TESCA™

AI & Robotic Lab-1

Order Code - 23246646.1

PROPOSAL

INTEGRATED STEAM, ROBOTICS & AI PROGRAM

Future Ready 21st Century Programs for K-12 Schools & Students.

+91-9829132777 www.tescaglobal.com IT-2013, Ramchandrapura, sitapura, Jaipur, India

WHAT IS STEAM, ROBOTICS & AI?

Integrated STEAM-Robotics and AI (Artificial Intelligence) is an interdisciplinary approach to teaching and learning that combines Science, Technology, Engineering, Art and Mathematics (STEAM) with Robotics and AI. This approach emphasizes problem-solving, critical thinking, and hands-on learning experiences, allowing students to apply STEM concepts to real-world challenges.

Through integrated STEAM-Robotics and AI, students learn how to design, build, program, and operate robots and other automated systems using a variety of tools, such as sensors, motors, and microcontrollers. They also learn about the principles of AI, including machine learning and computer vision, and how to apply these principles to solve complex problems.

Integrated STEAM-Robotics and AI programs typically focus on project-based learning, where students work in teams to design and build solutions to real-world challenges. This approach promotes collaboration, communication, and creativity, and prepares students for the 21st-century workforce, where STEM skills and knowledge are in high demand.

How will young students be benefited?

- To provide exposure of future technological world.
- To introduce learning by doing at an early age.
- To build innovative solutions for real-life problems.
- To nurture 21st Century skills by Project-based learning.
- To enhance their problem solving approach towards community problems in line with UNSDGs.

Top Skills in Demand

- Analytical thinking and innovation
- Active learning and learning strategies
- Complex problem-solving
- Technology design and programming
- Critical thinking and analysis
- Creativity, originality and initiative
- Leadership and social influence
- Reasoning and ideation

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END-TO-END IMPLEMENTATION & SUPPORT PLAN

Resources Required

for setting up a Lab at School

- A room/built space of around 600-1200 sq. Ft.
- A set of 4-6 work tables for carrying out hands-on activities in a group.
- Around 25-30 Mini Tables/Chairs for students to sit.
- A set of Cabinets/Cupboards Sideboards for keeping the Hardware DIY Kits/Equipment.
- A set of 4-6 Computers/Laptops with Internet Access & Connectivity
- Access to Projector/Whiteboard/LED Screen for presenting contents, Videos & PPTs

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Sr. No.	Category	DIY Kit Name	SKU Number	Description	Image	Programmable/ Non-Programmable	Kit to Student Ratio	Grade Category
1	AI, IoT & Robotics	Tinker Orbits	SKU STEMROBO 1609	Tinker Orbits is a STEAM Robotics kit for kids to explore the basic concepts of electronic circuits, sensors, Robotics, logics and programming with the help of plug 'n' play modules. It is an educational DIY kit for students which covers the learners' journey around Robotics from Beginner level to the advanced Robotics concepts. This contains both programmable and non-programmable activities. Also, Programmable activities are covered through Block Coding as well as Textual programming.		Both	1:5	3rd to 12th
2	AI Project Based Learning Kit	Tinker Orbits - Extended PBL Box	SKU: 1652	Tinker Orbits extended Project based kit offer students to create 12 unique projects around the the concepts of AI like Smart Home, Smart Irrigation System, Railway Crossing, Smart dustbin etc.		Programmable	1:4	5th to 12th
3	STEM-Robotics	Arduino Robotics Kit	SKU: 1606	End-To-End Platform for students to Kick start child's journey in Robotics. Students can learn Robotics programming through Block Coding and Textual Coding. Also, Interfacing of Sensors and actuators with Arduino controller.This kit is aimed at beginners to advanced level learners and can be used to jump start child' growth and learning towards DIY electronics and robotics system.		Programmable	1:5	6th - 10th
4	STEM-Robotics	Mechatron Kit	SKU-STEMROBO 1612	MECHATRONICS Robotic Kit is for 6+ Age Kids. Contains 150+ parts such as metallic strips, Remote control, control card, motors, gears, etc. Comes with an assembly guide with step-by-step instructions to help students build the robot-associated concepts of science and math mentioned with every design. Robotics kits for Kids & Robotic kits for students to make their own Robotics projects.		Non-Programmable	1:4	2nd to 8th

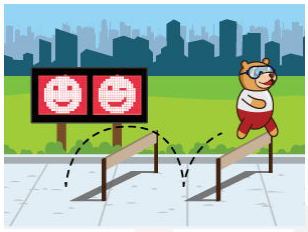
Sr. No.	Category	DIY Kit Name	SKU Number	Description	Image	Programmable/ Non-Programmable	Kit to Student Ratio	Grade Category
5	STEM-Robotics	Sensor Box	SKU: 1608	This Sensor Kit compatible with Arduino is supplied with a variety of sensors that are compatible with Arduino Boards. This is the most complete performance starter kit with all the essential Arduino sensors. This kit contains excellent sensors which are compatible with Arduino. You can find the best sensors, whether you're a beginner or an expert in this field, and use them to create the best DIY projects on your own. Prototyping will be easy and fun-loving with this Kit.		Programmable	1:All	For Project Purpose
6	Accessories	Soldering Box	SKU: 1601	Hookup Wire Roll (Red), Hookup Wire Roll (Black), Hot glue gun,Soldering Iron 30 watts/230 volts,De-Soldering Pump,Soldering Flux (Paste)- 50grams, DE-soldering Copper Braid(Solder Wick),Soldering Wire: 20/22 AWG soldering Wire with rosin core flux (100 Grams),Soldering Helping hand,Glue Sticks,Safety goggles,Safety Gloves Pairs,Safety Mask		NA	1:All	For Project Purpose
7	STEM-Electronics	STEM-Electronics	SKU-STEMROBO 1604	The Smart Circuit kit contains more than 50 DIY (Do It Yourself) projects with more than 40 interactive simulations and 10 real-world model templates and a colorful user manual with its easy-to-follow instructions, smart electronics kit gives a hands-on education in how electrical circuits work to run the everyday devices that they're familiar with. They'll also gain valuable lessons in building circuit design. This kit contains more than 12 electronic components, more than 30 magnetic blocks as well as more than 40 accessories for real model building along with dual power (USB + DC) which can be used to create many projects also no soldering is required.		Non-Programmable	1:4	1st to 8th
8	AI Based Robotics Kit	STEMBOT	SKU-STEMROBO 1603	StemBot is a graphical programming robot for STEM education, which inherits playability and simple operation on the micro:bit (Version 2). Includes various sensors like IR (Infrared Sensor), Ultrasonic sensor, and Light sensor to make DIY robotics projects. MakeCode is a free online coding platform available to code and learns advanced coding concepts.		Programmable	1:5	6th- 12th
9	AI Coding Platform	AI Connect Platform Recommended in AI STEP Up Module by NITI Aayog & CBSE	SKU: 9004	"Subscription of AI Connect platform for the programming of AI (Python,Python Bascis, Machine learning and AI) which will be covering 100% syllabus of CBSE and 50+ Extra Activities for 5th Onwards.		Programmable	1:1	5th- 12th

Sr. No.	Category	DIY Kit Name	SKU Number	Description	Image	Programmable/ Non-Programmable	Kit to Student Ratio	Grade Category
10	Accessories	Accessories Box	SKU: 1653	This box contains the necessary tools listed below, which will be required to operate the DIY kits and hardware mentioned above: Wire Stripper,Bulb Holder, Power Strip Adoptor, Multimeter, 12 V Adoptor and USB to DC Jack Cable.		NA	1:All	For Project Purpose
11	Humanoid Robot	Humanoid Robot	SKU: 1646	Voice Intelligent RC Robot LED expression voice dialogue intelligent RC robot toy with lights. Robot can glide, dance, sing, tell stories, volume adjustments, and communicate with players according to the script. Increase the ingenuity of children, the cultivation of the independent personality. Robot toy inspires imaginative play and curiosity about science. Rotatable head, enjoy more fun. Flexible hand actions.		Programmable	1:All	6th - 10th
12	AI,& Robotics	Bitli		Bitli empowers students to unleash their creativity. From basic movements to complex AI-driven actions, it adapts to student's skill levels and encourages them to experiment with new ideas. Based on the Bitli V1 , the micro: bit Bitli Bricks Pack contains 360 degrees servos, LED strips, and almost 200 pieces of bricks. It provides hands-on experience to learn AI, Robotics & Coding with 15+ robotics configurations and 50+ projects.	 	Programmable	1:5	3rd to 10th

Tesca Labs for schools provides the perfect platform for students to develop the necessary

technical knowledge to become future-ready. The platform is designed to help students gain an in-depth understanding of coding, Artificial Intelligence, and Robotics through hands-on experiments. With the help of our cutting-edge technology, students can explore, experiment, and build projects of their own, all while developing their critical thinking and problem-solving skills.
Equipping students with the skills needed to thrive in the 21st century is imperative for success. With the International curriculum stressing the need for AI-powered education, Tesca Labs is the perfect solution to help students realize their full potential and become future-ready

Key Activities to be covered under the Lab:


Programming


Artificial Intelligence


Interactive AI Projects

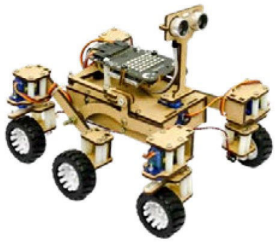
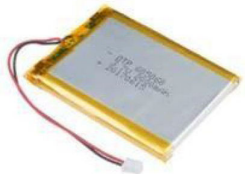

Robotic


Robot Localization & Automation Technology


Self Driving

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

Detailed Lab Equipment List

S. No.	Name	Qty	Images
1	Quarky Ultimate Kit	18	
3	Quarky Explorer Kit	4	
4	Mars Rover Addon Kit	1	
5	Humanoid Robot Addon Kit	1	
6	Alexa Echo with Smart Bulb	1	
7	3.7V Lithium Ion Battery	10	

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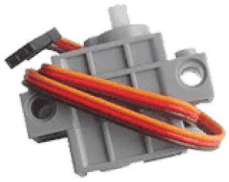
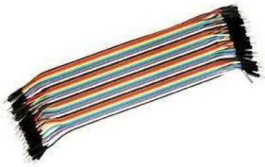
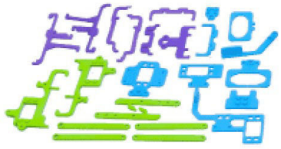
8	1-Meter-long USB Cable	5	
9	Battery Charging Station (6 Ports)	4	
10	Quarky Motor Bundle (DC Motor, Mounting Bracket, Wheel)	18	
11	Servo Motor	18	
12	Ultrasonic Sensor 3.3V	10	
13	Male-Male Jumper Cable	200	
14	Male-Female Jumper Cable	120	

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

15	Female-Female Jumper Cable	120	
16	Alligator Wire	80	
17	Plastic Addon Pack	4	
18	Fastener Addon Pack	4	
19	Cable Tie	08	
20	Self-Driving Arena	18	
21	Activity grade 3-8 (10 books each garde)	60	

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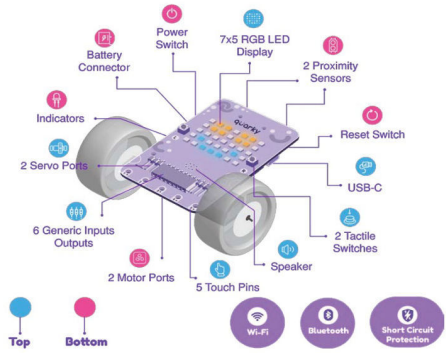
Flagship Products
Quarky Ultimate Kit

Students love to play with hardware toys and kits. And it is also being observed that students involved in practical activities involving hardware have better retention and understanding of the concepts. At an early age, it is recommended that the students play with Abacus to learn mathematics.
Robotics is a very good tool to create engagement in kids to learn to code and develop computational thinking. It can be used to engage students in real-life problem-solving.



