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AMBASSADOR SCHOOL
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STREAMING FORWARD
August & September 2025

VERY GOOD
DSIB RATING

THE SCARE CROW

The second term began with great excitement as students enthusiastically participated in a STREAM session. They engaged in the engineering and design process to create rotating scarecrows, carefully focusing on both structure and mechanism. By testing and modifying their models, students worked on improving efficiency while showcasing creativity, problem-solving, and innovation. As part of the session, they also explored ways to generate rotational movement and connected their learning to real-world examples such as windmills, fans, and wheels, deepening their understanding of how engineering concepts are applied in everyday life.

The session not only sparked their creativity but also gave them a sense of achievement as young engineers and designers

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TOWER TRIP

Students programmed mTiny by following an algorithm, understanding the sequence, and designing a path for it to travel. The excitement built as mTiny reached its destination—revealing a surprise number. The fun continued as students read the number and built colorful towers of tens and ones to match it, placing them carefully at the destination.

The activity blended math concepts, logical sequencing, and critical thinking with playful coding. Watching their ideas come alive through mTiny deepened their learning and made the experience meaningful, engaging, and enjoyable!

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PARTY HATS

Building an electrical model of a paper crimper machine was a lot of fun. They explained the working principle of their models, showing a clear understanding of how the mechanism functioned. Using the crumpled paper, they went on to decorate their hats with great enthusiasm—their eyes sparkled with joy as they added creativity and color to their designs.

They also explored the concept of sustainability by reusing and repurposing materials, such as paper, to create decorative items. Through this experience, students not only enhanced their problem-solving and creative skills but also gained an understanding of the importance of reducing waste and valuing resources in everyday life.

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HOPPITY BOB

Students explored the use of computer vision AR technology in combination with magnetic hexagonal pieces, creating a unique blend of digital and physical learning experiences.

The application of mathematical skills in measuring the length was applied in this task. Virtual frog catches its prey, but only if it is placed at the correct distance. To achieve this, they had to measure distance accurately and position the hexagonal pieces to set the frog at the right spot.

Through this interactive process, students not only reinforced their knowledge of measurement concepts but also developed skills in spatial reasoning, problem-solving, and computational thinking.

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SMART BARRIER

The task was to construct a tall and stable structure using sticks and rubber bands. This activity aimed to foster collaboration and team spirit among the learners.

Students followed mart mechanisms by designing and constructing a smart barrier using gears and an IR sensor. They learned how gears contribute to controlled movement and proudly explained the working principles behind their models. To bring their designs to life, students integrated coding blocks with an IR sensor, discovering how sensors detect objects and trigger responses. This hands-on experience not only deepened their understanding of automation but also helped them relate sensor technology to real-world applications such as automatic doors, parking systems, and robotics.

The session nurtured their creativity, problem-solving, and logical thinking while making learning both meaningful and exciting.

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FROM SEED TO A PLANT

The task was to build a model showing the different stages of germination and explain their work. To their surprise, students had to build a mechanical plant. Using a motor. Students made a one-part move whenever they detected an object with the help of an IR sensor. To take their creation further, they added record-and-play blocks, allowing the plant to share a message while demonstrating movement. This activity not only brought science to life but also encouraged students to apply the engineering design process and strengthen their problem-solving skills.

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TREASURE TRAIL

Students applied their skills in decomposition, pattern recognition, and sequencing to create algorithms using coding blocks. They then programmed mTiny to complete challenges—all on a quest to find hidden treasure!

Along the way, they discovered how to simplify their programs by using the repeat block. This not only enhanced their problem-solving and computational skills but also boosted their critical thinking skills as budding programmers.

The real treasure, however, was educational! Each success earned them stamps representing parts of a plant. At the end of the activity, students joyfully assembled the stamps to form a complete plant, labeling each part and explaining its function in their own words.

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MAZE GAME (INTRODUCTION TO PICTOBLOX JUNIOR)

Students engaged with PictoBlox Junior to develop their programming logic by designing and creating a virtual maze game. They programmed a sprite to navigate using appropriate code blocks. This enhanced sequencing and control structures, and gave hands-on experience to make interactive games.

