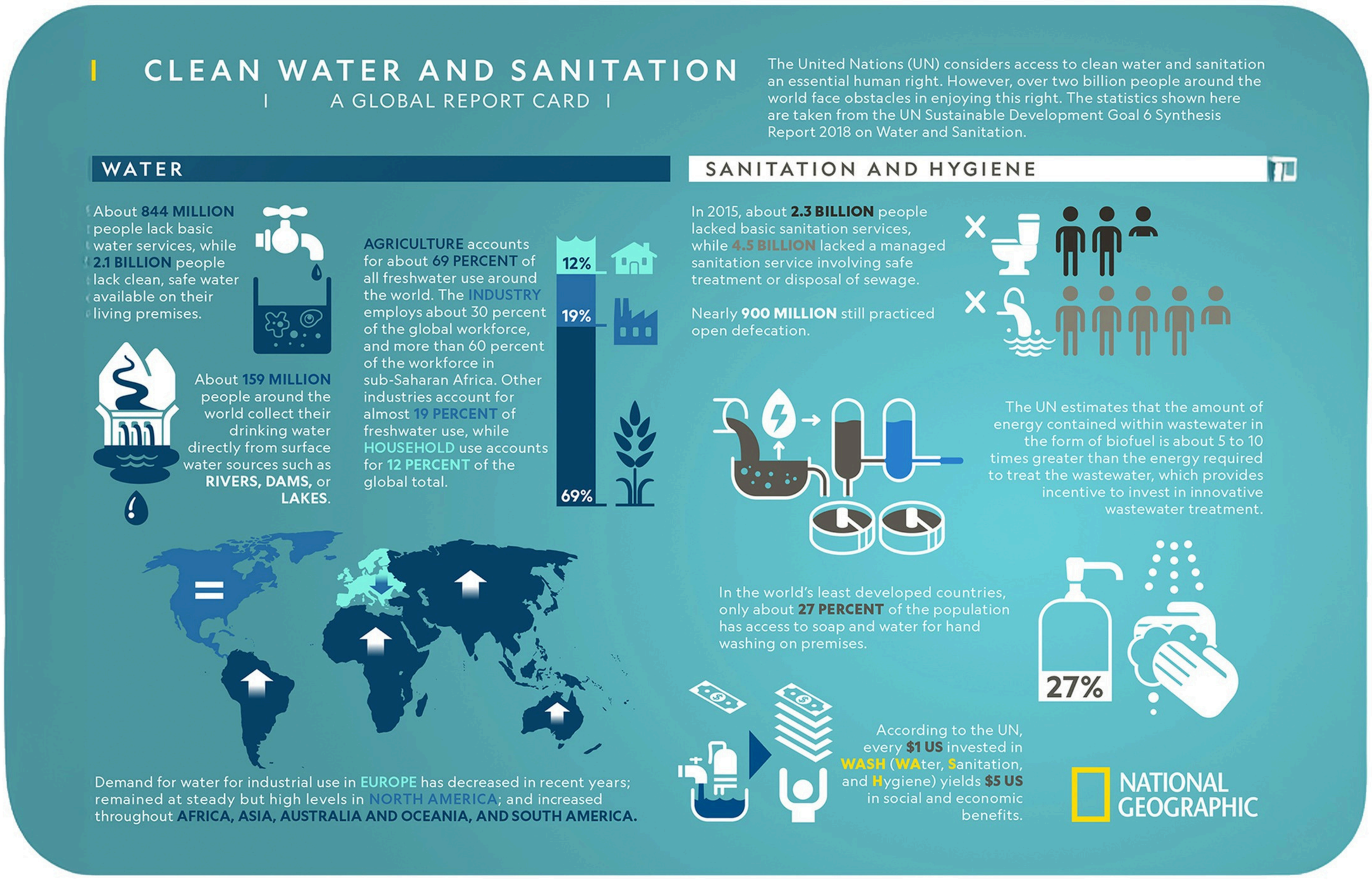
WHY DO WE NEED CLEAN WATER AND SANITATION AS AN SDG?