Tesca offers a one-stop solution for engaging students in Robotics with a focus on coding and AI. Quarky has a lot of features inbuilt allowing students to focus on conceptual understanding of physical computing, robotics locomotion, autonomous robots, self- driving cars, and automation in a very interactive way. Quarky can connect with PictoBlox using BLE or USB cable and has inbuilt short circuit protection making it safe for students.

Learn Industry-Standard Concepts

Tesca helps you understand widely used artificial intelligence concepts such as machine learning (self-driving cars), face recognition (face unlock), speech recognition (Alexa), etc.

One Infinite Kit Creations

Quarky can become anything and do anything that you want it to. You can make hundreds of interactive real-world applications-based projects such as an expression detector, AI delivery bot, home automation system, etc.

Just Plug and Start Playing

Quarky has a plug-and-play interface, which means that you can easily connect common electronic components like sensors, motors, servos, etc. without having to solder them.

Programmable with Smartphone & Tab

Code and control all your projects, games, animations, and robots anytime, anywhere using a Smartphone or a tablet! You can even mount your phone on them to make them completely autonomous.

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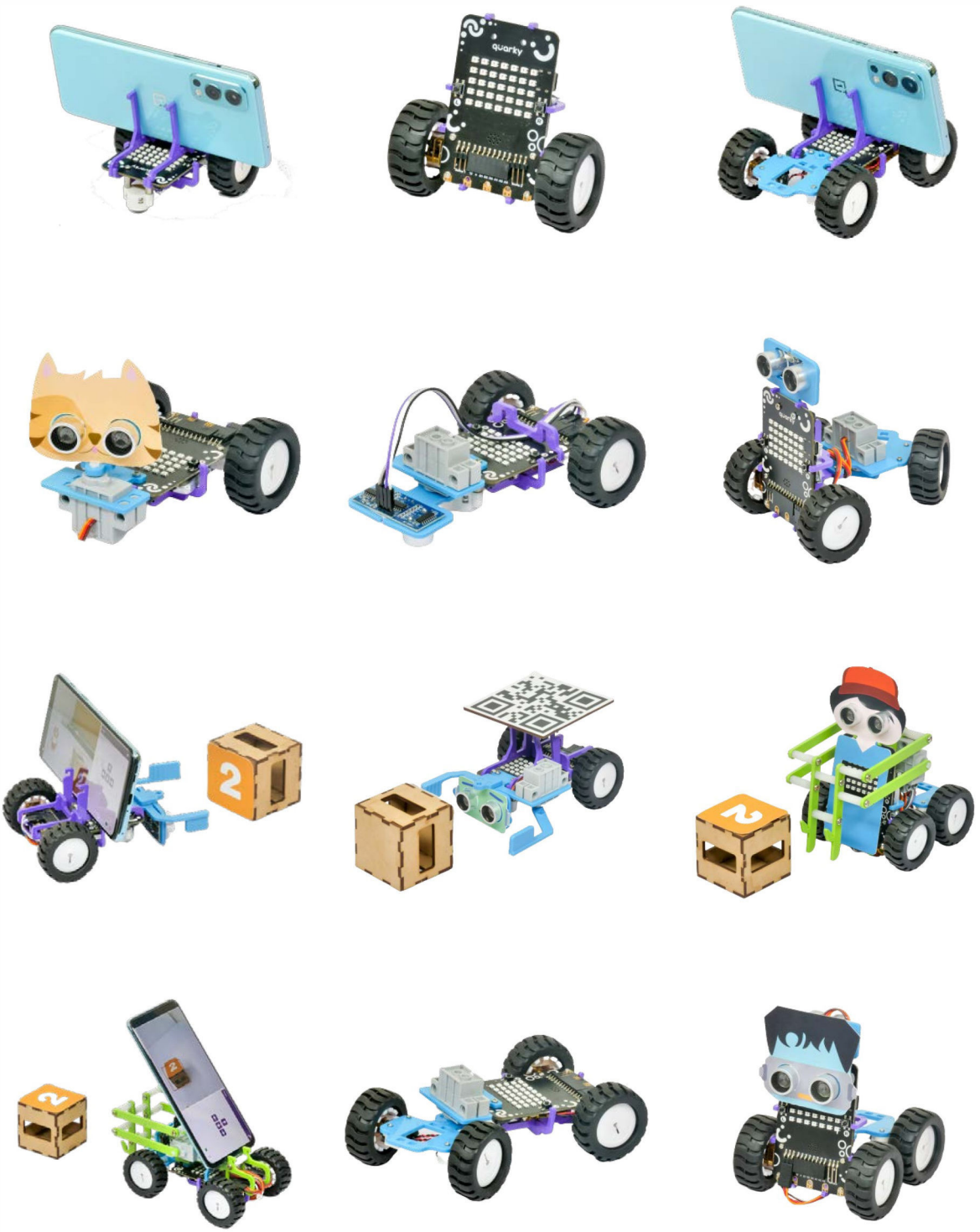
Robots Configurations



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Export Sales: +91-9829132777
India Sales: +91-9588842361

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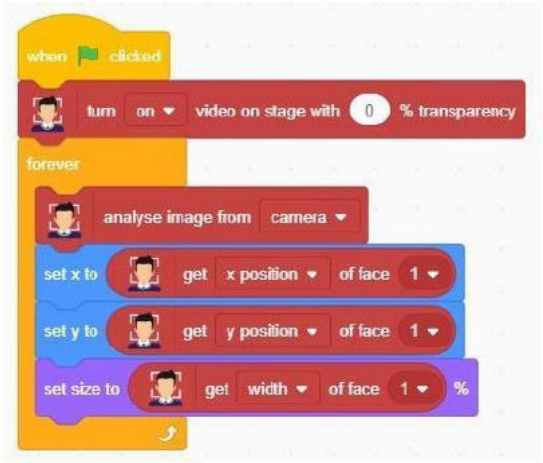
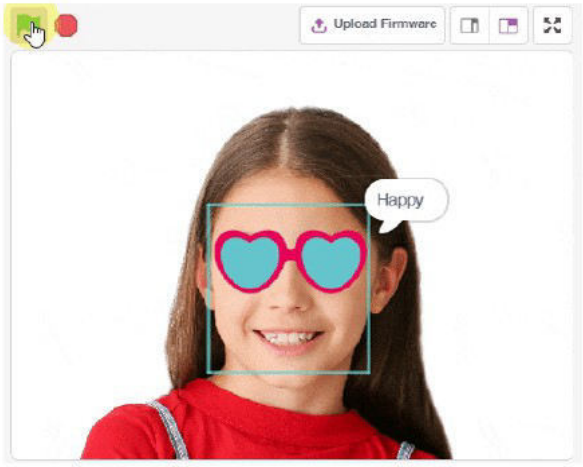
PictoBlox - Learning Coding, AI, and Robotics made easy for Kids

PictoBlox is the coding education software which has both graphical block-based and Python programming:

1. It allows students to add AI capabilities to their projects like Face Detection & Recognition, Computer Vision, Natural Language Processing, Object Detection, Human Pose Detection, Speech Recognition, QR Code Scanner, and Machine Learning.
2. The objective of learning AI with PictoBlox is to engage students to create their own AI applications rather than going in-depth with the mathematics of neural networks. For example, with the following simple script the students can make a face filter in PictoBlox:





3. PictoBlox also allows the user to create machine learning models with offline training mode. This is a very intuitive GUI created to make the process simple for the students. Using this module, students can create their custom ML models and use them in PictoBlox projects.
   3.1. Image Classification
   3.2. Human Pose Classification
   3.3. Hand Pose Classification

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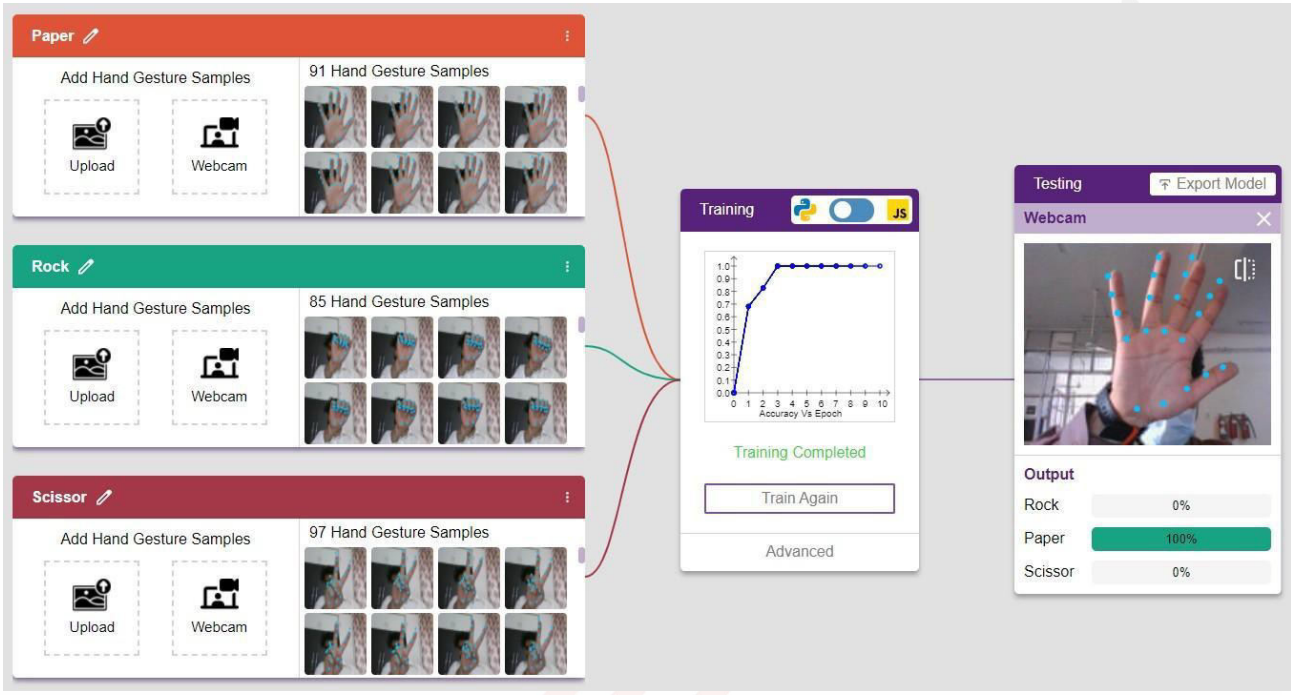
3.4. Text Classification
3.5. Object Detection
3.6. Number Regression and Classification
3.7.Audio Classification