Application of "broadcast" messages to programs to communicate with one another was tested. By learning how to send and receive broadcast messages, students discovered how events can trigger specific actions within the game.

The maze game project encouraged creativity, logical reasoning, and collaboration, as students tested, debugged, and refined their programs to ensure the game worked smoothly from start to finish.

BALL RUN CHALLENGE

The lesson aimed to design and build a creative ball run setup using LEGO Community Starter, paper, tape, and ping pong balls. Students constructed a structure a minimum of 25 cm tall , ensuring the ball descended slowly without stopping. The atmosphere was filled with energy as teams experimented, problem-solved, and refined their setups to meet the goal.

  The team that achieved the slowest successful run was proudly declared the winner. This hands-on activity not only sparked creativity and collaboration but also made learning about engineering principles interactive and fun.

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FLY INTO LEARNING

Students explored different types of bird beaks through a hands-on investigation using various tools, testing which ones worked best for picking up specific food items. This helped them understand how beak shapes are suited to different diets and visualize how birds' beaks are adapted to their eating habits. They also learned about adaptation, discovering how physical features help birds survive in diverse environments.

To extend their learning, students designed and built mechanical birds, demonstrating the beaks and features they had incorporated. This hands-on activity sparked curiosity, problem-solving, and creativity.

INTRODUCTION TO WEDO 2.0

Over the course of two extended activities, students were introduced to WeDo 2.0, taking a significant step forward in both mechanical design and coding skills.

Students designed and constructed a working rover model powered by a motor. The applied pulley mechanism transfers motion from the motor to the wheels. Icon block coding is used to program their rovers. Maths skills like multiplication to calculate distance based on speed, power, number of rotations, and time were practised.

The extended task focus was on designing and constructing a functional transporter model using WeDo 2.0 kits. They integrated a motion sensor to make the model interactive and programmed it using icon-based code blocks, with special emphasis on the "wait for" and motion sensor functions.

Both activities proved to be highly engaging. Through them, students developed essential computational thinking, engineering, and design skills, as well as problem-solving abilities, making the learning experience both meaningful and impactful.

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INTRODUCTION TO FLOOR PLAN CREATOR

Excitement filled the room as students stepped into the world of digital design through the Floor Plan Creator application. Working in pairs on tablets, they explored how architects plan spaces by designing a residential building that included at least two rooms, two floors, a garage, and an outdoor garden. With careful thought, they added wall colors and arranged furniture to bring their ideas to life. While experimenting with layouts, they practiced using measurements to guide their designs.

The activity encouraged precision, creativity, and logical thinking as students explained their choices, showing how technology can make learning both practical and imaginative.

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TINKER AND TRADE

Laughter and ideas flowed freely as students teamed up to become young entrepreneurs for a day. Using Tinkercad on tablets, they brainstormed product ideas and built simple 3D models, then set prices and used multiplication to figure out how many items they would need to sell to reach a target of 8000 AED. To make their projects stand out, each team crafted a catchy slogan and discussed strategies to promote their product to the customers.

The challenge combined creativity with practical math and encouraged critical thinking, communication, and teamwork. By the end, students proudly showcased how design, technology, and business thinking can come together in fun and meaningful ways.

LIGHT AND DARKNESS

Curiosity lit up the classroom as the students explored the wonders of light and reflection through teamwork and creativity. In groups of three to four, they built and programmed their own flashlights using the LEGO Spike Essential kit and a tablet, testing how light makes objects inside a box visible through a small hole. They later extended this idea by designing and programming a cave car that carried light forward, helping them see how reflection allows us to view objects in darkness.

Along the way, they practiced problem-solving, collaboration, and clear communication, while combining design, coding, and science to make their ideas come alive in a fun and meaningful way.

VINCIBOT - CATCH THE COLORS!

