مدرسة امباسادور
AMBASSADOR SCHOOL
INSPIRE INQUIRE INNOVATE

STREAMING FORWARD

November & December 2025

VERY GOOD
DSIB RATING

LUNA'S ADVENTURE

Students designed and constructed a scene story. They developed characters, built the setting, and planned a main event to serve as a transition from the beginning of the story. Using the Story Visualizer App, students wrote short, clear sentences that summarized their scene and highlighted the transition effectively.

It was inspiring to see them combine creativity, planning, and technology to bring their stories to life!

ROUTINE DIARY OF MTINY

Students programmed the bot for movements in different directions. Using design algorithms, students planned each step to ensure the bot reached its target. During the activity, students' computational thinking skills were exercised as they explained their algorithms and demonstrated how each code block worked in sequence.

It was inspiring to see them test, refine, and problem-solve as they watched their bots come to action, turning math and coding into a hands-on, interactive learning experience!

ASTRO STRIKE

Mathematical skills to solve physical and virtual play environments. They successfully used their prior knowledge of number counting to complete interactive tasks, demonstrating confidence and accuracy in their problem-solving. In addition, students explored the integration of computer vision technology, connecting digital and physical learning through fun, hands-on math activities.

This innovative approach reinforced key math concepts and encouraged creativity, critical thinking, and collaborative learning

FLASH FLOODS

Constructing a dam and studying its application in our lives was the objective of this session. Students discussed the role of dams in protecting homes and explained their functions. To test their designs, students demonstrated the working of the dams and analyzed how the quality and type of materials used affected the structure's ability to prevent flooding. This activity helped develop their teamwork, problem-solving, critical thinking, and observational skills, as well as their ability to plan, test, and evaluate a design.

MOTORIZED SEESAW

Students constructed a motorized seesaw model using the motor and controller. Laterthe programmed, joined the code blocks to bring their models into motion.

Students applied engineering and design principles, worked collaboratively, and showcased their creativity in the models. The concept of levers explains the working mechanism of their seesaw models. Their clear understanding of balance, structure, and controlled movement was reflected in their final creations.

STEAM PARK

Building the STEAM Park using the components of the STEAM Park set was the objective of the session. They were able to explain the different components and describe the rides and structures they had constructed, sharing their understanding of how each part worked. To showcase their creativity and learning, students designed posters highlighting the unique features and attractions of their STEAM Parks.

It was exciting to see them combine engineering, design, and presentation skills to bring their imaginative parks to life!

SUBTRACTION STORY

Students programmed using advanced coding concepts such as broadcast, along with next costume, loop, and wait code blocks. They used different code blocks from different palettes — including motion, events, control, and look & say — and applied them in the correct sequence to complete their tasks. Students also designed animations to demonstrate subtraction, showing how numbers decrease clearly and visually. It was inspiring to see them plan, test, and refine their programs, confidently explaining how each code block worked together.

This hands-on experience allowed them to combine creativity, logic, and math skills in a fun and interactive learning environment!

LAUNCH - CATAPULT

Our Grade 1 students designed and built their own simple catapults. Students explored the basic science behind how a catapult works — applying force and using a lever to launch an object. Students also connected their math learning by using subtraction to aim and launch their projectile towards the correct answers.

The activity encouraged creativity, problem-solving, and a deeper understanding of how science and math come together in real life.

STRAW ROCKET

Students created straw rockets that could be launched using a straw and made modifications to their designs, such as adjusting the fins or cone size, to improve flight distance and accuracy. They learned about the different parts of a rocket, including the nose cone and fins, and understood their importance in flight. Students developed an understanding of how blowing air through a straw generates the force that propels the rocket. They recorded their observations using the Story Visualizer app, enhancing their data collection, analysis, and digital literacy skills.

This activity fostered creativity, problem-solving, and critical thinking throughout the process.