4. PictoBlox is also available for Smartphone devices making coding & AI easily available for students who do not have access to a computer or a laptop.
5. As Python is integrated into the same platform it allows students to migrate from block-based coding to syntax coding with ease.
6. PictoBlox is compatible with a wide range of hardware devices like Quarky, Arduino Uno, Nano, Mega, ESP32, and many more. This gives students an opportunity to implement coding and AI projects with interactive hardware.

Curriculum & Training for Students

Curriculum

Tesca has a created yearlong curriculum for Classes 3-12 in alignment with the British curriculum. The curriculum is experiential learning focused and will cover the basics and advanced levels of Programming, IoT, Artificial Intelligence, Machine Learning, and Robotics.

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It is aligned with the international curriculum for Coding & AI Skill subjects.

Stage (Class)	Curriculum Objectives	Concepts Covered
Preparatory (Class 3-5)	Play, discovery, and activity-based and interactive classroom learning.	- Graphical Programming - Game, Story, and Quiz - AI and ML Activities - Physical Computing and Robotics
Middle Stage (Class 6-8)	Experiential learning aligned with Coding & AI skill subjects as per International Curriculum.	- Coding (as per Skill Subject) - Artificial Intelligence (as per Skill Subject) - Physical Computing and Automation - Robotics, Design Thinking, and Tinkering
Secondary (Class 9-12)	Coding, AI and Robotics with Python aligned with AI skill subject.	- Python Basics (as per Computer Science) - Artificial Intelligence (as per Skill Subject) - Physical Computing and Robotics with Python - Tinkering

Training of Students

The school will appoint teachers for student training on the curriculum. The student training will be conducted in the following method:

- Students will have 30 teaching sessions (1 class of 40 minutes weekly) per year
- Each year, students will make capstone projects where they will be given problem statements to work on, based on their learning from the curriculum
- Students will have 5 additional sessions for doubt clearing, exhibition & presentations
- Students will get certificates after completion of each year which will be accredited by tesca

Capacity Building Program and Handholding for Teachers

Tesca will help existing computer science teachers build their capacity so they can effectively teach the curriculum. Capacity building involves providing 3 days of virtual teacher training during the program to help make teachers knowledgeable and skilled in coding, physical computing, robotics, and pedagogy that is in line with the international curriculum.

Objectives of the Capacity Building Program

- To empower the teachers by strengthening their understanding of Coding, Artificial Intelligence, and Robotics and enhancing 21st-century skills.
- To give them hands-on experience via fun and interactive activities.
- To make them confident enough to discuss concepts with students by enhancing technical skills.
- To make them sufficiently capable of executing the complete curriculum for AI and Robotics labs and implementing the activities smoothly.

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Program Details

STEM master trainers will conduct the Capacity Building sessions for the existing school teachers. The details of the program are mentioned below.

- **Mode**: Virtual Training
- **Duration**: 3 days
- **Duration of training per day**: 1 Hr
- **Medium of Instruction**: English
- **No. of Teachers Trained**: All existing teachers of the school
- **Prerequisite**: Laptop, PC, or a tab/iPad/smartphone (Android or iOS)

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AI & ROBOTIC LAB-3

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- Easy to Start
- Early Results
- Motivates Students
- No Cost of Failure

#	Item	Quantity	Note
1	AI Kit	20 Kits	
2	LMS Teacher Access	5 Licenses	
3	LMS for Students	500 Licenses per school	
4	Access to coding Application	-	
5	Access to Cloud	-	
6	Access to Android App Development Extension	-	
7	Teacher Training Program	3 days	Virtual
8	1 year virtual support	24 Virtual sessions	Through one year period

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SPECIFICATION

- Contains 63 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts.
- 13 types of sensors, few are Light Sensor, Obstacle Sensor & Moisture Sensor, Motion, Vibration Sensor, Sound Sensor, Tilt Sensor
- Smart Switch – to control appliances
- Having Construction Kit which contains 100+ components

SAMPLE PROJECTS

- Morse code with buzzer
- Pre-programmed path robot
- Automatic plant watering
- Cliff avoiding robot
- Obstacle avoiding robot
- Salt water conductivity
- Digital Key
- Digital dimmer project .....and many more

Component	Qty
Adapter/Charger	1
Battery Power	2
Buzzer	1
Connectivity sensor	1
Copy	1
Dimmer	1
High speed motor	1
Inverter	1
Light	1
Light Sensor	1
Limit Switch	2
Magnetic sensor	1
Mini Plastic Fan	1
Motion Sensor	1
Motor with mounted BO	2
NetLogic	1
Obstacle sensor	2
OTG Adapter	1
Pipe	1
Pulley	1
Pulse Delay	1

Component	Qty
Push Button	2
Receiver	1
Sensor Base with threshold	4
Servo Motor	2
Servo Motor part	2
Smart Switch	1
sound sensor	1
Submersible pump	1
Switch	2
Tilt sensor	1
Transmitter	1
U- Left	1
U- Right	1
USB Cable	3
Vibration Motor	1
Vibration sensor	1
Wheel	2
Small Wheel	1
Magnet	1
Wire	4

Component	Qty
AND	1
OR	1
Toggle	1
USB Rechargeable Battery	2
Plastic Building Block Set 100+ Pcs	1

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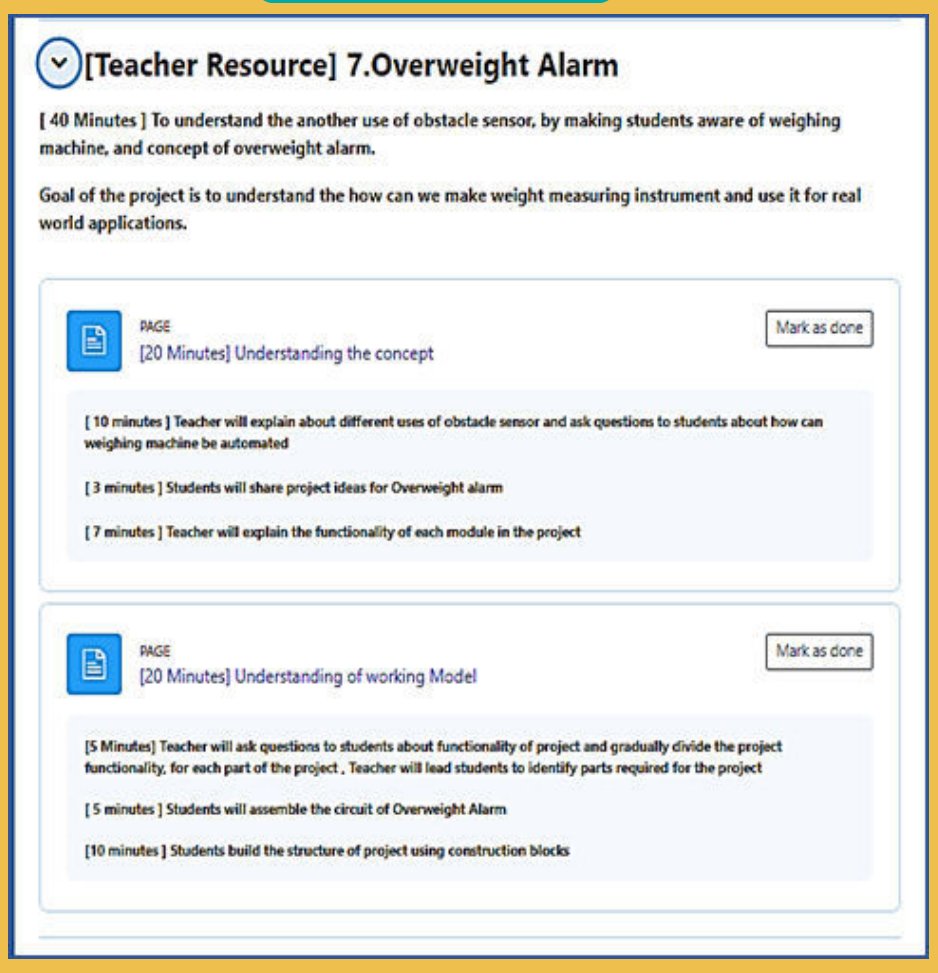
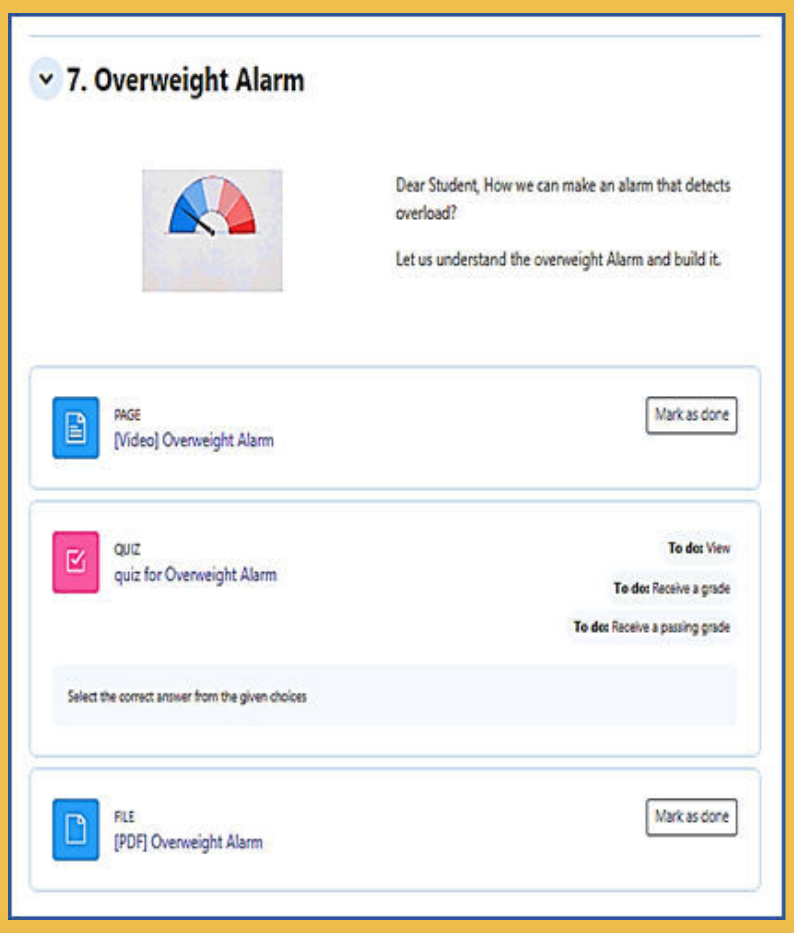
LMS FOR TEACHER`S & STUDENT`S

