مدرسة امباسادور
AMBASSADOR SCHOOL
INSPIRE INQUIRE INNOVATE

STREAMING FORWARD

January 2026

VERY GOOD
DSIB RATING

ADVENTURE OF MR. LOCO JOJO

Students used computer vision–based augmented reality and magnetic hexagonal pieces to build stable structures and help LocoJojo reach the treasure. They applied problem-solving, mathematical patterns, and counting to design a tall, balanced tower. By testing and modifying their designs, students showed strong critical thinking, creativity, and persistence while engaging with STREAM concepts.

FOLLOW THE GREEN BRICK ROAD

Using a sequence of algorithmic steps, one is tasked with constructing a physical path. They programmed mTiny to navigate the path accurately. The skills, such as understanding of sequencing, direction, and logical thinking is strengthened through this task.

The Repeat block and the Move Backward blockwere used effectively to shorten and optimize their code, helping them understand the concept of loops and efficient coding. The Move Backward block enabled them to correct paths and navigate obstacles, enhancing problem-solving and debugging skills.

This activity integrated key STEM skills, including computational thinking, problem-solving, critical thinking, and spatial awareness.

MAKEUENGINE

Students assembled a robot and used a remote control to maneuver, applying force and direction to push the red and yellow LEGO blocks outside the marked circle. Concepts of force and friction were strengthened by adjusting their movements to control the robot effectively. They used skip counting to calculate their scores, with the red block earning 10 points and the yellow block earning 5 points, strengthening their number sense and addition skills. This activity integrated STREAM learning as students applied science concepts, used technology to control the robot, practiced mathematics through scoring, and developed creative thinking and problem-solving skills by testing strategies and refining their approach through trial and error.

AI FACE FILTER APP

Students developed basic image processing and explored how artificial intelligence is used for gesture and emotion recognition. Using the PictoBlox Jr. app, they built programming logic that enabled facial expressions to trigger different outputs on the screen.

They applied their logical thinking skills to recognize specific emotions and respond accordingly. They enhanced their projects by adding emojis that appeared on the screen based on the detected emotions. Students also designed a Face Filter App that dynamically changed and applied filters to the face in response to different emotional expressions.

This activity strengthened their understanding of AI concepts, coding logic, and cause-and-effect relationships while encouraging creativity and computational thinking.

MTINY UNIFIED CHALLENGE

Students programmed mTiny to move from the base to various destinations by carefully calculating rotations, distances, and turns. They explored how each movement affected the robot's path and made adjustments through trial and error to improve accuracy. To make their programs more efficient, students used repeat blocks to shorten and optimize their code, helping them understand patterns and logical sequencing.

This hands-on experience encouraged persistence, teamwork, and critical thinking while deepening their understanding of movement, direction, and basic programming concepts.

THE RAFT

Students designed and built a raft and tested it in water to observe how it functions. Through hands-on experimentation, they explored the working mechanism of a raft and analyzed key design features that help it stay afloat, such as balance, shape, and weight distribution. This activity helped students understand the basic concept of buoyancy and stability in water.

Students learned how an axle enables smooth rotation and how a propeller helps a raft move forward in water. They tested and refined their designs to observe how structural changes affected movement. Using the Story Visualizer app, students recorded their observations, building STEM skills, creativity, and digital literacy.

EMOTION RECOGNITION APP GAME

Students explored how artificial intelligence evaluates and recognizes human emotions using the PictoBlox.ai app. They programmed an AI model to identify different facial emotions and applied this learning to develop an interactive emotion-recognition game. As part of the game design, students created a variable to track the score and used If–Else conditions to control scoring logic.

Students displayed an emotion that matched the given condition; the score increased by +1, while an incorrect emotion resulted in a score of 1. To enhance engagement and creativity, students expanded the game by adding multiple emotions and varied conditions, making the gameplay more challenging and enjoyable.

This activity strengthened their understanding of AI concepts, variables, conditional logic, computational thinking, and problem-solving skills, while also promoting creativity and logical reasoning through game-based learning.

AROUND THE WORLD CHALLENGE

In the two-week extended activity, in the first week, students designed and built a robotic bot and programmed it to analyze the distance covered in one full rotation. By observing and measuring the bot's movement, the relationship between wheel rotation, distance, and motion can be determined, helping them apply mathematical concepts to real-world situations.