READY STEADY LEGO

Students designed and built paper sail cars and balloon-powered cars to explore the use of air as a source of power to make objects move. Through hands-on experiments, they discovered that the use of wind and air pressure could set their models in motion. As they constructed their cars, students made improvements to enhance the efficiency and performance of their designs. They tested, observed, and modified their models, demonstrating strong problem-solving skills and creativity throughout the process.

During the presentation comparison of both types of cars and the role of air in each mechanism was presented. Key observations were discussed in the class as a reflection of the activity.

RAISE THE FLAG

Students designed and built an electrical flagpole, focusing on the pulley mechanism to understand how it works in real-life applications. They tested their models, observed how the mechanism functioned, and made improvements based on their observations.

Students documented their learning and observations using the Story Visualizer app, bringing their ideas to life through storytelling and visuals.

This hands-on activity allowed them to combine engineering, math, and digital skills in a fun and practical project.

HELLO VINCIBOT!!

VinciBot was the resource to complete simple tasks using text-based coding. In this two weeks extended activity, students created sequences and loops to control the bot's movements, bringing their ideas to life through display animations. As they worked, using application of addition, multiplication, and division skills to solve challenges, with coding skills in a practical way. Each one of them demonstrated how their code allowed VinciBot to move, turn, and reach its targets.

It was inspiring to see students test, refine, and problem-solve, turning abstract math and coding ideas into hands-on and collaborative learning.

ANIMAL FARM

Students designed and built prototypes of automated roofs that could open and close. They used text-based coding to program the color sensor and motor, using the mechanical models. Students also explained the working mechanism of their prototypes and the logic behind the code they had created.

This hands-on, interactive experience allowed them to combine skills like engineering, programming, and critical thinking, fostering problem-solving in an engaging and collaborative learning environment.

LIGHT UP THE CITY!!

Application of division to divide the area into four equal parts and use it judiciously for a purpose. The area covered houses, gardens, factories, and a designated recyclable bin area, strengthening their mathematical and spatial reasoning skills. Use of simple circuits to light up the houses, students learnt about open and closed circuits, thereby enhancing their engineering and problem-solving skills.

Student teams demonstrated the projects, while each one was vocal to clarify various aspects of circuits and lights.

PING PONG BALL GAME

The objective of this session is to create an interactive Ping Pong ball game using the PictoBlox App. They explored the platform's features to design and animate their own game environment, making their sprites move, bounce, and respond to player interactions.

Throughout the process, the coding tools helped them enhance both the functionality and visual appeal of their projects, resulting in engaging and dynamic game simulations.

Application of mathematical calculations, angles, and the speed of the Ping Pong ball was observed. Discussion on programming better interactions in the game was the feedback.

DIVISION ADVENTURE

This was a class of mTiny Jungle Quest, programming mTiny to navigate a twisting jungle maze mat filled with surprises. They guided mTiny to collect jewels while avoiding obstacles, solving division problems along the way to choose the correct color markers for each jewel.

After gathering the jewels, students programmed mTiny to reach the treasure box, calculated their total points, and celebrated the winning explorer.

Throughout this interactive challenge, they showcased critical thinking, problem-solving, logical reasoning, and strong math skills, making the adventure both fun and educational

TINKTOBER 3D DESIGN CHALLENGE

A playful Halloween spirit filled the room as students used their tablets with Tinkercad to bring imaginative ideas to life through 3D design. They began by building a simple bat using basic shapes, learning how to move, scale and combine objects in a 3D workspace. The activity then extended into the Tinktober challenge, where they imagined and crafted unique Halloween themed designs, shaping each model to reflect their own creative vision.

Throughout the session, students strengthened their creativity, spatial awareness, problem solving and digital design skills while working with Tinkercad. The activity gave them a clear sense of how 3D modelling works and how simple shapes can transform into meaningful designs.

ANIMATION WITH MEASUREMENTS IN PICTOBLOX

A spark of creativity filled the classroom as students paired up to explore how PictoBlox could turn simple measurements into animated stories. Using the platform's Motion blocks, they controlled each sprite's direction and distance, while the Looks blocks helped them switch costumes and add expressive dialogue. Sound blocks allowed them to enhance scenes with effects, and Event blocks triggered interactions that connected their characters. Throughout the activity, students applied real measurement skills by calculating distances in centimeters and converting between meters and centimeters to place movements accurately on the x and y axes.