Students dived into the "Catch the Colors" challenge with VinciBot, turning the classroom into a lively space of discovery. In teams of three, they learned to program the robot using tablets, guiding it to move forward, turn, display text, and even speak. The main challenge took place on a colorful mat where VinciBot had to stop at specific squares, announce the color, and display its name while collecting points.

Through trial and collaboration, students grew confident in coding, problem-solving, and teamwork. The activity blended fun with learning, showing how technology can inspire creativity and imagination.

BLIX MOTION!

Our young innovators dove into the world of motion! Students explored the different types of motion and applied their understanding using the Blix kit, experimenting with power blocks, motor blocks, and connectors. They were thrilled to see how their ideas transformed into a working car model.

Along the way, they practiced problem-solving, design thinking, and engineering skills, while also strengthening their teamwork and communication. The joy on their faces as their cars moved forward showed both pride and curiosity in learning how motion powers real-world machines.

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GRADE 4

MULTIPLES AND DIGESTIVE SYSTEM!

Students combined math and science in an exciting STREAM activity! They practiced identifying multiples up to 20 and connected this knowledge to a fun digestive system maze challenge. Students designed and built a Spike Prime robot. As the robot moved through the maze, stopping at multiples, students recalled the major steps of the digestive system, reinforcing both number sense and biology concepts.

Through this activity, children developed problem-solving skills, strengthened their collaboration, and showed growing confidence in applying math in real-life science contexts. The blend of numbers and biology brought smiles and curiosity as they worked together to guide the maze challenge successfully.

FACTOR TREE & FOOD PYRAMID!

The objective of the session was to learn factors and multiples in a creative STREAM project! They built 3D factor trees to strengthen their math foundations, while also diving into healthy eating by studying the food pyramid and understanding different nutrient groups.

Using TinkerCAD, students combined these two concepts into a unique 3D model that connected numbers with food groups. They added creative touches like shapes, icons, and labels to represent both factors and nutrition. This hands-on activity helped them practice problem-solving, design thinking, and digital creativity, while also enhancing teamwork and communication skills.

The excitement of seeing their math and science knowledge come alive in a 3D digital design made learning both fun and meaningful.

HEALTHY EATING CALCULATOR!

Our students stepped into the role of young health-tech designers! They began by identifying food groups and their nutritional values, then used PictoBlox block coding to build an interactive calorie calculator. Through this project, children explored how coding and healthy living can connect in creative ways.

The activity encouraged them to design a user-friendly digital interface, test their ideas, and collaborate as a team to debug and improve their projects. Alongside developing problem-solving and coding skills, students reflected on their own healthy eating choices and how technology can support better decisions in daily life.

The excitement of turning a health concept into a working digital project built pride and curiosity, showing students how STREAM skills shape real-world solutions.

COMPETITION TRAINING

Students became budding roboticists as they learned how to build and program a basic driving base using the LEGO Spike Prime kit. They explored how changing speed, distance, and turn angles affects movement, then applied logical thinking by drafting simple pseudocode before coding—an important habit for clear planning. In teams, learners tested, observed, and refined their robots' paths, practicing problem-solving, debugging, communication, and collaboration.

By the end, students could explain why a robot overshot a line or turned too sharply, and how to fix it. This hands-on experience connected math and science with real engineering, building confidence as they transformed ideas into precise motion.

SKELETON ROBOTIC ARM

Students became young bioengineers by linking science with robotics! They began by identifying the bones, joints, and mechanics of the human arm, exploring how the body's structure enables movement.

Using the LEGO Spike Prime kit, learners then translated this biological knowledge into mechanical design, constructing their own robotic arms. The process encouraged them to think like engineers—design, test, and refine models while recognizing how robotics can mirror human anatomy.

The activity highlighted design thinking and the importance of teamwork and communication as students collaborated to bring their robotic arms to life. Their excitement and pride were evident as they saw the connection between human mechanics and their working models.

SKELETON SYSTEM AND TYPES OF JOINTS

Students connected biology and robotics in an exciting STREAM lesson! They explored the types of joints in the human skeleton—hinge, ball-and-socket, and pivot—and then applied this knowledge to design and program a robotic arm.