Students programmed the bot to complete a simple mission on the challenge mat. The mission required the bot to follow instructions. Teams tested their programs, identified errors, and refined their code to improve accuracy, developing strong debugging and problem-solving skills.

In the second week, students designed a robot capable of transporting sample cargo to different destinations. They used the measurement along with the engineering design process to complete the challenge.

STEM skills, including computational thinking, measurement, logical reasoning, and spatial awareness, were enhanced. They followed the steps of the engineering design process by planning, testing, evaluating, and improving their solutions.

PICTOBLOX FACE DETECTION

Curious minds came alive as students stepped into the world of intelligent technology using a tablet with PictoBlox. Through hands-on programming, they worked with camera-based blocks to detect faces, recognize emotions, and train the system to identify a person, turning abstract ideas into visible results on screen. By creating simple projects with sprites and extending them creatively, learners strengthened logical thinking, creativity, observation, and confidence with AI concepts.

Students demonstrated the skill of how machines can see, recognize, and respond to human features in meaningful ways.

MICRO:BIT MATH!

Numbers met coding as students stepped into the role of young inventors using a tablet with the MakeCode simulation for BBC micro:bit. They began by discovering the microcontroller's key features and on-screen components, then moved on to building a simple calculator by arranging blocks and logic step by step. Along the way, they practiced sequencing, basic math operations, and clear thinking while solving small challenges together.

The hands-on simulation encouraged experimentation, patience, and collaboration, as students tested ideas and fixed errors independently. By the end of the session, learners showed confidence in using programming blocks to control outcomes and a growing comfort with applying computational thinking to real-world math problems.

SPIKE BIRDY!

Learning took flight as students combined science and technology using the LEGO Spike Essential kit and a tablet for coding. They designed and built a bird model, carefully identifying and assembling its body parts, then brought it to life with a motor and color sensor. Through simple programming, the bird responded by flapping its wings when it detected a LEGO brick of a chosen color, symbolizing food.

The activity encouraged curiosity, hands-on building, logical thinking, and teamwork, while connecting biological concepts with real-world motion and automation. By the end, students confidently linked physical features with function and showed growing ease in using sensors and code to control movement in a meaningful way.