Their creations evolved into short animations where characters met at planned locations and responded through broadcasts. The task encouraged creativity, teamwork and growing coding confidence as their ideas transformed into lively digital narratives.

OUR BODY IN MOTION

The classroom buzzed with creativity as students transformed body systems into moving stories through stop motion. Working in teams, they selected one of the major human body systems among the digestive, respiratory, or circulatory system and sketched detailed diagrams on an A4 paper, labelling each organ clearly. They shaped clay pieces to represent moving elements such as food, air, or blood, then used tablets with the Stop Motion Studio app to capture frame-by-frame images that showed how their chosen system works.

Through this hands-on process, students strengthened observation, teamwork and fine motor coordination while gaining a clearer understanding of the body's complex functions. Blending creativity with technology made learning both meaningful and enjoyable.

SPIKE ESSENTIAL DELIVERY BOT

With focus and enthusiasm, students embarked on a hands-on challenge to create a delivery robot that could navigate accurately. Working in small groups, they used Spike Essential kits to design, build, and program a small robot capable of navigating a challenge mat. After carefully measuring distances and turns, they planned the robot's route and coded each movement to deliver items to the correct locations. Students tested their bot, identified errors, discussed improvements with peers, and refined their program until it moved accurately.

Through this hands-on experience, they developed practical math skills, logical thinking, spatial awareness, collaboration, and decision-making, culminating in a dependable robot that successfully completed the delivery challenge with precision.

FEEDING THE ANIMALS WITH AI VISION

Curiosity filled the room as students discovered how machine learning and computer vision allow a robot to interpret its surroundings. In teams of three, they explored supervised learning through a face detection task using the VinciBot AI Vision Kit, then programmed a model capable of recognizing animals and sorting them by their eating habits. The activity became even more exciting when VinciBot scanned an animal card and travelled across the mat to match it with the correct food tile.

During the lesson, students sharpened their coding, logical reasoning, teamwork and observation skills while working with real AI tools. Using VinciBot and the vision kit made the learning experience practical, engaging and strongly tied to real technological applications.

MISSION SURVIVAL

Our students explored how animals use special adaptations to survive in nature. After learning about unique survival features—such as a camel's hump for storing energy, a chameleon's color-changing skin for camouflage, and fins that help fish glide through water—students selected an animal and recreated its adaptation using LEGO SPIKE essential sets.

They worked in teams to design and build a model, then programmed it with sensors and motion blocks to bring the adaptation to life, such as a trunk that moves, fins that flap, or a head that changes direction to mimic camouflage behavior.

This activity helped students strengthen creativity, engineering thinking, teamwork, and problem-solving while discovering how animals survive in different environments.

SMART WATCH

Our students were introduced to the BBC micro: bit, learning how to handle the device, explore its buttons, LED display, and basic coding features. Students used Micro: bit to design their own mini smart watch. They programmed the device to display time, experimented with switching between 12-hour and 24-hour formats, and even practiced converting time into minutes and seconds, just like real digital watches.

This hands-on activity not only strengthened their coding and logical thinking skills but also helped them see how everyday technology is designed and built

NEW SPECIES OF ANIMAL!

Our students stepped into the role of young environmental scientists and designers as they explored how animals adapt to survive in different habitats. After learning about deserts, rainforests, oceans, and polar regions, students analyzed the challenges of each environment—such as extreme temperatures, camouflage needs, or food availability.

Using this learning, they created their very own new species of animal, selecting special adaptations to help it survive. Students supported each design decision with clear reasoning, explaining how features like claws, fur, colors, or body shape provide survival advantages. Using Canva, they brought their imaginative species to life through creative digital illustrations and presentations. The activity sparked curiosity, creativity, and scientific thinking, resulting in some wonderfully original creatures perfectly suited to their environments.