Clean water and sanitation are foundational to achieving many other SDGs, such as those related to health, education, and poverty reduction, making them essential for sustainable development and improving quality of life globally.

REASONS WHY SDG 6 IS NECESSARY

Here are several reasons why we need Clean water and Sanitation as a Sustainable Development Goal (SDG 6):

- Health and Well-being
- Economic Development
- Education
- Environmental Sustainability
- Social Equality
- Resilience to Climate Change



HOW ARE DIFFERENT COUNTRIES CONTRIBUTING TOWARDS THE SDG 6 (CLEAN WATER AND SANITATION)

Different countries are contributing to the achievement of SDG Goal 6—ensuring the availability and sustainable management of water and sanitation for all—in various ways. Here are some examples:

- Netherlands: Known for its expertise in water management, the Netherlands supports international water projects, including improving flood resilience and water quality in developing countries.
- Singapore: Singapore has developed advanced water recycling and desalination technologies to ensure a sustainable water supply despite limited natural resources.
- Ethiopia: The Ethiopian government has invested in rural water supply and sanitation projects, improving access to clean water and reducing waterborne diseases in rural areas.
- Germany: Germany provides significant funding and technical support for water and sanitation projects worldwide through initiatives like the German Federal Ministry for Economic Cooperation and Development (BMZ).
- India: The Swachh Bharat Mission (Clean India Mission) has made substantial progress in improving sanitation and reducing open defecation across the country.
- South Africa: South Africa has implemented policies and programs to improve water access and sanitation in underserved communities, addressing historical inequalities.
- Brazil: Brazil's National Water Agency (ANA) works on integrated water resources management, promoting sustainable water use and protecting water ecosystems.
- Bangladesh: Bangladesh has made significant strides in providing access to safe drinking water and sanitation through community-based water management and sanitation programs.
- Australia: Australia supports water resource management and sanitation projects in the Asia-Pacific region, helping to improve water security and resilience to climate change.

WHAT ARE THE GOAL TARGETS OF SDG 6 BY 2030?

Safe and Affordable Drinking Water: Ensure universal and equitable access to safe and affordable drinking water for all.

Adequate and Equitable Sanitation and Hygiene: Achieve access to adequate and equitable sanitation and hygiene for all, with a special focus on the needs of women and girls and those in vulnerable situations. End open defecation.

Water Quality: Improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials. Halve the proportion of untreated wastewater and substantially increase recycling and safe reuse globally.

Water-Use Efficiency: Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

THE WORLD IN STATISTICS

54% of the world's population uses a safely managed sanitation service [2]

2.2B people worldwide do not have safely managed drinking water services [3]

In 2020, **3 out of 4** people used safely managed drinking water services [4]

74% of the world's population uses a safely managed drinking water service [5]

Each year, diarrhoea kills around 525 000 children under five due to diarrhoea linked to inadequate water, sanitation, and hygiene (WASH) [6]

Water scarcity will also lead to an estimated **700M** climate refugees by 2030 [7]

2.8B people lack access to basic sanitation services, such as toilets or latrines [8]

1 in 4 people still lack access to handwashing facilities with soap and water at home [9]

85% of the planet's wetlands have been lost [10]

HOW TO
ACHIEVE SDGs

- A localized approach to address the unique challenges and opportunities present at the local level. By building a Local SDG Agenda tailored to gender equality, we can effectively target and implement initiatives that promote women's rights and empowerment.

- Creating an environment where multiple stakeholders—including civil society, private sector organizations, professional associations, and other agencies—actively participate in gender-focused initiatives is crucial. These collaborative efforts can drive meaningful change and ensure that diverse perspectives and resources contribute to gender equality.

- Conducting a situation assessment to identify development gaps and needs related to gender inequality is essential. By setting priorities at the local government and district levels, we can formulate targeted SDG-wise planning that addresses specific gender issues. Aligning existing budgets, schemes, and programs with relevant SDG 5 targets will further enhance our efforts to achieve gender equality in our state.