Teachers View



- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Student View



- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

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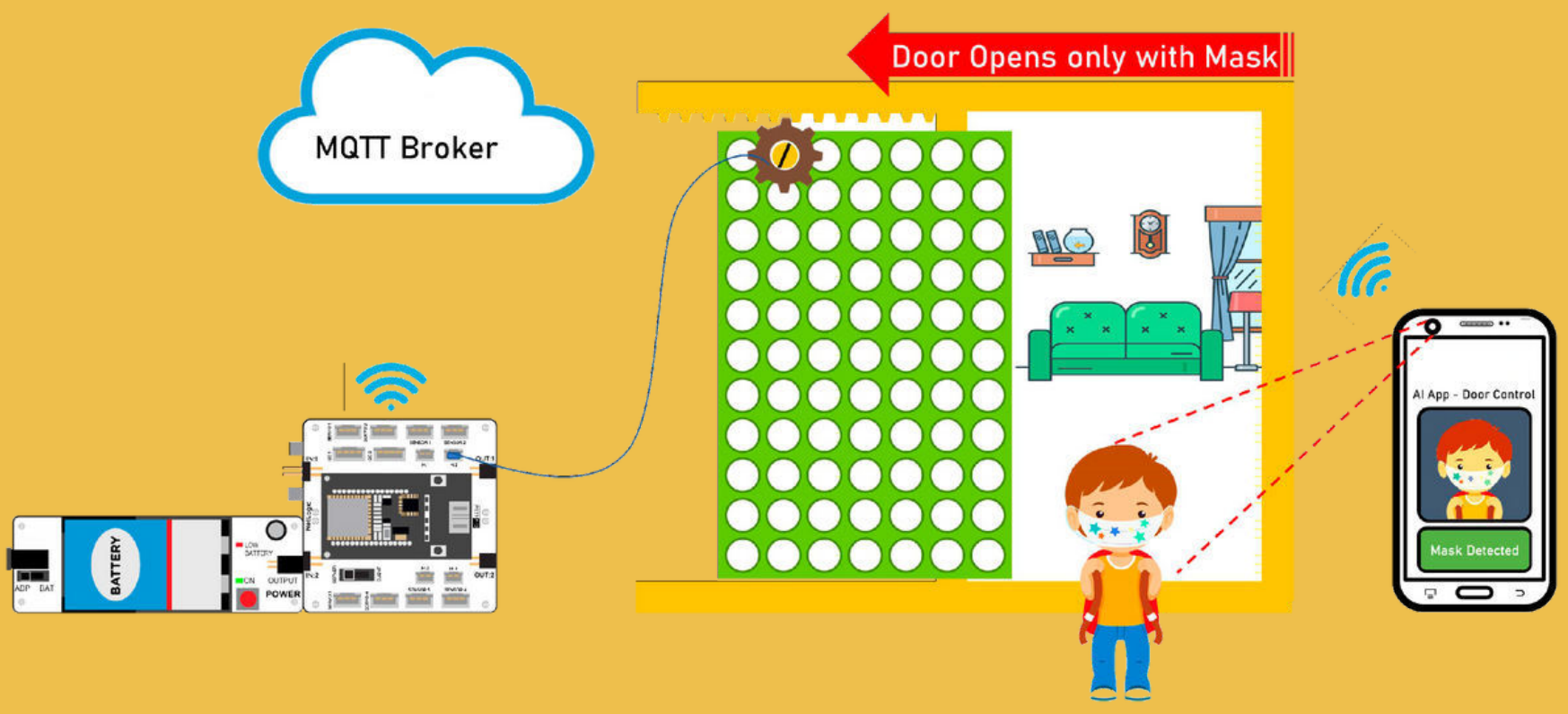
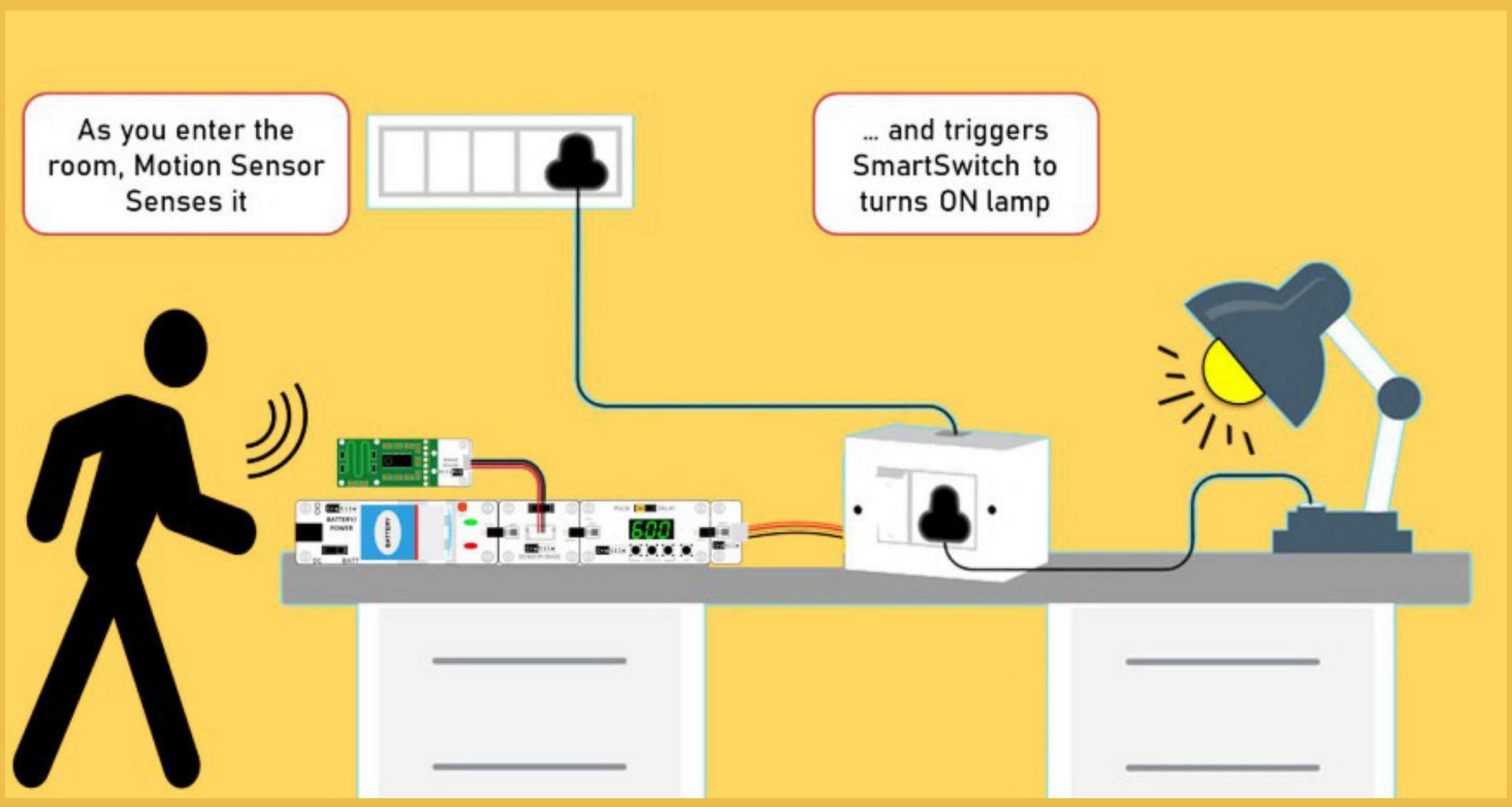
MAKE YOUR OWN AI APP WITH MIT APP INVENTOR



AUTOMATE WITH SMART SWITCH



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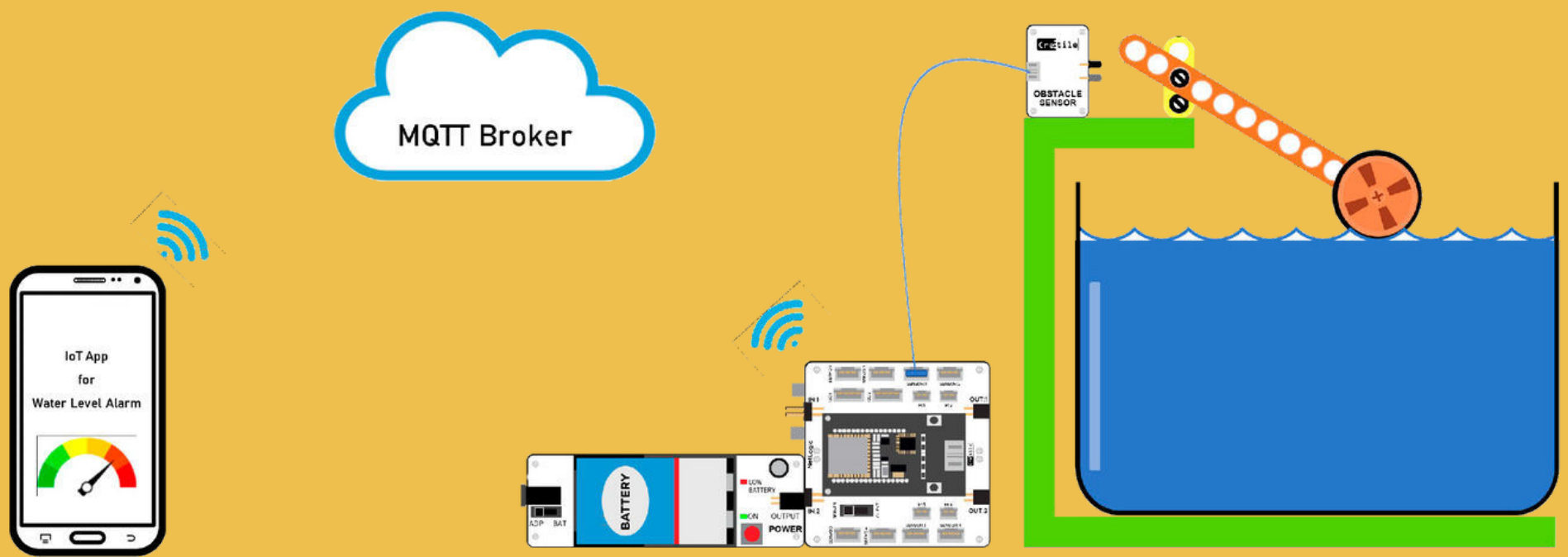
MAKE YOUR OWN IOT APP WITH MIT APP INVENTOR