MY VOCATION STORY

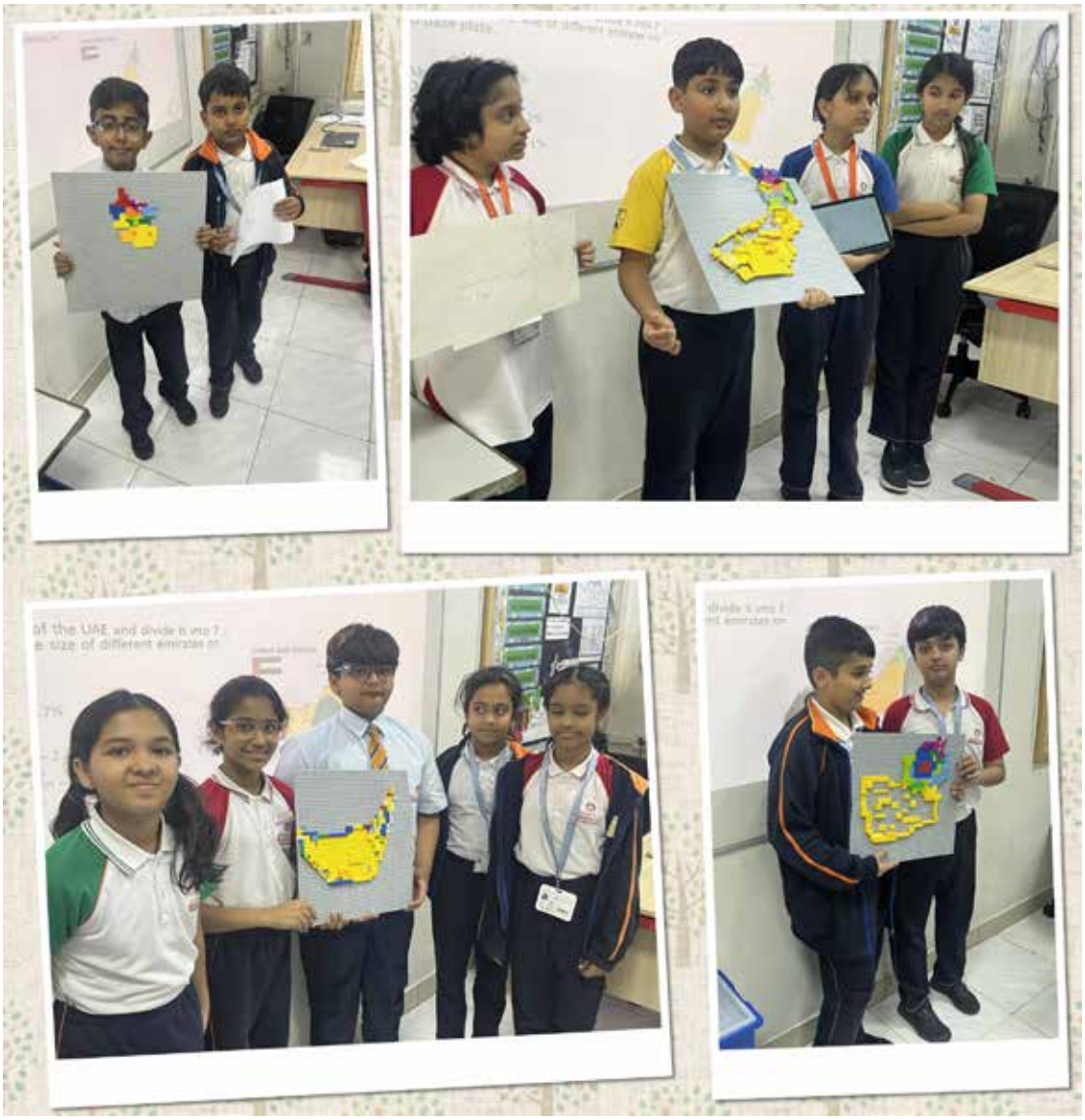
students explored the exciting world of stop-motion animation through an integrated STEAM approach. Using LEGO Community Starter kits, they planned and built creative scenes and showcased their vacation stories in the form of short animated narratives. By capturing image sequences to create motion and working collaboratively to solve problems involving sequencing and patterns, students strengthened their learning of technology, engineering, arts, science, and mathematics in an engaging and meaningful way.

MOTORLESS CAR

students designed and built motor-less vehicles using the BLiX kit. They tested their designs by releasing the vehicles from a ramp and observing how far they traveled. Through this hands-on activity, students explored concepts of motion, force, and design while developing teamwork, problem-solving, and analytical skills in an engaging learning environment.

MAP THE UAE

Students engaged in a hands-on STEAM activity where they calculated the area occupied by different emirates of the UAE and practiced rounding decimal numbers. Using LEGO Community Starter kits, they planned the size of the UAE, divided it into seven parts based on the relative size of each emirate, and designed clear borders on LEGO base plates. Students then built and color-coded the UAE map using LEGO bricks, helping them visually differentiate the emirates while strengthening their mathematical understanding, spatial skills, and teamwork.



CREATING STORY WITH TOONTASTIC

Students stepped into the world of digital storytelling by creating animated stories using the Toontastic application. They explored key elements of a narrative—characters, setting, plot, and resolution—while bringing their own creative ideas to life. As students planned, narrated, and animated their stories on tablets, they strengthened storytelling, creativity, and digital literacy skills. The excitement of seeing their stories unfold on screen made learning both meaningful and fun.

TINKER MICROBIT

Students were introduced to the basics of Tinkercad Circuits and learned how to navigate and design in a virtual environment. They discovered what a Micro:bit is and how it can be programmed and simulated using block coding. By creating simple circuit designs, students applied logical thinking, problem-solving, and collaboration skills. This hands-on experience encouraged creativity, clear communication of ideas, and teamwork as they worked together to design and explain their electronic projects.

ANIMAL LIFE CYCLE ANIMATION

Students combined science and creativity by exploring the life cycles of animals. They identified and sequenced each stage while describing changes in appearance and behavior. Using clay, paper, and stop-motion animation on tablets, students worked collaboratively to plan, create, and present their models. This engaging activity helped strengthen scientific understanding, teamwork, creativity, and communication skills, making learning both interactive and memorable.