ABOUT

STEMROBO TECHNOLOGIES

STEMROBO provides 'End-To-End Solution to K-12 Schools' for 'Nurturing Innovation & 21st Century Skills' among young students of age 6-18 years across the globe. We offer young students an opportunity to explore, experience and bring innovation through a world class STEAM, Artificial Intelligence, Robotics & Coding curriculum integrated with our unique & affordable 'Technology Products and Solutions' delivered in an online or hybrid model; thereby enabling and empowering students to be able to become Creative - Thinkers and Problem - Solvers. Together, let's unlock the potential within each student, ignite a passion for Innovation, Creativity & Learning, and pave the way for a brighter tomorrow.

IMPORTANCE OF

STEM EDUCATION FOR KIDS

The term "STEM" typically refers to a group of academic disciplines that are focused on science, technology, engineering, and mathematics. it prepares them for the future by building problem-solving skills, encouraging curiosity and exploration, fostering collaboration and communication skills, and addressing global challenges that require STEM principles for their solution.

STEMROBO TECHNOLOGIES

Innovation, Creativity & Learning

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www.stemrobo.com

Mission

Our mission is to build an ecosystem focused on leveraging technology in education where **STEAM, Robotics, Coding, Artificial Intelligence & AR/VR** are utilized as crucial tools for kids to become smart in their academics and be able to solve modern world problems.