We train school teachers on:

- How to use kit
- How to make use of LMS
- How to effectively teach in the classroom
- How to mentor students

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STEM LEARNING SYSTEM (BASIC)

ORDER CODE STEM-001

This kit is designed for schools to be able to roll out well structed STEM/Robotics/AI education programs. This is an awesome beginner kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 22 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, and much more. The kit also has plastic construction components.

The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets

The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.

Education topics covered: Electronics, Robotics, AI & IoT

Specification

- Contains 22 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO
- Some sensors like Light Sensor, Obstacle Sensor & Moisture Sensor
- Rechargeable Battery with Charge & Cable
- Has construction kit with 50+ components

Sample Projects

- Car Parking Safety Alarm
- Open Door Alarm
- Morse code with buzzer
- Adding Motion & senses to your project
- Digital dimmer project
- Digital Key.....and many more

STEM LEARNING SYSTEM (BASIC)

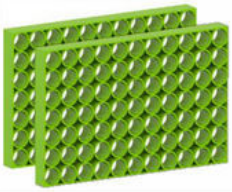
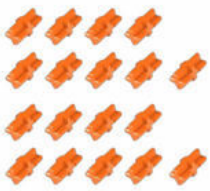
ORDER CODE STEM-001

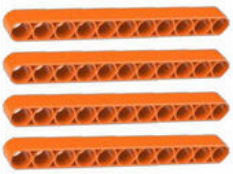
COMPONENT DETAILS

Component	Qty	Details
	1	USB Rechargeable Battery
	1	Battery Power Block – Supply power to rest of the blocks
	2	Motor Blocks – make lot of robotics and other interesting projects with it
	1	High Speed DC Motor
	1	Buzzer – Give Sound to your projects
	1	Light – Make your project shine and light
	1	USB Cable

Component	Qty	Details
	2	Obstacle Sensor – Make your projects to take decision by sensing things around it
	1	Sensor Base – Connect variety of sensors to this base
	1	Light Sensor – Make your projects to sense light around it and take decisions
	1	Moisture Sensor – Make your projects to sense moisture to make decisions
	1	Copy – with one input make three outputs work
	1	NOT – Logic gate that give inverted output of its input
	1	Small Wheel

Component	Qty	Details
	2	Robotic Wheel – Give power to your projects to move around
	1	Fan - Give power to your projects to blow air around
	2	3 pin wire to connect sensor
	2	2 pin wire to motors
	1	Adapter
	1	NetLogic – Code your kit with Cretile Use Drag-n-drop coding With Wi-Fi Connect to internet and explore the world of IoT

Construction Kit Component	Qty	Details
	2	Base Plate
	18	Connector
	4	Connector
	2	Motor Coupler
	1	Remover Tool

Construction Kit Component	Qty	Details
	6	1x5 Strip
	4	1x11 Strip
	1	Wheel Shaft
	3	Gear Wheels
	1	Big Gear
	1	Shaft

Construction Kit Component	Qty	Details
	2	Free Pipe
	3	Robotic Wheels
	2	Moving Connectors
	4	Free connectors

STEM LEARNING SYSTEM (BASIC)

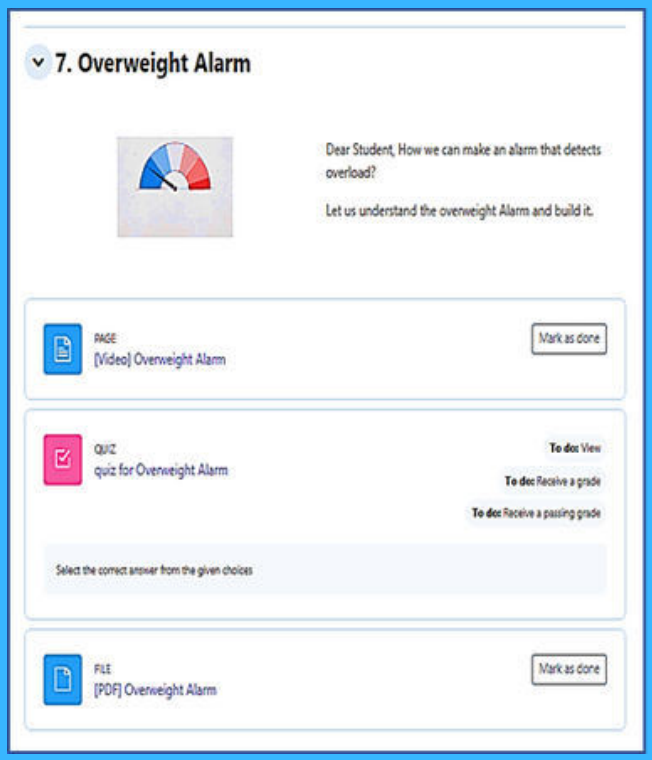
ORDER CODE STEM-001

LMS FOR TEACHER`S & STUDENT`S

Teachers View

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Student View



- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

STEM LEARNING SYSTEM (MEDIUM)

ORDER CODE - STEM-002

Best Quality | Best Price | Discount

- This kit is designed for schools to be able to roll out well structed STEM/Robotics/AI education programs. This is an awesome medium kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 45 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, blocks for logic gates and much more. The kit also has plastic construction components.
- The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets
- The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.
- Education topics covered: Electronics, Robotics, AI & IoT
-

Specification

- Contains 45 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor, Push Button, Pulse Delay etc
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts
- Some sensors like Light Sensor, Obstacle Sensor, Motion Sensor, Tilt Sensor, Sound Sensor & Moisture Sensor
- Rechargeable Battery with Charge & Cable & U-Right also
- Having Construction Kit which contains 50+ components

Sample Projects

- Automatic door alarm
- Pre-programmed path robot
- Cliff avoiding robot
- Obstacle avoiding robot
- Digital Key
- Salt-water conductivity……and many more

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STEM LEARNING SYSTEM (MEDIUM)

ORDER CODE - STEM-002

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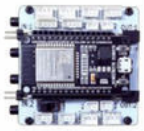
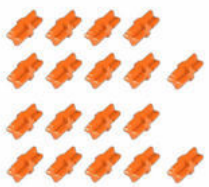
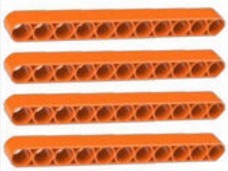
Component	Qty	Details
	1	USB Rechargeable Battery
	2	Battery Power Block – Supply power to rest of the blocks
	2	Motor Blocks – make lot of robotics and other interesting projects with it
	1	High Speed DC Motor
	1	Buzzer – Give Sound to your projects
	1	Light – Make your project shine and light
	1	Connectivity Sensor
	1	Copy block
	1	Motion Sensor – sense Motion to make decisions

Compo-nent	Qty	Details
	1	Obstacle Sensor – Make your projects to take decision by sensing things around it
	1	Sensor Base – Connect variety of sensors to this base
	1	Light Sensor – Make your projects to sense light around it & take decisions
	1	Moisture Sensor - Sense moisture to make decisions
	1	NOT – Logic gate that give inverted output of its input
	1	Dimmer – Allows output to be increased or decreased as per project need
	1	Limit Switch – Provides door bell like push switch functionality
	1	Pulse Delay – Add timer function to your project to make smart decisions

Component	Qty	Details
	1	NetLogic – Code your kit Use Drag-n-drop coding/C++/python With Wi-Fi Connect to internet & explore the world of IoT
	1	Push Button - Provides door bell like push switch functionality
	1	Servo Motor + Driver
	1	Submersible water pump
	1	Switch
	1	U-Right: make your circuit compact with it
	1	Place your Cretile flexibly with wire

Construction Kit Component	Qty	Details
	2	Base Plate
	18	Connector
	4	Connector
	2	Motor Coupler
	1	Remover Tool

Construction Kit Component	Qty	Details
	6	1x5 Strip
	4	1x11 Strip
	1	Wheel Shaft
	3	Gear Wheels
	1	Big Gear
	1	Shaft

Construction Kit Component	Qty	Details
	2	Free Pipe
	3	Robotic Wheels
	2	Moving Connectors
	4	Free connectors

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STEM LEARNING SYSTEM (MEDIUM)

ORDER CODE - STEM-002

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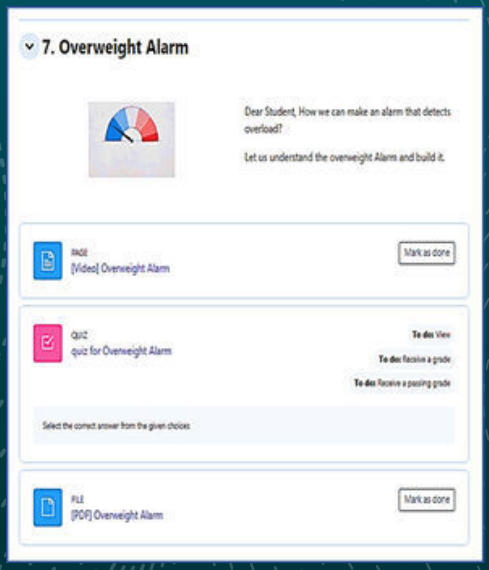
Component	Qty	Details
	2	Robotic Wheel – Give power to your projects to move around
	1	Fan - Give power to your projects to blow air around
	1	Cretile pulley
	2	3 pin wire to connect sensor
	2	2 pin wire to motors
	1	USB
	1	Adapter
	1	Small Wheel