PULLING ROBOT

Students explored forces and friction using LEGO SPIKE Essential by designing and building their own pulling robots. They tested how friction affects movement by pulling objects across different surfaces and measuring which robot performed best. The lesson ended with an exciting tug-of-war competition, where students put their designs to the test to see which robot had the strongest pull. This fun activity helped them understand friction, improve problem-solving skills, and enjoy real-world engineering in action.

RUBBER BAND CAR

Students explored forces and friction using LEGO SPIKE Essential by designing and building their own pulling robots. They tested how friction affects movement by pulling objects across different surfaces and measuring which robot performed best. The lesson ended with an exciting tug-of-war competition, where students put their designs to the test to see which robot had the strongest pull. This fun activity helped them understand friction, improve problem-solving skills, and enjoy real-world engineering in action.

STORY WITH TOONTASTIC!

Students explored digital storytelling using the Toontastic application, where they created their own animated stories. Through this engaging activity, students developed their storytelling skills by designing characters, choosing settings, and structuring a clear plot with a beginning, middle, and resolution. The session also helped students enhance their digital literacy, as they learned to use a storytelling app creatively and responsibly. This hands-on experience encouraged imagination, creativity, and confidence while combining technology with language skills in a fun and meaningful way.

LIGHTENING UP LEARNING

In Grade 5, students "Lightened Up Learning" by exploring the fundamentals of electrical circuits. Using the Blix Circuit Kit, they learned about batteries, switches, wires, and bulbs, and built simple open and closed circuits. They practiced troubleshooting to identify and fix faults, then applied their skills creatively to design functional classroom circuits, such as fans, buzzers, and lamps. This hands-on activity made learning electricity exciting, practical, and interactive.

SWEET BOX CHALLENGE

Students, as creative packaging designers, turned flat A4 sheets into functional 3D sweet boxes. They measured sweets, planned nets, and carefully cut, folded, and assembled their boxes. Finally, they added personal touches with decorations, logos, and brand names. This fun, hands-on activity combined geometry, measurement, and creativity while encouraging problem-solving and teamwork.

SPINNING TOP CHALLENGE!

Students took on the “Spinning Top Challenge” in Tinkercad, learning to use two important tools: the SIM Lab connectors and the revolve tool. They explored symmetry, balance, and rotation while designing 3D tops, experimenting with shapes, measuring dimensions, and refining their designs for stability and smooth spinning.

This hands-on activity combined digital design, physics, and problem-solving, encouraging creativity and practical learning.