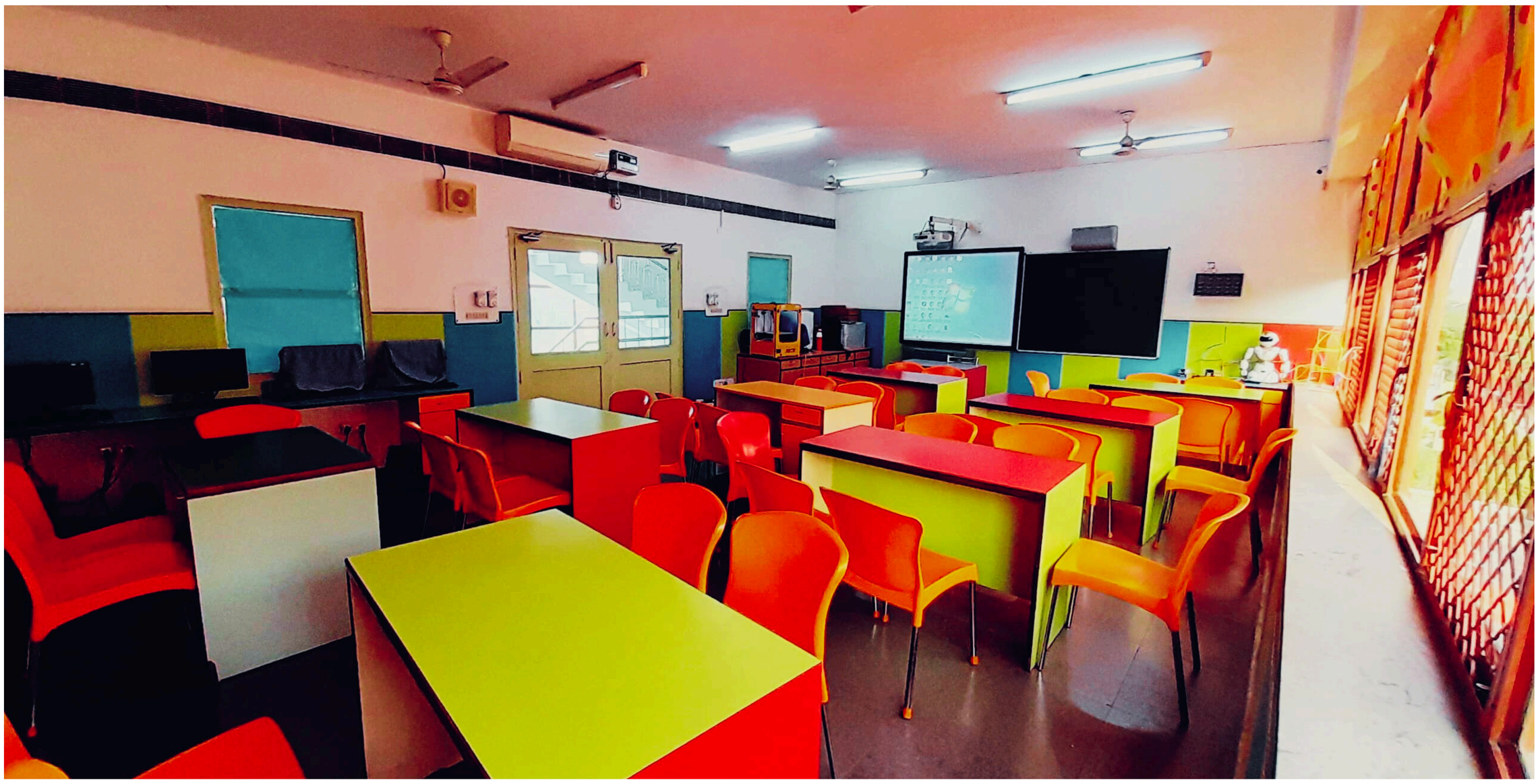
Vision

The company's vision is to nurture innovation and 21st century skills in K-12 students across the globe and prepare them for the future technological world. We are on a journey which will help every student to elevate core skills like **Logical Thinking, Creativity, Computational Thinking and Problem - Solving.**

ROBOTIC

About

School Robotics Lab



The Robotics Lab at JM International School is a dedicated workspace where students can learn, experiment, and transform their ideas into prototypes. Designed to foster creativity beyond rote learning, the lab encourages students to explore futuristic skills such as design and computational thinking, adaptive learning, and artificial intelligence.

Equipped with state-of-the-art tools and equipment like 3D printers, robotics kits, and electronic components, the Robotics Lab at JM International School provides a hands-on learning experience in science, technology, engineering, and mathematics (STEM) fields. The primary goal is to cultivate problem-solving and critical thinking skills from an early age. By promoting experimentation and innovation, the lab aims to nurture the next generation of innovators and entrepreneurs, preparing them for future challenges and contributing to the overall development of India's technological landscape.

FUN FACT

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Water is life: 71% of the Earth's surface is water, but only 1% is accessible fresh water!

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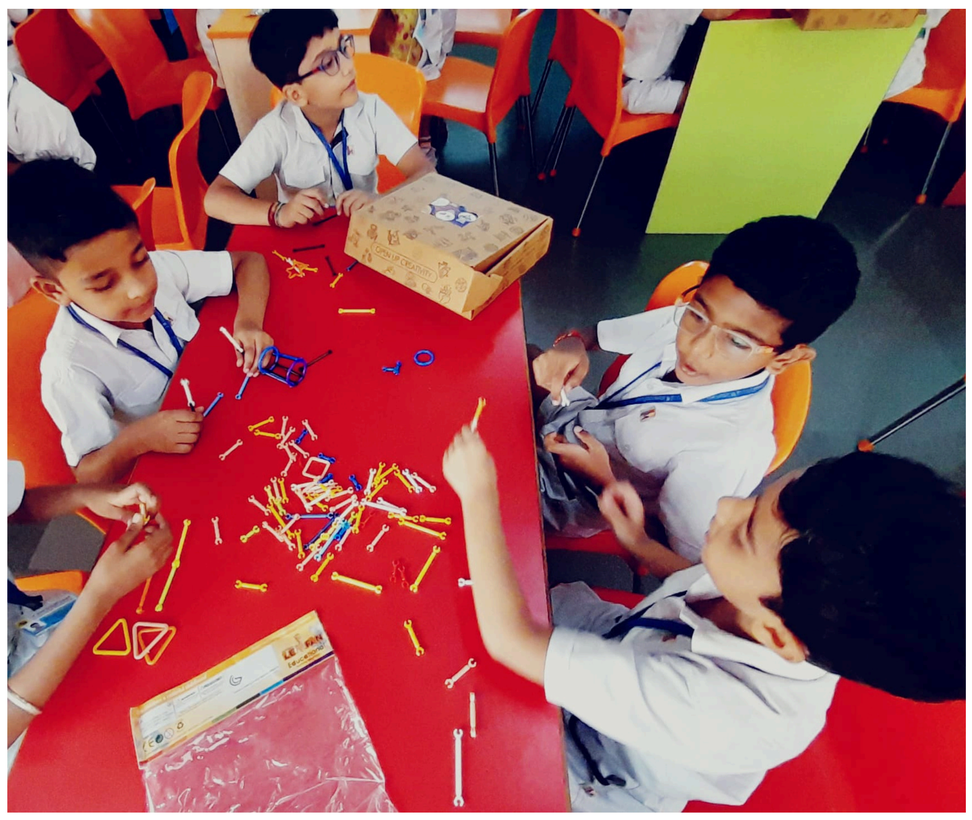
GLIMPSE OF ACTIVITIES