Component	Qty	Details
	1	AND Gate
	1	OR Gate
	1	Toggle
	1	Pipe

LMS FOR TEACHER`S & STUDENT`S

Student View



- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

Teachers View

- Teaching Resources
- Session Power Point presentations
- Monitor students progress

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STEM LEARNING SYSTEM (ADVANCED)

ORDER CODE - STEM-003

- This kit is designed for schools to be able to roll out well structed STEM/Robotics/IoT/AI education programs. This is an awesome advance kit that offers modular Electronics, Robotics & Coding blocks. The kit can be used both with and without coding making the first step very easy for students. It has 63 blocks containing coding block, power supply, various inputs, sensors, outputs, motors, blocks for logic gates, transmitter, receiver, Smart Switch and much more. The kit also has plastic construction components.
- The kit support Block coding, C++ & Python. The coding can be done using Windows, Android and iOS PCs/tablets
- The kit comes with well structured 24 sessions of video curriculum that is available in LMS (learning management service). We also conduct teacher training programs.
- Education topics covered: Electronics, Robotics, Automation, AI & IoT
-

SPECIFICATION

- Contains 63 Module & Accessories
- It contain one Programmable Block called – NetLogic (WIFI & Bluetooth both)
- Basic electronics components like Light, Buzzer, NOT Gate, High Speed Motor
- Two ON/OFF Motors with Mounted BO & Servo motor & Parts.
- 13 types of sensors, few are Light Sensor, Obstacle Sensor & Moisture Sensor, Motion, Vibration Sensor, Sound Sensor, Tilt Sensor
- Smart Switch – to control appliances
- Having Construction Kit which contains 100+ components

SAMPLE PROJECTS

- Morse code with buzzer
- Pre-programmed path robot
- Automatic plant watering
- Cliff avoiding robot
- Obstacle avoiding robot
- Salt water conductivity
- Digital Key
- Digital dimmer project .....and many more

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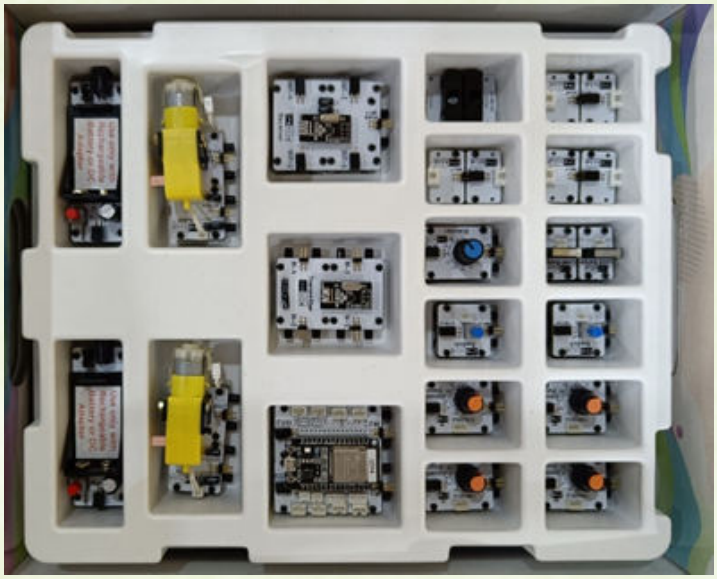
STEM LEARNING SYSTEM (ADVANCED)

ORDER CODE - STEM-003

Component	Qty
Adapter/Charger	1
Battery Power	2
Buzzer	1
Connectivity sensor	1
Copy	1
Dimmer	1
High speed motor	1
Inverter	1
Light	1
Light Sensor	1
Limit Switch	2
Magnetic sensor	1
Mini Plastic Fan	1
Motion Sensor	1
Motor with mounted BO	2
NetLogic	1
Obstacle sensor	2
OTG Adapter	1
Pipe	1
Pulley	1
Pulse Delay	1

Component	Qty
Push Button	2
Receiver	1
Sensor Base with threshold	4
Servo Motor	2
Servo Motor part	2
Smart Switch	1
sound sensor	1
Submersible pump	1
Switch	2
Tilt sensor	1
Transmitter	1
U- Left	1
U- Right	1
USB Cable	3
Vibration Motor	1
Vibration sensor	1
Wheel	2
Small Wheel	1
Magnet	1
Wire	4

Component	Qty
AND	1
OR	1
Toggle	1
USB Rechargeable Battery	2
Plastic Building Block Set 100+ Pcs	1



STEM LEARNING SYSTEM (ADVANCED)

ORDER CODE - STEM-003

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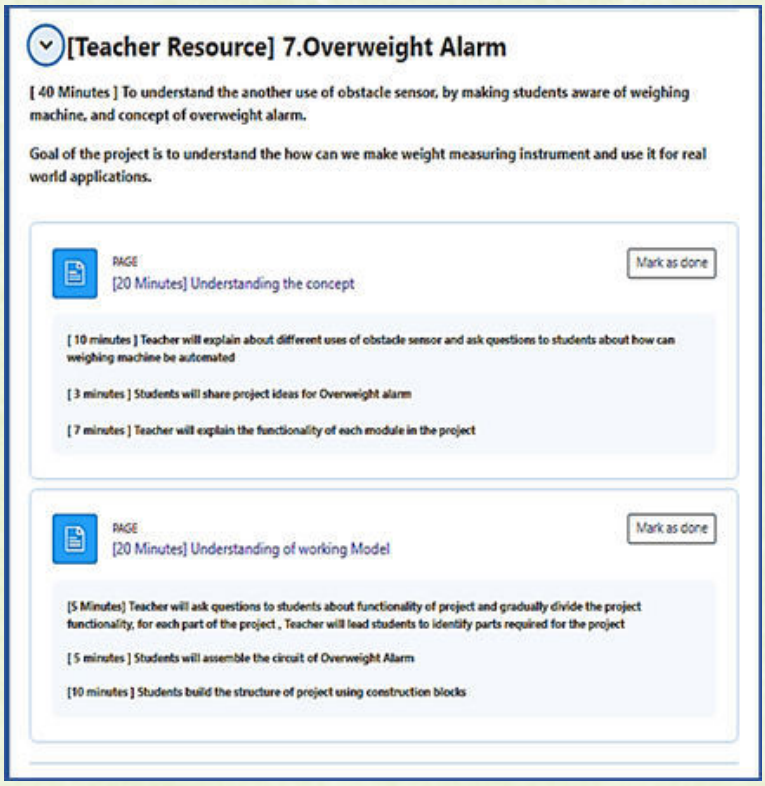
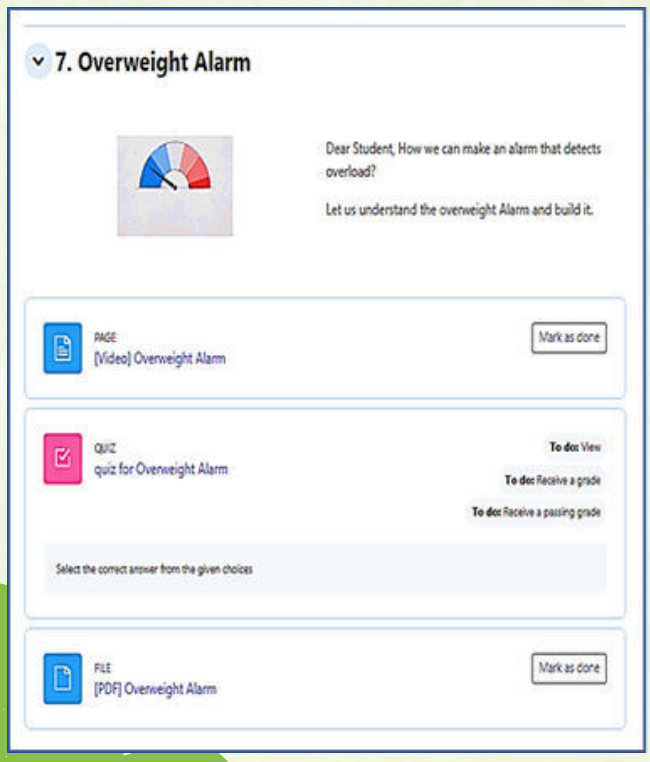
LMS FOR TEACHER`S & STUDENT`S

Teachers View



- Teaching Resources
- Session Power Point presentations
- Monitor students progress

Student View



- Learning Resources – Videos & Documents
- Quizzes
- Scholarship

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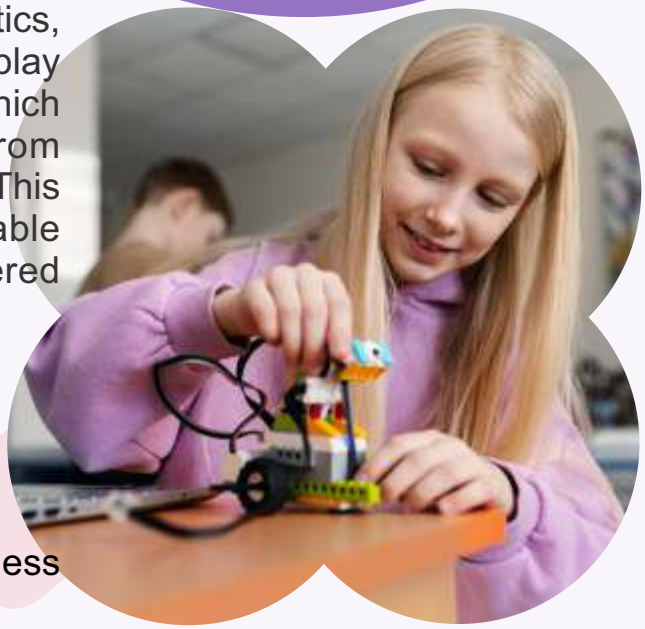
Tinker Orbits

Order Code - STEM-004

30+ Activity

20+ Projects

Tinker Orbits is a STEAM Robotics kit for kids to explore the basic concepts of electronic circuits, sensors, Robotics, logics and programming with the help of plug ‘n’ play modules. It is an educational DIY kit for students which covers the learners' journey around Robotics from Beginner level to the advanced Robotics concepts. This contains both programmable and non-programmable activities. Also, Programmable activities are covered through Block Coding as well as Textual programming.