Using the LEGO Spike Prime kit, children integrated sensors, motors, and coding to mimic the motion of human joints. They experimented by measuring angles of motion and comparing ranges, discovering how the mechanics of a robot can mirror the flexibility of the human body.

The project helped students practice problem-solving, engineering design, coding, and teamwork, while also enhancing their understanding of how technology models real-life biology. The pride on their faces as their robotic arms moved with lifelike precision highlighted both creativity and perseverance.

FRACTION PIZZA DESIGN

Our learners explored fractions in action through a fun STREAM project! Students began by understanding fractions as equal parts of a whole and then applied their geometry knowledge by using angles to divide a circle accurately.

With these skills, they designed and built a 3D pizza model in TinkerCAD, adding fractional toppings to represent different parts of the whole. The activity encouraged them to collaborate in teams, plan their designs carefully, and test how well their digital pizzas represented mathematical ideas.

Through this project, students strengthened their understanding of fractions, angles, and visual communication while practicing problem-solving, creativity, and teamwork. The joy of linking math concepts to a real-world food model sparked both curiosity and pride in their learning.

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STREAM NEWSLETTER
August & September 2025

GRADE 6

PAPER BRIDGE

Fresh from the break, our students dived into STREAM with laughter and teamwork as they built paper bridges. What began as play turned into discovery — balance, design, and problem-solving — proving that the best learning happens when we create together.

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MACHINE LEARNING - ROCK PAPER SCISSORS

Students had an exciting STREAM class where they learned about supervised machine learning using PictoBlox. They trained a model with labelled data, tested it with new inputs, and discovered how ML powers tools like spam filters, voice assistants, and image classifiers. The highlight? Watching the ML model guess their hand gestures — a fun way to understand how technology learns and predicts in real life!

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SMART EMERGENCY DRONES

In their STREAM class, Grade 6 students imagined how technology can save lives during emergencies. Working in teams, they designed and built Smart Emergency Drone prototypes using LEGO Spike. The drones were created to deliver medicines, send signals, and help rescue teams reach people faster.

Students were excited to see their ideas take shape and proudly explained how their drones could make cities safer. The project blended creativity, engineering, and compassion, showing how young minds can design solutions for a better future.Smart Emergency Drones

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SIMPLE MACHINES

Exploring how simple machines make work easier. Using the LEGO Simple and Powered Machines Kit, they identified and experimented with levers, pulleys, wheels & axles, inclined planes, screws, and wedges.

The highlight of the session was when groups brainstormed and built their own tools to support different professionals—like a carpenter, teacher, or pilot—in their daily tasks. Working together, they combined creativity and engineering to design prototypes that solved real-life problems.

The activity not only strengthened their understanding of physics in action, but also showed how teamwork and imagination can turn simple ideas into powerful solutions.