Grade I

- Understood the basics of mechanical design using the Fun Linker Kit.
- Discussed the significance of designing and developing mechanical systems.
- Reviewed the process of designing and development in simple, easy-to-understand terms.
- Completed activities such as:

1. **Cycle**
2. **Tank**
3. **Rickshaw**
4. **Rope Swing**



FUN FACT

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Daily necessity: An average person needs around 50 liters of water each day for basic needs like drinking, cooking, and cleaning.

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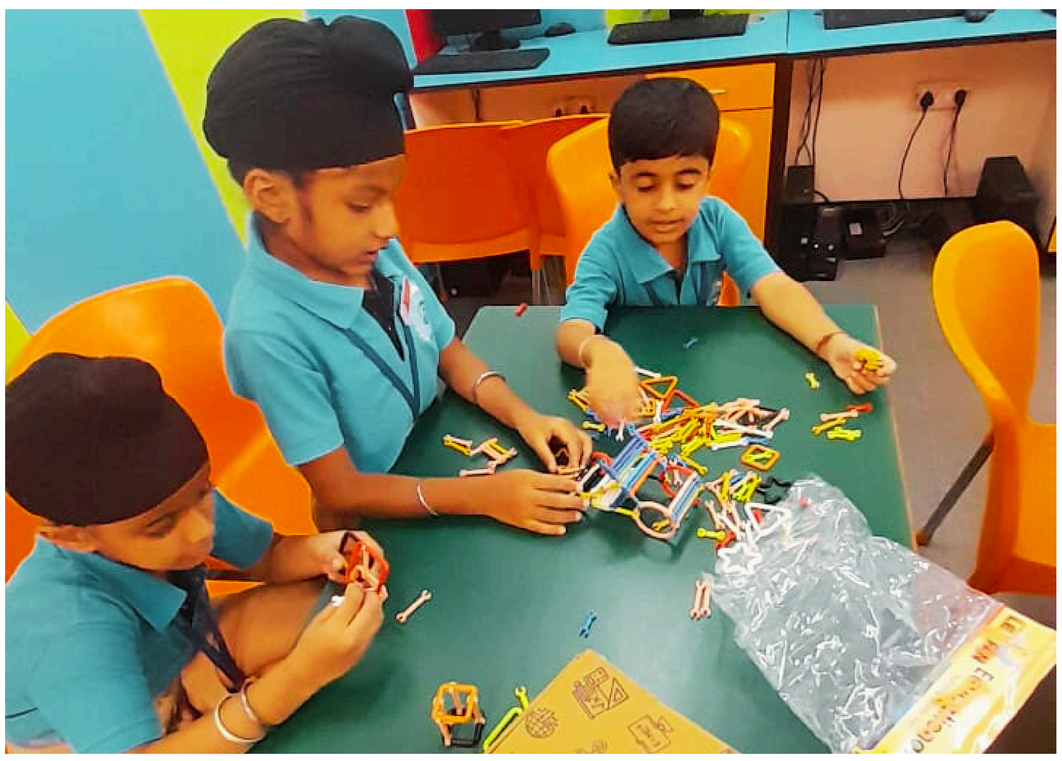
GLIMPSE OF ACTIVITIES

Grade II

- Students learned the basics of mechanical design using the Fun Linker Kit.
- Students gained knowledge about mechanical components and how to connect them to create innovative results.
- Completed models such as:
  1. **Tank**
  2. **Pen Holder**
  3. **Rickshaw**
  4. **Rope Swing**



FUN FACT

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Access challenge: About 2.2 billion people still lack safe drinking water at home.