LEARNING OUTCOMES

1. Ability to Formulate Problem and Solutions
2. Analytical & Critical Thinking
3. Creative & Innovative Programming Skills
4. Concepts of Electronics, Logics Gates & Awareness about SDGs

PRODUCT FEATURES

1. Easy to Connect Plugs.
2. Curriculum Mapped with SDG.
3. Supports Graphical and Textual Programming.
4. Video Tutorial, User Manual and Learning Resources Available.

TECHNICAL SPECIFICATION

1. Android + Web Application
2. IOT
3. Color - Coded Modules
4. Plug and Play

DIA KITS ACTIVITY

1. Weather Station
2. Smart Dustbin
3. Anti - Theft Alarm
4. Wi-Fi Controlled Light & Fan

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Tinker Orbits

Extended PBL Box

Order Code STEM-005

10+ Activity

12+ Projects

Tinker Orbits extended Project based kit offer students to create 12 unique projects around the the concepts of AI like Smart Home, Smart Irrigation System, Railway Crossing, Smart dustbin etc.

LEARNING OUTCOMES

1. Ability to Formulate Problem and Solutions
2. Analytical & Critical Thinking
3. Creative & Innovative Programming Skills
4. Concepts of Electronics, Logics Gates & Awareness about SDGs

PRODUCT FEATURES

1. Simple in Assembling/Disassembling.
2. Attractive Design.
3. Double-Layer Structure, Mauch of Mounting Holes, Enough Space.
4. Ideal for DIY Platform.
5. SDG Goal Mapped Projects.

TECHNICAL SPECIFICATION

1. Printed Board Cut Out
2. Thickness: 3-4mm

DIA KITS ACTIVITY

1. Solar Tracker
2. Railway Crossing
3. Automatic Pet Feeder
4. Smart Bin

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Electronics Kit

Order Code - STEM-006

20+ Activity

10+ Projects

Breadboard electronics allow kids to work with real electronics components without needing to use a soldering iron. Kids work with real electronics components. And breadboard is frequently used for prototyping real electronics projects – it's a useful skill to have.

- BASIC ELECTRONIC KIT
- MINI ELECTRONIC KIT

LEARNING OUTCOMES

1. Development of an Innovative Mindset
2. Circuit Building Skill
3. Innovators to Become Creators
4. Basic Electronics

PRODUCT FEATURES

1. Reusable Prototyping Board.
2. Endless Possibilities.
3. SDG Mapped Content.
4. Day-to-DAy Technology.

TECHNICAL SPECIFICATION

1. 800 Pin Solderless Bearboard
2. 5mm (20mA) LEDs
3. Sensor
4. Multi-Core Dupont (Jumper)Wires

DIA KITS ACTIVITY

1. Countdown Display
2. Mood Lighting
3. Smart Water Level System
4. Automatic Street Light

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Tinker N Design Kit

Order Code - STEM-007

12+ Activity **05+** Projects

An **Augumented Reality Enabled** 3D Pen based prototyping kit for primary students to kick-start their 3D Prototyping journey without any programming.

LEARNING OUTCOMES

1. Augmented Reality
2. Design Thinking
3. Arts
4. Creative Mindset

PRODUCT FEATURES

1. Easy to Track Stencils.
2. Multicolored Filament.
3. Includes Mathematical and Science Concepts.
4. Augmented Reality Enabled.

TECHNICAL SPECIFICATION

1. Nozzle Diameter: 0.7mm
2. Filament Supported: ABS/PLA
3. Display: Built in LCD
4. Filament Diameter: 1.75mm

DIA KITS ACTIVITY

1. Magic Shape Maker
2. Butterfly Effect
3. Bicycle
4. Pyramid
5. Wind Runner

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STEAM Paper Circuit Kit

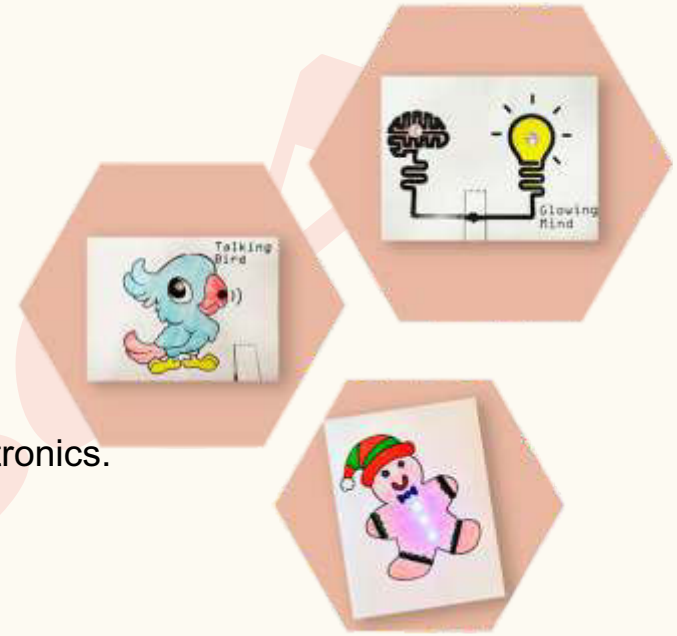
Order Code - STEM-008

25+ Activity **10+** Projects

A Paper Circuit is a low-voltage electronic circuit that is created on paper using conductive Copper Tape , LEDs, Buzzer , Switches and a power source such as Coin-Cell battery. It's a friendly way to learn, design and create your own electronics.

LEARNING OUTCOMES

1. Creativity
2. Design Thinking
3. Understanding of Electronics
4. Circuit Building Skill



PRODUCT FEATURES

1. Fun STEAM Learning.
2. Circuit Building With Art & Craft.
3. A Combined Platform Where Craft Meets Electronics.
4. Playing Learning & Creating with Electronics.

TECHNICAL SPECIFICATION

1. Operating Voltage: 3V
2. 5mm LEDs
3. Copper Tape
4. Designed Booklet

DIA KITS ACTIVITY

1. Table Lamp
2. Birthday Cake
3. Flower Birdy
4. Glowing Mind
5. Galaxy

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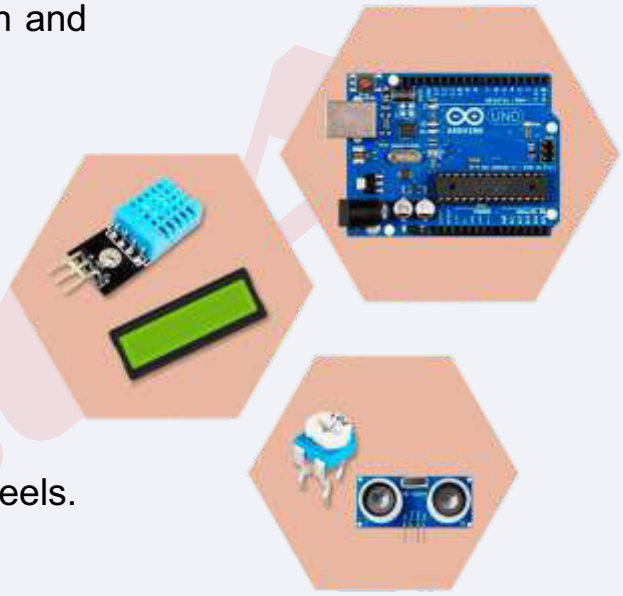
Arduino Robotics Kit

Order Code - STEM-009

35+ Activity

20+ Projects

End-To-End Platform for students to Kick start child's journey in Robotics. Students can learn Robotics programming through Block Coding and Textual Coding. Also, Interfacing of Sensors and actuators with Arduino controller.This kit is aimed at beginners to advanced level learners and can be used to jump start child' growth and learning towards DIY electronics and robotics system.



LEARNING OUTCOMES

1. Circuit Building & Coding Skills
2. Design Thinking
3. Overview of Robotics & Programmable Devices
4. Decision Making

PRODUCT FEATURES

1. Easy to Use Hardware.
2. Simple to Assemble Chassis with Motor and Wheels.
3. Projects Based Learning Modules.
4. Includes Compatible Sensors and Hardwares.

TECHNICAL SPECIFICATION

1. Bluetooth Frequency: 2.4GHz ISM Band
2. ATMega328 Based
3. Protocols Supported: I2C, SPI, UART, PWM
4. USB Programmable

DIA KITS ACTIVITY

1. Black and White Sorter
2. Automatic Street Light
3. Line Follower Car
4. Home Automation

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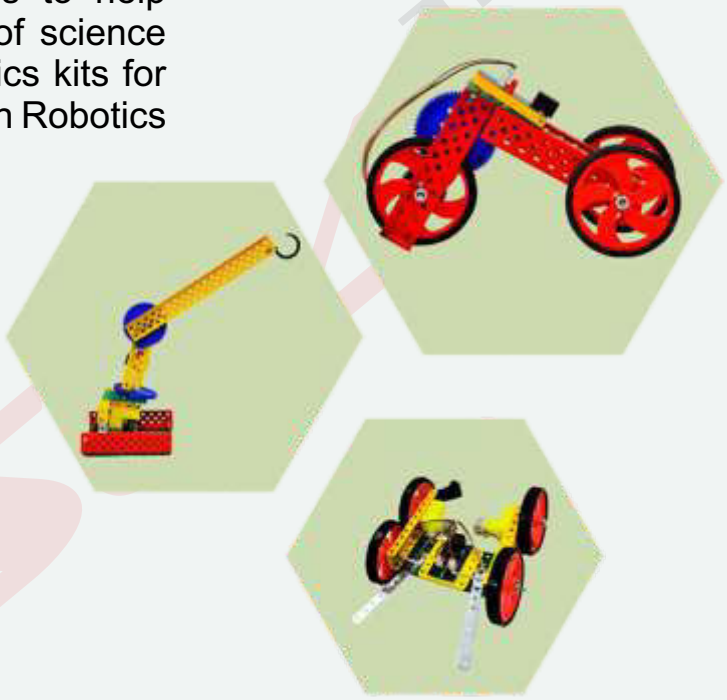
Mechatron Kit

Order Code - STEM-010

10+ Activity

05+ Projects

MECHATRONICS Robotic Kit is for 6+ Age Kids.
Contains 150+ parts such as metallic strips, Remote control, control card, motors, gears, etc. Comes with an assembly guide with step-by-step instructions to help students build the robot-associated concepts of science and math mentioned with every design. Robotics kits for Kids & Robotic kits for students to make their own Robotics projects.