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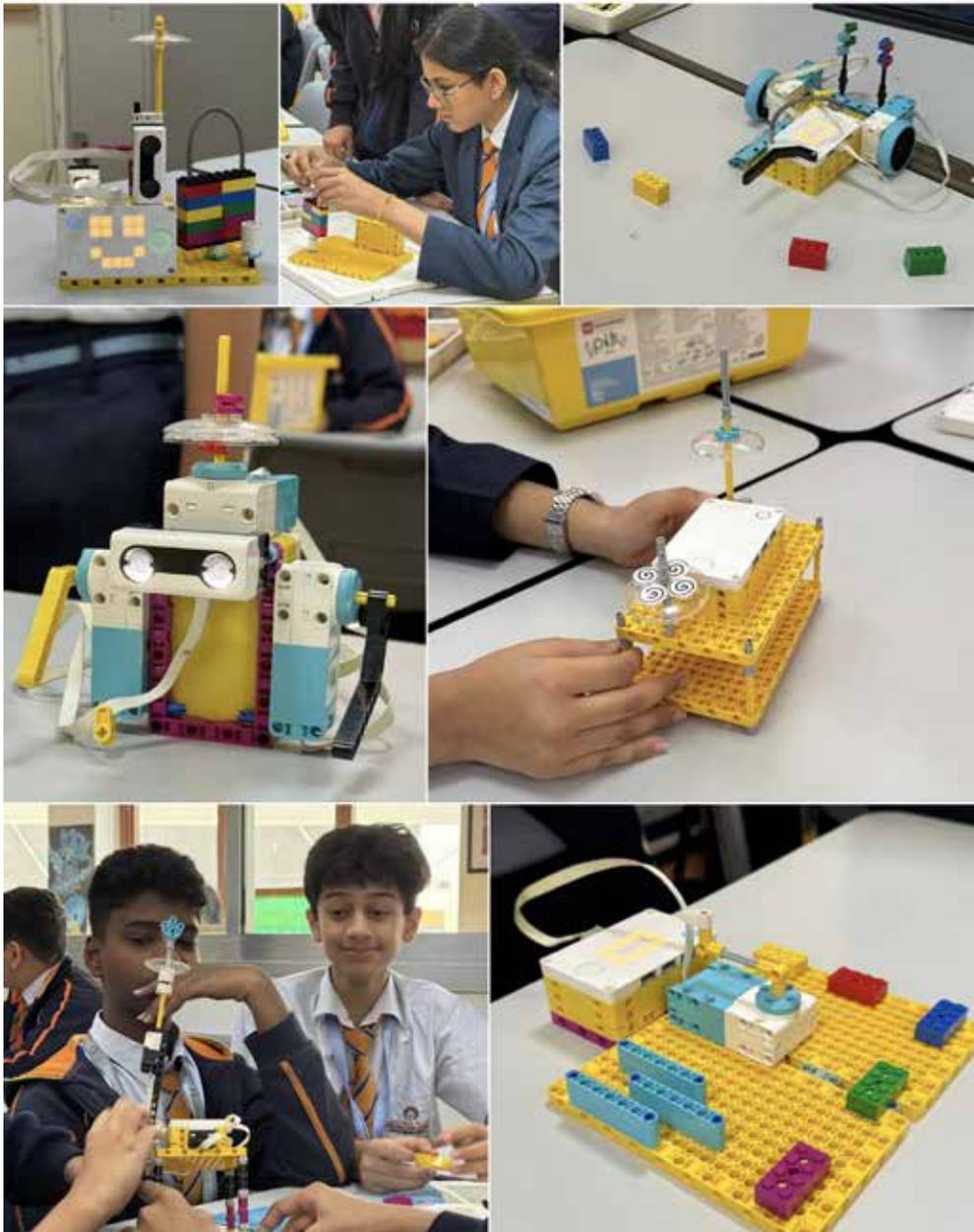admissions@ambassadorschool.com

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INTRODUCTION TO FABLE BOT

It was an exciting introduction to the world of robotics through the Fable Bot. They explored its main components—modules, sensors, and actuators—and discovered how modular robots can be programmed to perform useful tasks. Using block-based coding, students made their bots move, rotate, and respond to inputs while collaborating in small groups to test creative ideas. The class wrapped up with meaningful reflections on how robots like Fable can make a difference in real life, from education to healthcare, inspiring students to see robotics as a tool for problem-solving and innovation.

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SMART WEATHER STATION

After a fresh break, Grade 7 students stepped into the new term with curiosity and excitement. In STREAM, they built a weather station for archaeologists and even designed automated real-time devices to protect them from harsh weather conditions. The activity was not only fun but also sparked creativity, problem-solving, and teamwork — leaving students proud of their smart innovations and eager for more learning adventures.

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SMART ROAD-CROSSING FOR THE BLIND (UAE CONTEXT)

Students designed smart solutions to help blind people cross roads safely. From clever devices to smarter traffic ideas, their creativity showed how innovation and empathy can build a more inclusive UAE.

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SMART BUS STOP FOR THE FUTURE

Students reimagined everyday life by designing their own Smart Bus Stops. Inspired by real-world examples with solar panels and digital displays, they first sketched their dream versions before building prototypes using LEGO blocks and sensors.