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GLIMPSE OF ACTIVITIES

Grade III

- Students became familiar with basic electronic components using the Smart Paper Circuit Kit.
- They created electronic circuits and enjoyed the hands-on experience.
- Students learned how electronic components and circuits work, including LEDs, conductive tape, buzzers, switches, and more.
- Completed activities such as:
    1. **Smiling Girl**
    2. **Happy Birthday light**

FUN FACT

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Sanitation superheroes: Toilets save lives by preventing deadly diseases, yet 3.6 billion people lack safe sanitation.

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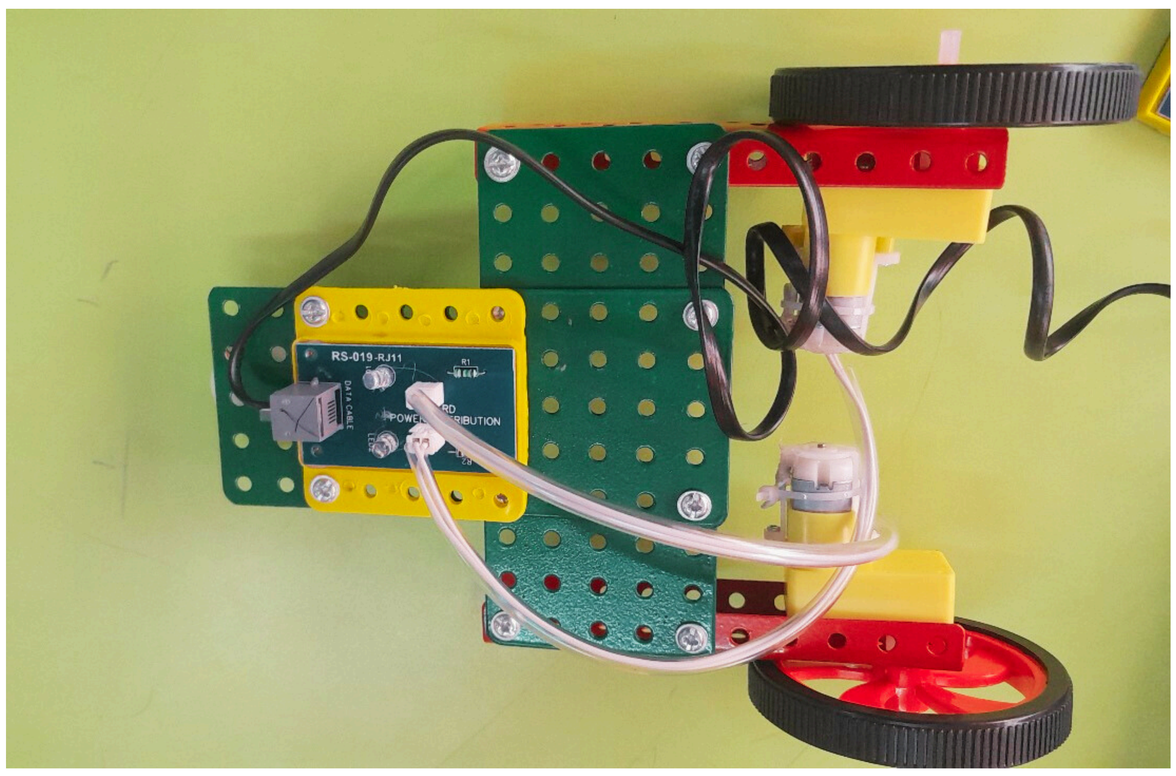
GLIMPSE OF ACTIVITIES

Grades IV, V & VI

- Introduction to the Mechatron Mechanical Robotics Kit.
- Understanding the working principles of simple machines such as levers, pulleys, gears, screws, etc.
- Overview of components like motors, controllers, and batteries.
- Introduction to the IoT Kit - Tinker Orbit.
- Completed projects such as:
    1. **Robo-Car**
    2. **Robo-Soccer**
    3. **Robo-Crane**
    4. **Smart Morning Alarm**



FUN FACT

"Reusable water: Around 80% of the world's wastewater is discharged back into nature without treatment.