DELIGHTEX WATER CYCLE

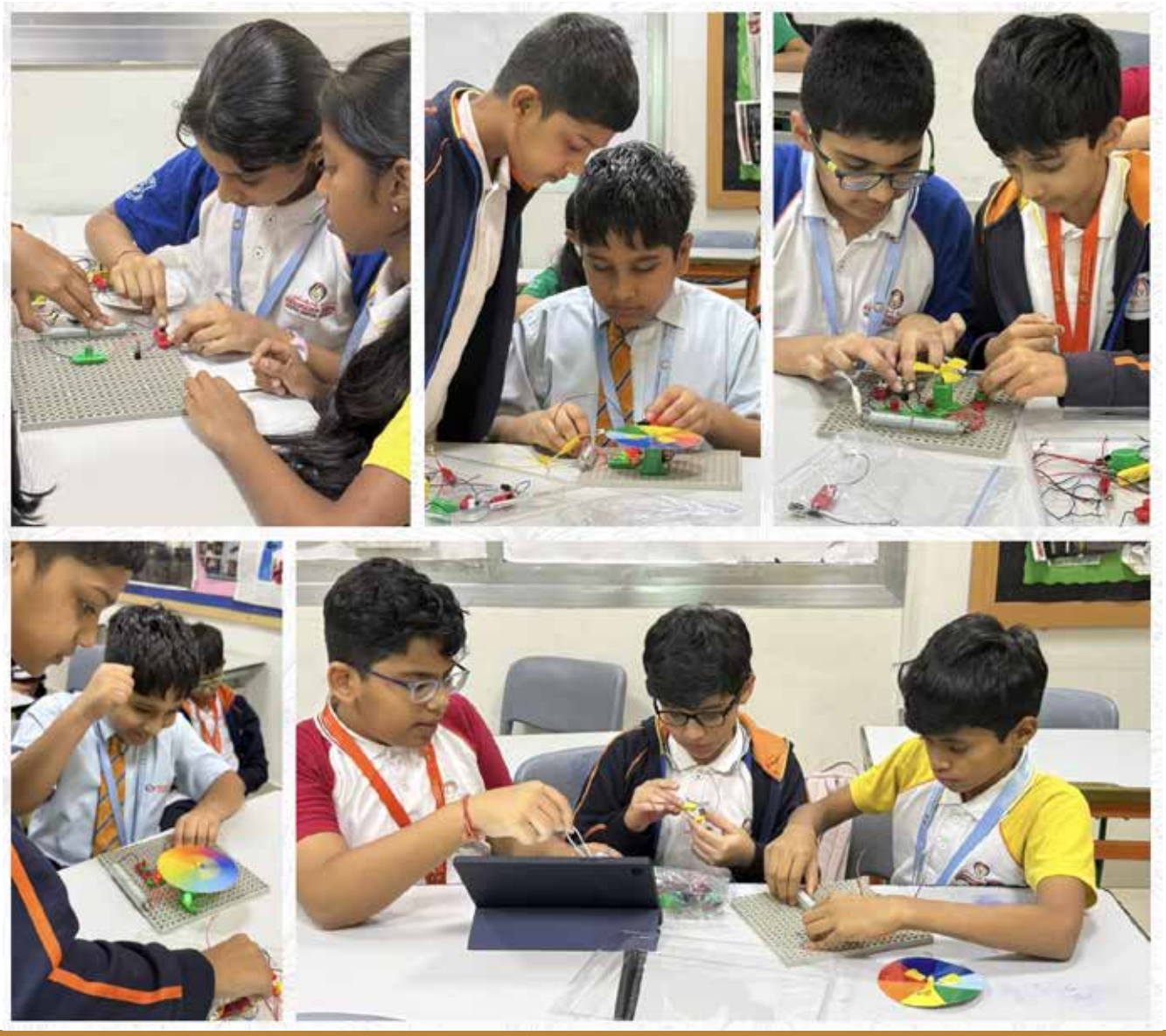
Students explored the four main stages of the water cycle—evaporation, condensation, precipitation, and collection—through an immersive virtual learning experience. Using Delightex, they created simple 3D environments representing the water cycle and then used VR headsets to enter and explore their virtual worlds.

Students identified real-life examples of the water cycle and discussed its importance in nature, making connections between digital simulation and the environment around them. This hands-on, interactive activity fostered creativity, critical thinking, and a deeper understanding of natural processes.

BUILDING CIRCUITS USING BLIX

The class was engaging and filled with hands-on learning experiences. Students were thrilled to witness the magic of lighting up LEDs as they successfully connected and completed their circuits. While exploring the topic of electricity in Physics, they first practiced building circuits using the TinkerCAD simulator and then applied their knowledge using the BLIX Circuit Kit for real-time construction.

The session concluded with an interactive quiz that helped reinforce their understanding of electricity. It was truly a fun and productive class with great learning outcomes.



AUTONOMOUS CAR WITH FABLE

Students explored the fascinating world of self-driving technology by creating their own autonomous car using Fable Bot. Through hands-on research, they learned how these vehicles operate in real-time, integrating sensors and AI to navigate and respond to their environment. With the buzz around self-driving cars and the exciting prospect of flying cars in Dubai by 2026, the project gave students a glimpse into the cutting-edge innovations shaping the future of transportation.

Students strengthened their skills in the application of AI and knowledge about flying cars.

STARTUP!

Students took on the role of young innovators as they identified real-world problems, researched their causes, and brainstormed practical solutions. Using LEGO Spike Prime, they designed and built prototypes that combined creativity, engineering, and coding. Each team also delivered a confident Startup Pitch to present their ideas.