ARM ENGINEERING

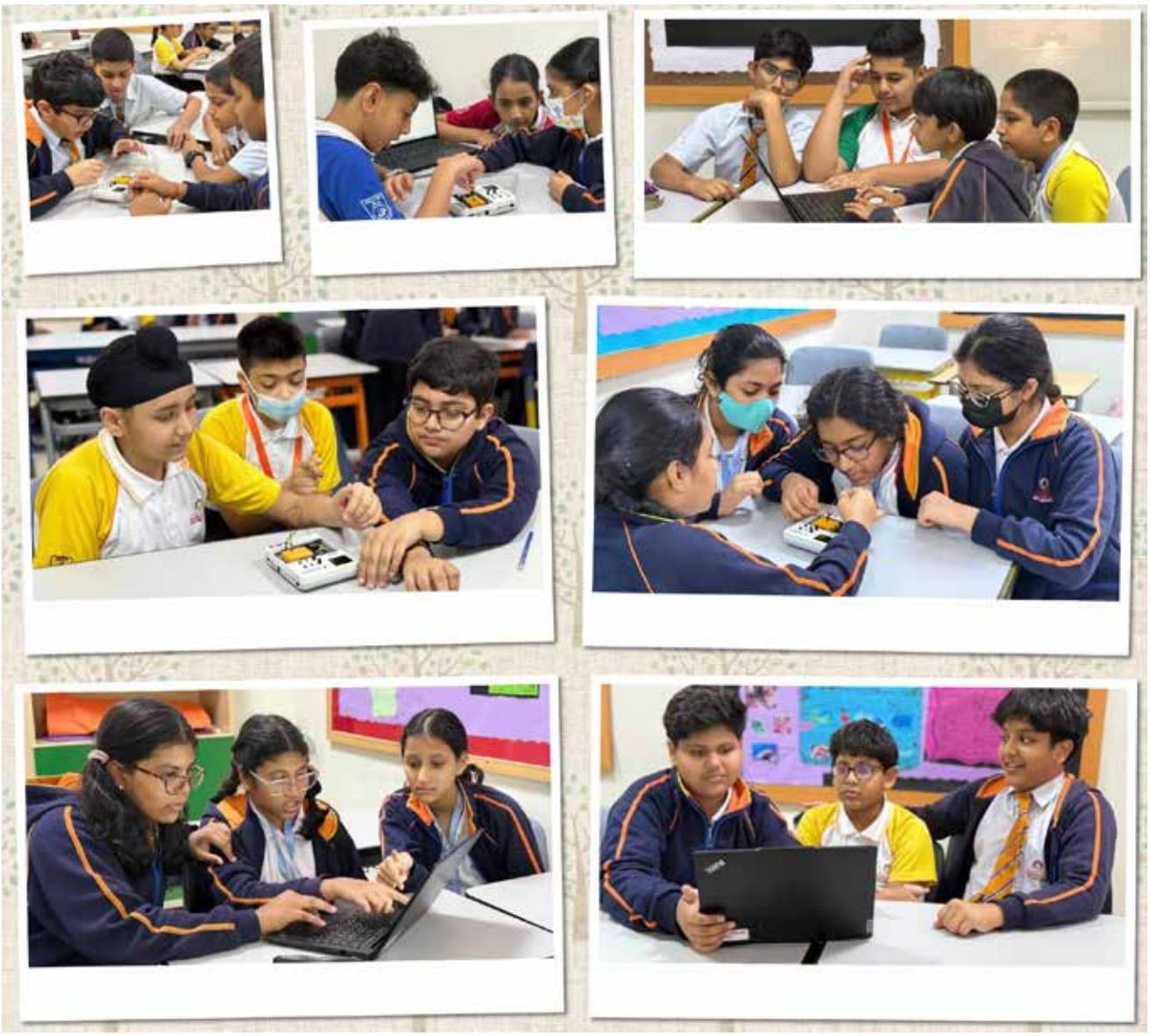
Students explored the principles of levers, torque, and mechanical advantage by designing and building a motor-powered robotic arm. By using rotation degrees and precise angle measurements, they programmed the arm to pick, lift, and place objects accurately. This hands-on activity helped students apply concepts from science such as forces and motion, along with mathematical skills including angles, degrees, and ratios. The project strengthened their computational thinking, problem-solving, and mechanical design abilities, offering a real-world experience in robotics and engineering.