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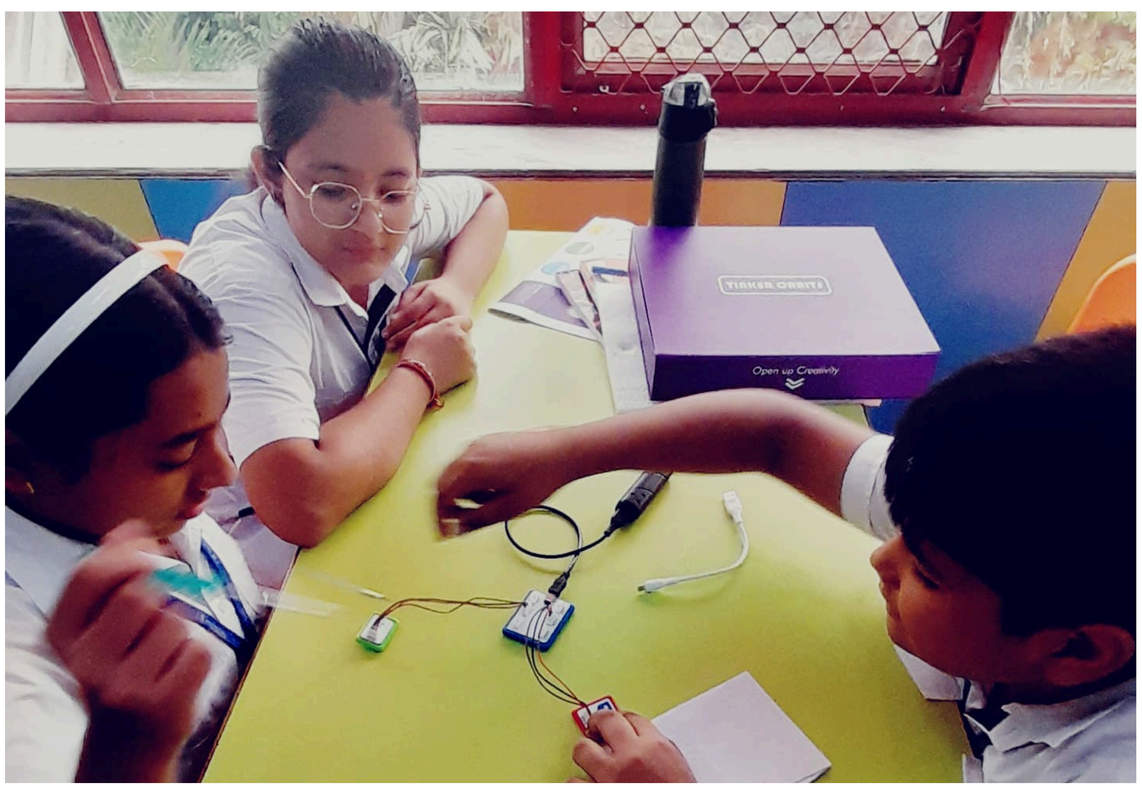
GLIMPSE OF ACTIVITIES

Grades VII & VIII

- Introduction to the Tinker Orbit Kit.
- Reviewed documents and videos on STEM and Robotics.
- Discussed the usage and applications of various electronic components, including LDR, LED, Power Distribution Board, e-sensors, and lasers.
- Completed activities such as:

1. **Controlling LED**
2. **Controlling Laser Light**
3. **Smart Morning Alarm**
4. **Security System.**