This hands-on project strengthened their STREAM skills while building teamwork, problem-solving, and entrepreneurial thinking.





REBUILD THE LOST CITY WITH DELIGHTEDX AND

Students explored an ancient civilization using Google Experiment, identifying key structures and analyzing their purpose, architecture, and materials. Using DelightEX, they reconstructed damaged or missing buildings with precision, applying engineering thinking to design improved, future-proof versions. Through clear presentations, students communicated their innovative ideas, showcasing creativity, technical skill, and collaboration were the students also stepped into the virtual environment that they created using ClassVR. This hands-on project reflects high STREAM Meter engagement, blending Science, Technology, Robotics, Engineering, Arts, and Math into an immersive learning experience.

BUILT AN AMUSEMENT PARKT

Students explored how design, engineering, creativity, and technology come together to bring amusement parks to life. Using Fable Bot and LEGO Simple and Powerful Machines, they built their own 3D amusement park models while applying principles of layout planning, safety, and user experience. The highlight of the lesson was watching their creations come alive as they experienced the amusement parks they designed.

TACKLING CONCUSSION - GIZMO

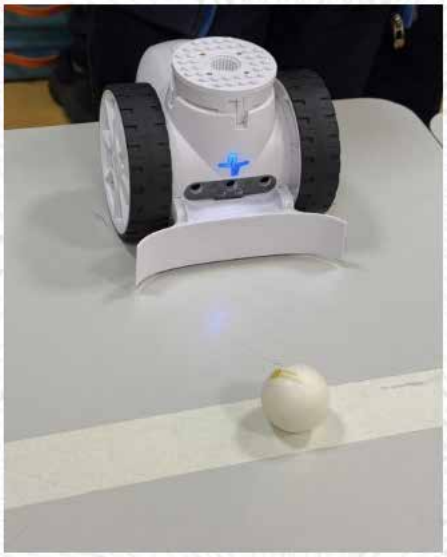
Exploring Gizmos! Students explored the causes and effects of concussions in depth through a STEM case study on the GIZMO platform. The simulation provided a clear understanding of what happens to the brain when it experiences a blow to the head. Building on this knowledge, students applied their creativity and engineering skills to design safety helmets that were both strong and innovative, ensuring protection while maintaining structural integrity. It was a meaningful blend of science, design, and problem-solving.