COLOR COMMAND BOT - PROGRAMMING FABLE TO THINK & MOVE

Students explored the fundamentals of robotics by programming a Fable Bot to read colors and make movement decisions. Using a color sensor as an input, they applied IF–THEN conditional logic to control the robot's direction based on detected colors such as red, yellow, white, and blue. Through testing, debugging, and improving their code, students strengthened problem-solving and logical thinking skills while collaborating to successfully complete the robotics challenge.

INTRODUCTION TO MICROCONTROLLER - ARDUINO

Students took their first steps into the world of electronics and automation by building and coding simple Arduino circuits such as blinking LEDs, alternate LED patterns, and traffic light simulations. Through these activities, they applied logical thinking to troubleshoot both hardware and software challenges. Working collaboratively in groups, students progressed through structured tasks while gaining an understanding of how Arduino systems are used in real-life automation, including traffic signals and indicators. The project strengthened problem-solving skills and sparked curiosity in electronics and coding.



EV3 BOT CHALLENGE

Students designed and built functional EV3 Battle Bots, applying key engineering principles to create competitive and stable robots. Through hands-on experimentation, they explored science concepts such as force, friction, mass, balance, and motion, while using mathematics to control speed, timing, and turning angles. By programming strategic movements using EV3 software and refining their designs through testing and competition, students strengthened problem-solving and analytical skills. The challenge also emphasized teamwork, fair play, and ethical competition, making it a powerful blend of learning and excitement.

BUILD THE CITY. CALCULATE THE BRIDGE. EXPERIENCE IT IN VR.

Students explored how Mathematics, especially Pythagoras' Theorem, plays a vital role in designing safe and realistic bridges that connect cities. By applying the formula ($a^2 + b^2 = c^2$), they calculated accurate support lengths and discovered why triangular structures provide greater strength than rectangular ones. Students then designed and built their own city models with functional bridges and brought their engineering ideas to life using ClassVR. This immersive experience helped them reflect on how math and engineering shape both real and virtual cities—bridging learning beyond the classroom.

AI VS FLOODS: PREDICTING, PROTECTING, AND SAVING LIVES

Students explored how floods and river erosion impact human settlements by using simulations to test how different design choices affect flood damage. They learned how Artificial Intelligence analyzes data patterns to predict floods and applied this knowledge through the AI Quest Game. Building on their learning, students proposed AI-based solutions to help communities prepare for and reduce the impact of floods. This engaging project encouraged critical thinking, innovation, and real-world problem-solving through technology.

UP, UP & AWAY! - THE SCIENCE OF HOT AIR BALLOONS

Students explored the fascinating science behind hot air balloons experiencing using ClassVR, discovering how they rise and descend through principles of buoyancy, air pressure, temperature, and volume. By controlling a virtual hot air balloon, they learned how adjusting heat and releasing air affects altitude. Applying this understanding, students designed their own hot air balloon models in TinkerCAD, taking on a design challenge that encouraged creativity, problem-solving, and engineering thinking. The activity brought science to life—showing how ideas truly take flight!

AI FOR BRANDING AND PROMOTION

Students explored how Artificial Intelligence supports branding and promotion in the real world. They learned the basics of prompt engineering and discovered how carefully written prompts can guide AI to generate creative and meaningful ideas. Using free AI tools such as Gemini and ChatGPT, students designed eye-catching promotional posters for EVGP Phoenix, while also discussing the importance of using AI responsibly. This engaging activity helped develop creativity, digital awareness, communication skills, and an ethical understanding of emerging AI technologies.

MICRO: BIT SMART HOME

Students were introduced to the fundamentals of smart home technology as they designed and built simple smart home models featuring voice-activated lights and light-sensor-based systems. Using Micro:bit smart home kits, laptops, and cardboard, students brought their ideas to life through hands-on experimentation. They tested their prototypes, identified areas for improvement, and refined their designs. This engaging activity strengthened problem-solving, logical thinking, collaboration, and basic engineering skills, while sparking curiosity about how technology can make everyday living smarter.

MICRO: BIT SMART HOME 2

students continued their smart home journey by enhancing their models with smart doors and temperature-based smart fans. They explored how sensors respond to environmental changes and worked together to integrate new features into their existing designs. This extension activity encouraged creativity, teamwork, critical thinking, and perseverance as students tested and improved their projects—bringing their smart homes closer to real-world applications.