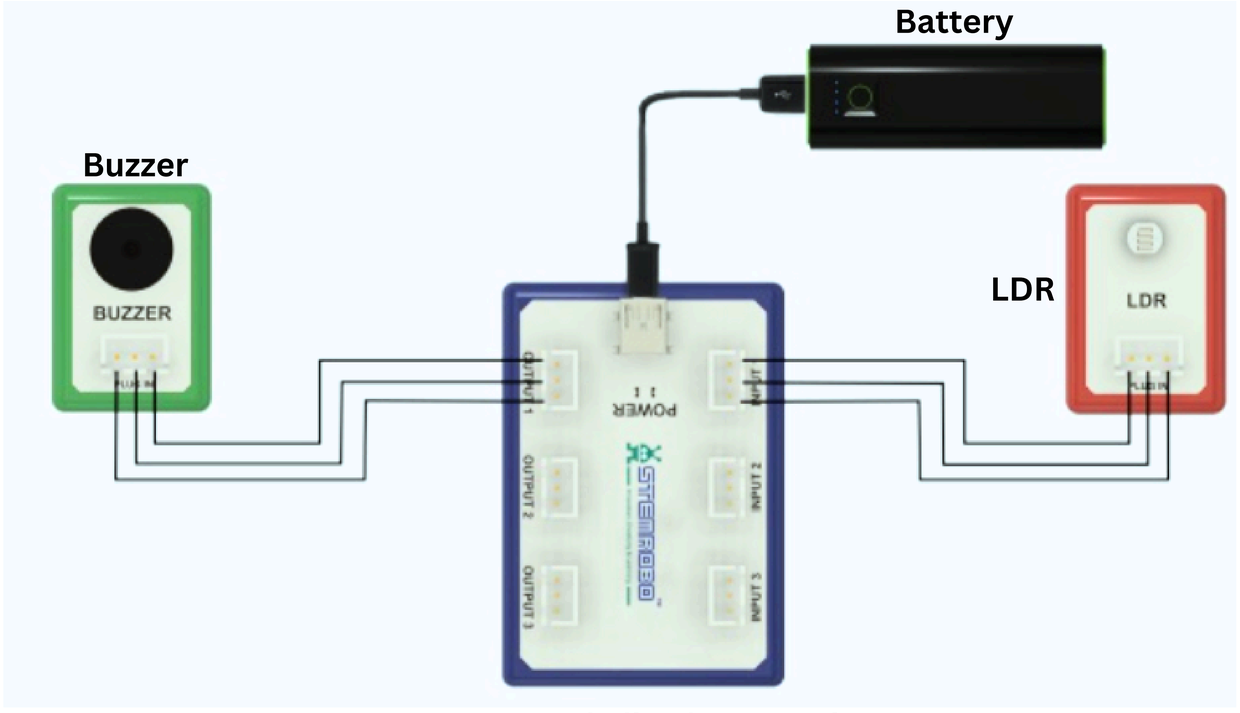
FUN FACT

"Water-powered: Hydropower, a renewable source of energy, provides about 16% of the world's electricity.

GLIMPSE OF

PROJECTS

Project name - Smart Morning Alarm



Power Ditribution Board

Project Circuit Diagram

Introduction: Individuals with physical disabilities often face challenges related to mobility and independence. A simple, reliable morning alarm can significantly improve their daily routine by providing greater autonomy and control.

Solution: The Smart Morning Alarm uses the Tinker Orbit Kit to create a light-sensitive alarm system. When the room reaches a certain light level, the buzzer activates, signaling the start of the day.

Impact: The Smart Morning Alarm enhances the lives of individuals with physical disabilities by fostering independence, boosting self-confidence, and providing a more inclusive, empowering daily experience.

FUN FACT

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Global health: Improved sanitation and clean water could prevent nearly 1.4 million deaths each year!

GLIMPSE OF

PROJECTS

Project name- Robo-Soccer

The **Robo-Soccer** project involves building robots that are controlled manually via a remote controller to play soccer on a miniature field. Each robot is designed to chase the ball, navigate the field, and score goals using the controller inputs. The project focuses on developing control skills, teamwork, and quick decision-making in a competitive setting.

FUN FACT

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Thirsty crops: Agriculture uses 70% of the world’s freshwater supply.

THANK YOU

CONTACT US

STEMROBO TechnologiesPvt Ltd

B-32 Sector-63, Noida-201301

+91-7905087639

Visit our website– www.stemrobo.com