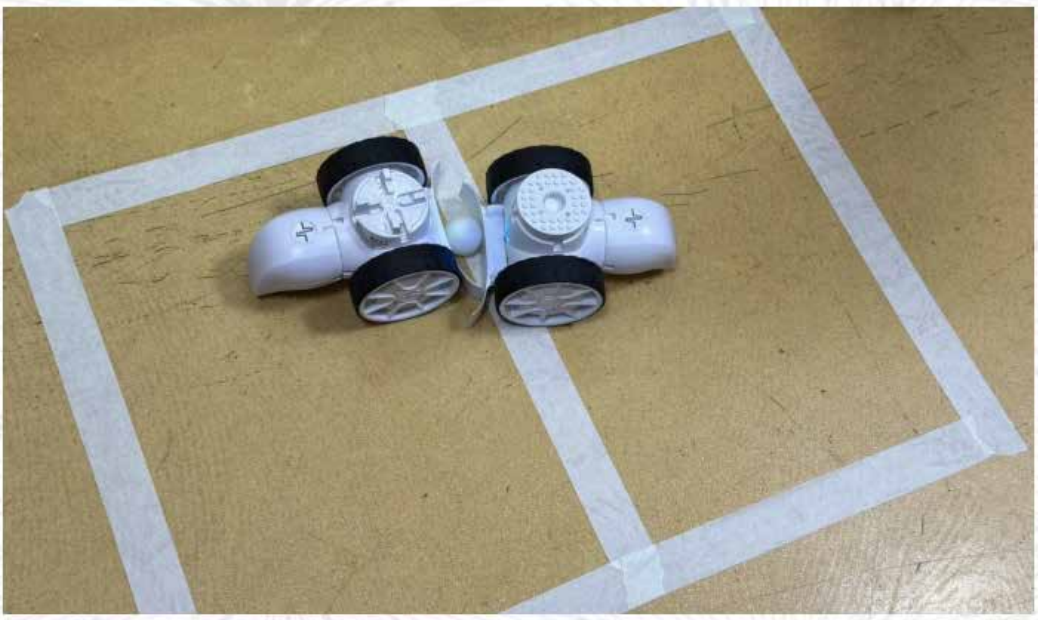
BUILDING A SMART STREET LAMP WITH ARDUINO

Building on the concept of existing smart streetlights, students conducted research and designed their own smart and sustainable streetlight prototypes using LEGO Spike Prime. Through this activity, they explored innovative features that improve energy efficiency, safety, and automation. It was an exciting blend of creativity, engineering, and real-world problem-solving.

BATTLE BOTS IN ACTION: STREAM LEARNING ON THE MOVE

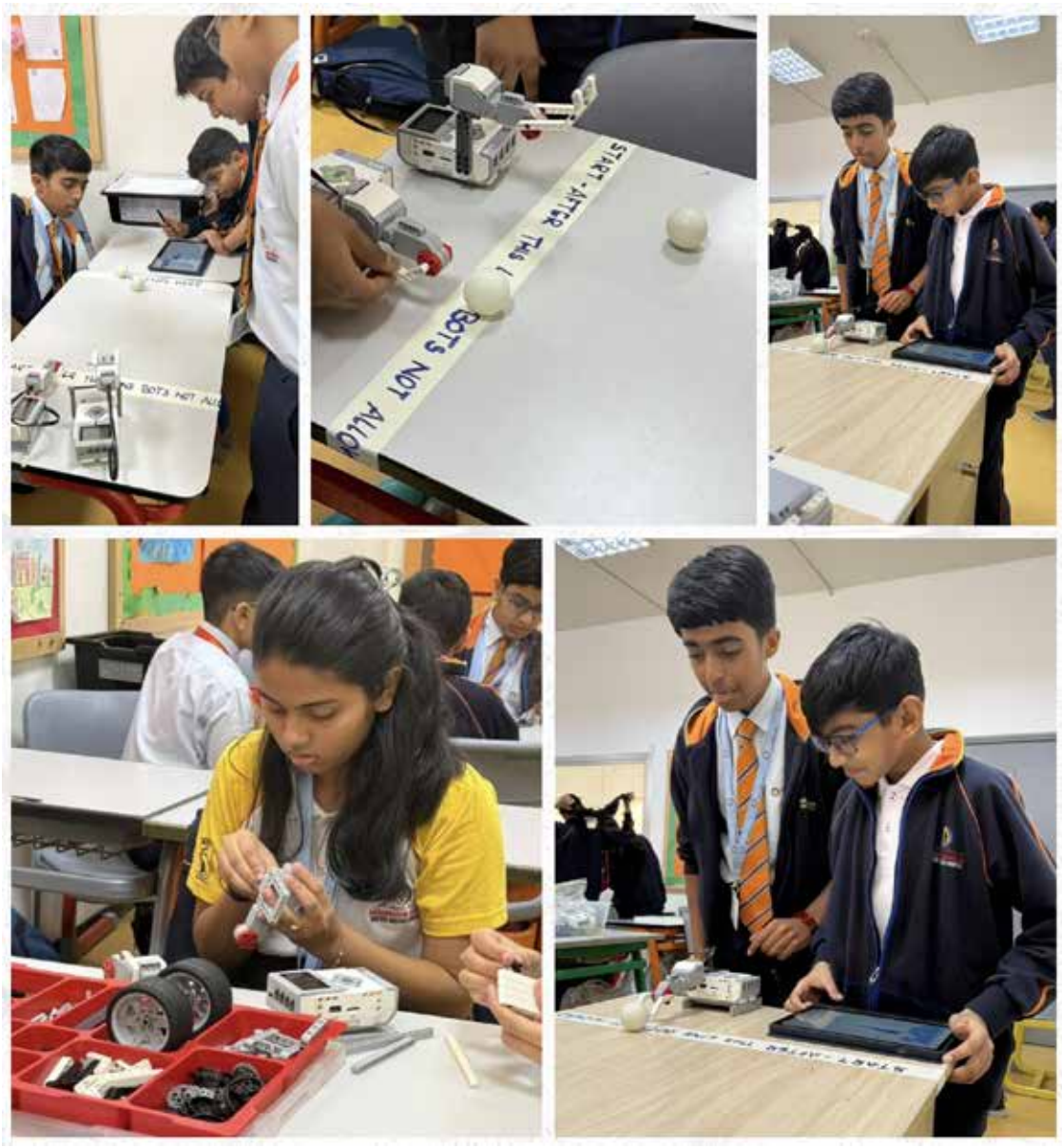
Students explored how servo motors, speed, torque, and turning angles affect robot movement, coding precise actions using Fable Blockly with loops, degrees, and speed control. They engineered stable Battle Bot structures capable of pushing, dodging, and outmaneuvering opponents, applying strategic thinking to optimize movement patterns for competition. Working collaboratively under time pressure, students demonstrated teamwork, problem-solving, and sportsmanship, reflecting high STREAM Meter engagement across Science, Technology, Robotics, Engineering, Arts, and Math.