From ultrasonic sensors that detect waiting passengers to LED lights that signal when a bus is near, each model showed creativity and purpose. The activity wasn't just fun—it taught students how engineering and empathy can come together to solve real-world challenges.

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HOPE PROBE – UAE & INTERNATIONAL SPACE PARTNERS (NASA, JAXA)

The world of space came alive in STREAM class as Grade 7 explored how satellites help us navigate, monitor climate, and connect globally. Using NASA's Eyes on the Solar System, they tracked real-time satellites and uncovered the science behind space missions.

The journey didn't stop there—through the UK government's Satellite Builder platform, learners became young engineers, designing and testing their own virtual satellites for different missions.

This hands-on experience blended technology, teamwork, and imagination, while inspiring students to see themselves as future contributors to the UAE's growing role in global space innovation.

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INTRODUCTION TO DRONE

Stepping into the fascinating world of drones during STREAM class with an introduction to the AIRBLOCK drone that will be used for future classes. With great excitement, they discovered the basic components of drones and learned how these flying machines are transforming fields like agriculture, delivery, filmmaking, and even emergency rescue. Using the Drone SIM AR app, students practiced safe and simple navigation, while on TinkerCAD, they unleashed their creativity by building 3D drone models.

The class also connected principles of physics, like lift and landing come into play every time a drone takes off. To wrap up, students reflected thoughtfully on the importance of using drones responsibly and safely, showing how innovation and ethics can fly hand in hand.

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SMART PARKING CHALLENGE!

Our STREAM learners explored the world of smart robotics by tackling a real-world challenge—smart parking! Using the LEGO Spike Prime kit, students discovered how sensors help robots detect spaces and obstacles just like modern cars. They practiced applying precise movement and turning commands, simulating the process of fitting a vehicle into a parking spot.

Working in teams, they designed, built, and tested their robots, then reflected on what worked well and what needed adjustment. Along the way, they built skills in problem-solving, collaboration, logical thinking, and innovation. The pride was evident when groups successfully parked their robots without collisions—proof of their persistence and creativity. This activity connected science, math, and engineering, but also helped learners see how technology is shaping the future of everyday life.

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NERVOUS SYSTEM DISEASE!

Students delved into the fascinating nervous system and its control and coordination of the human body. They explored how signals travel from stimulus → neuron → response, building a clear picture of the body's communication network. To deepen understanding, learners also visualized the effects of diseases like Multiple Sclerosis and Parkinson's, recognizing how disrupted nerve signals can impact daily life. Using clay modeling and stop-motion animation, students brought neurons and impulses to life, simulating how information flows—or fails to flow—through the system. Collaboration and creativity were at the heart of the activity as teams brainstormed, built, and animated their models, practicing problem-solving and critical thinking.

The result was not just engaging animations, but also a genuine sense of pride and ownership in connecting science, art, and technology to better understand human health.

RENEW & REIMAGINE SUSTAINABLE COVERS!

STREAM learners became eco-engineers as they explored the importance of sustainability and innovation in modern design. Through a design thinking process, students repurposed old materials into creative, functional tablet and iPad covers, proving that engineering can be both practical and environmentally responsible.

They reflected on how technology and eco-conscious choices can work hand in hand to reduce waste while encouraging innovation. The excitement in the classroom was clear as students proudly showcased their unique designs—each cover telling a story of sustainability with a personal touch of creativity. This activity highlighted the value of green engineering and inspired learners to think critically about how small design choices can contribute to a more sustainable future.

SOLAR SPRINT CHALLENGE!

Students explored the fascinating world of energy sources and conversions. Learners then traced how energy transforms from solar to electrical to mechanical, setting the stage for their main challenge: building and testing a solar-powered car model.

Students designed, assembled, and raced their cars under sunlight, observing how efficiency varied with design choices. They recorded performance data, reflected on results, and brainstormed improvements—just like real engineers.

This activity combined science, technology, engineering, and teamwork, while fostering critical thinking about sustainable solutions. The pride and excitement on their faces as the cars zoomed ahead captured the spirit of innovation.

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