ENGINEERING PRECISION: BUILDING AN EV3 ROBOTIC ARM

Students explored how levers, torque, and mechanical advantage play a key role in robotic movement. Using EV3, they engineered a robotic arm powered by motor-controlled joints and programmed it to pick, lift, and place objects with accuracy. Through rotation degrees, angle measurements, and controlled motion, students applied real science concepts like forces and motion, along with math skills such as angles, degrees, and ratios. The activity strengthened their computational thinking, problem-solving, and mechanical design abilities while giving them a hands-on glimpse into real-world robotics.



BOTTLE SUMO ROBOT

Students applied concepts of physics, including force, motion, and balance, to design and program competitive robots using LEGO Spike Prime. Working in small teams, they built sturdy, balanced robots capable of pushing a bottle in a sumo-style challenge.

After constructing their robots, students used the Spike Prime app to program basic movements—forward, backward, and turning—testing and refining their code through trial and error to optimize performance. The activity culminated in a fun Bottle Sumo Competition, where teams faced off to push the bottle out of the ring while keeping their robot inside, fostering teamwork, problem-solving, and hands-on learning.

DESIGNING FOR SAFETY : HOW CRUMPLE ZONES PROTECT YOU!

Students explored physics and engineering in a hands-on “Car Crash Test” activity. Using the Gizmo simulation, they designed virtual car crashes, adjusting parameters such as crumple zone length, rigidity, seat belts, and airbags, then analyzed the results to understand how design choices affect safety.

Students applied Newton’s second law (F = m·a) and impulse / momentum concepts (force × time) to see how increasing stopping distance or time reduces impact force. They then used Tinker CAD to design simple model vehicles or crash-protection systems incorporating crumple zones, testing their designs virtually and learning how physics principles improve real-world safety. This activity encouraged problem-solving, critical thinking, and creative engineering.

CREATIVE 3D DESIGNING!

This session was exciting for students to use 3D pens. Using PLA filament and guided safety techniques, students learned how to transform simple drawings into real 3D structures. Through tasks such as designing their names in 2D, constructing geometric shapes, and finally engineering a small suspension bridge, students practiced essential STREAM skills from understanding material science and geometry to applying the engineering design process.

SUSPENSION BRIDGE CHALLENGE

Students learned about the engineering behind suspension bridges and then used 3D pens to design and build their own miniature versions. They explored key concepts such as tension, compression, and load distribution while experimenting with different shapes and structures. The activity encouraged creativity, problem-solving, and teamwork as students assembled their bridges and tested their strength through a fun load-testing challenge.