LEARNING OUTCOMES

1. Problem Solving ability
2. Design Thinking
3. Awareness of Day-to Day-Life Machinery
4. Concepts of Simple Machines

PRODUCT FEATURES

1. More Than 15+ Working Models.
2. SDG Mapped Real - Life Models.
3. Assembly Guide + Easy to Assemble.

TECHNICAL SPECIFICATION

1. Operating Voltage: 12V DC
2. 150 RPM Geared Motors
3. Remote Control

DIA KITS ACTIVITY

1. Table Fan Bot
2. Robo Car
3. Robo Crane
4. Robo Soccer
5. Tricycle

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Sensor Box

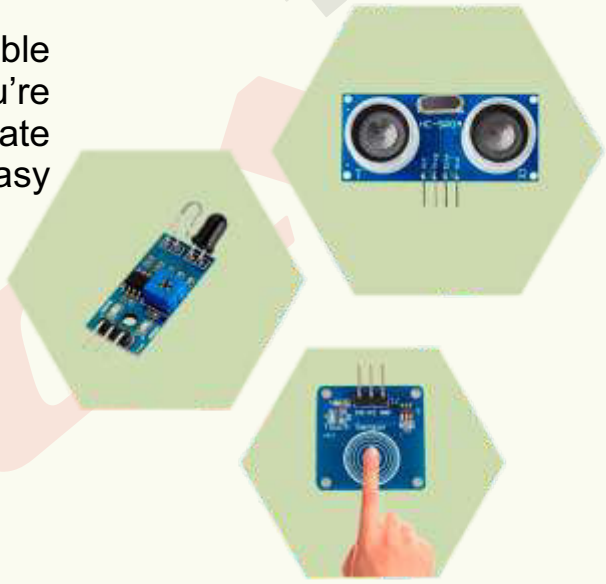
Order Code - STEM-011

20+ Activity

15+ Projects

This Sensor Kit compatible with Arduino is supplied with a variety of sensors that are compatible with Arduino Boards. This is the most complete performance starter kit with all the essential Arduino sensors.

This kit contains excellent sensors which are compatible with Arduino. You can find the best sensors, whether you're a beginner or an expert in this field, and use them to create the best DIY projects on your own. Prototyping will be easy and fun-loving with this Kit.



LEARNING OUTCOMES

1. Projects Base Learning
2. Working of Different Sensor and Their Applications
3. Analog & Digital Devices Innovative Mindset
4. Programming Skills

PRODUCT FEATURES

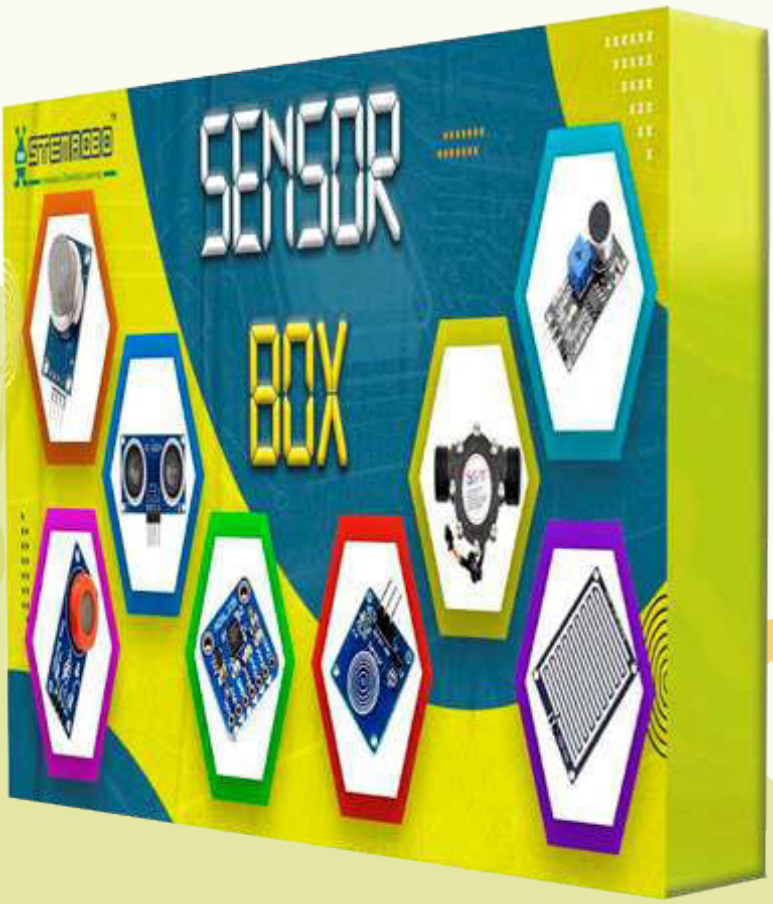
1. Handpicked Sensors.
2. Endless Innovative Thinking Possibilities.
3. Compact Modules.
4. Stable Performance.

TECHNICAL SPECIFICATION

1. Operating Voltage: 5V DC
2. UART Compatible
3. 12C Compatible
4. Arduino, Raspberry PI Compatible

DIA KITS ACTIVITY

1. Distance Calculator
2. Accelerometer
3. Light Sensor
4. Rain Sensor
5. Proximity Sensor



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Block Based Construction Kit

Order Code - STEM-012

This course makes it easier for children to understand the basics of Physics. The concepts that they learn helps them throughout their learning process in science concepts. Children build complex machines and mechanisms and see the advantage of one over the other. Moreover, they develop tremendous creator confidence in imagining and executing the output of their machine.

Soldering Box

Order Code - STEM-013

10+ Activity

Endless Projects

Hookup Wire Roll (Red), Hookup Wire Roll (Black), Hot glue gun,Soldering Iron 30 watts/230 volts,De-Soldering Pump,Soldering Flux (Paste)- 50grams, DE-soldering Copper Braid(Solder Wick),Soldering Wire: 20/22 AWG soldering Wire with rosin core flux (100 Grams),Soldering Helping hand,Glue Sticks,Safety goggles,Safety Gloves Pairs,Safety Mask

LEARNING OUTCOMES

1. Soldering & Circuit Building Skill
2. Safety Practices
3. Handling Tools & Equipment
4. Basics of Electronics

PRODUCT FEATURES

1. Spring-Loaded Vacuum-Style Solder Remover.
2. Strong Alligator Clips.
3. Distortion-Free Magnifying Glass.
4. Safety Glasses with Polycarbonate Lenses.

TECHNICAL SPECIFICATION

1. Soldering Iron Wattage (W): 30W Max Temperature : 450C
2. De-solder Tool: Pump Tip Nozzle Length: 7.64” / Nozzle O.D.: 0.13”
3. Magnifying Lens: 2.5 x 90mm
4. Polycarbonate Safety Goggles

DIA KITS ACTIVITY

1. Soldering Fundamentals
2. PCB Designing
3. Circuit Designing
4. LED Matrix

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Robotic Pick & Place Tank

Order Code - STEM-014

05+ Activity

03+ Projects

The robotic tank DIY kit includes four motors, trackwheel, and a gripper arm. Two motors are used to power the track wheels. Other motors are used to control the movement of the robotic arm and the gripper. The size and shape of the robot make it suitable for pick and place robot application. The robot can be easily be programmed to do different operations making it an all-in-one solution for kids to enjoy hands-on experience in building robots, programming, and electronics circuits.

LEARNING OUTCOMES

1. Robotic & Programming Skills
2. Logical, Critical & Creative Thinking
3. Wireless Communication Basics
4. Motor Controls

PRODUCT FEATURES

1. Arduino Programming.
2. Wireless Connectivity via Bluetooth.
3. Android App Compatible.
4. Wheel With Track Belt.
5. In Built Gripper
6. Higher Traction

TECHNICAL SPECIFICATION

1. Operating Voltage: 12V DC
2. Protocols Supported: I2C, UART, PWM, Digital, Analog
3. USB Programmable
4. Material: Metal & Plastic

DIA KITS ACTIVITY

1. Wireless Controlled Tank
2. Materials Handling Robot
3. Handling Gripper
4. Bomb Diffusal Planning
5. Rescue Operations

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Humanoid Robot

Order Code - STEM-015

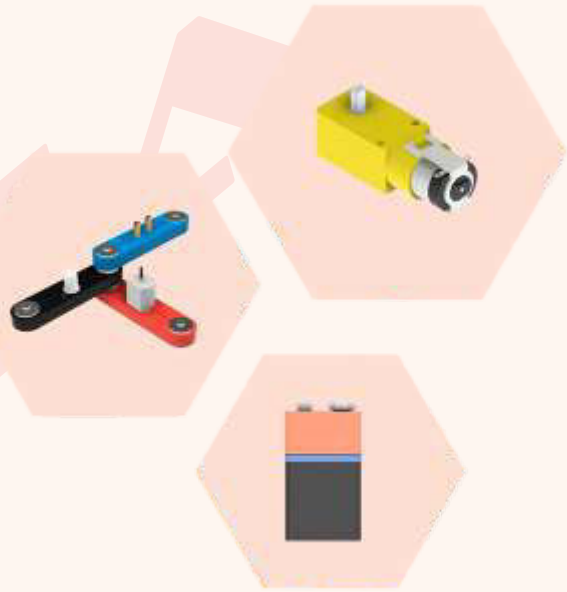
Voice Intelligent RC Robot LED expression voice dialogue intelligent RC robot toy with lights. Robot can glide, dance, sing, tell stories, volume adjustments, and communicate with players according to the script. Increase the ingenuity of children, the cultivation of the independent personality. Robot toy inspires imaginative play and curiosity about science. Rotatable head, enjoy more fun. Flexible hand actions.

Smart Circuit Kit

Order Code - STEM-016

45+ Activity **30+** Projects

The Smart Circuit kit contains more than 50 DIY (Do It Yourself) projects with more than 40 interactive simulations and 10 real-world model templates and a colorful user manual with its easy-to-follow instructions, smart electronics kit gives a hands-on education in how electrical circuits work to run the everyday devices that they're familiar with. They'll also gain valuable lessons in building circuit design. This kit contains more than 12 electronic components, more than 30 magnetic blocks as well as more than 40 accessories for real model building along with dual power (USB + DC) which can be used to create many projects also no soldering is required.



LEARNING OUTCOMES

1. Basic Electronics
2. Develops Innovative Mindset
3. Knowledge of Day-to-Day Tech
4. Circuit Building Skills

PRODUCT FEATURES

1. Do it Yourself Projects.
2. Interactive Simulations.
3. Real World Model Templates.
4. SDG Mapped Content.

TECHNICAL SPECIFICATION

1. Operating Voltage: 5-9V DC
2. Connector Type: Magnetic
3. USB Power Connector
4. 9 X 7 Connector Board

DIA KITS ACTIVITY

1. Flash Light
2. Hand Trimmer
3. Car Music Volume Control
4. Lift Cabin Safety
5. Fire Alarm System

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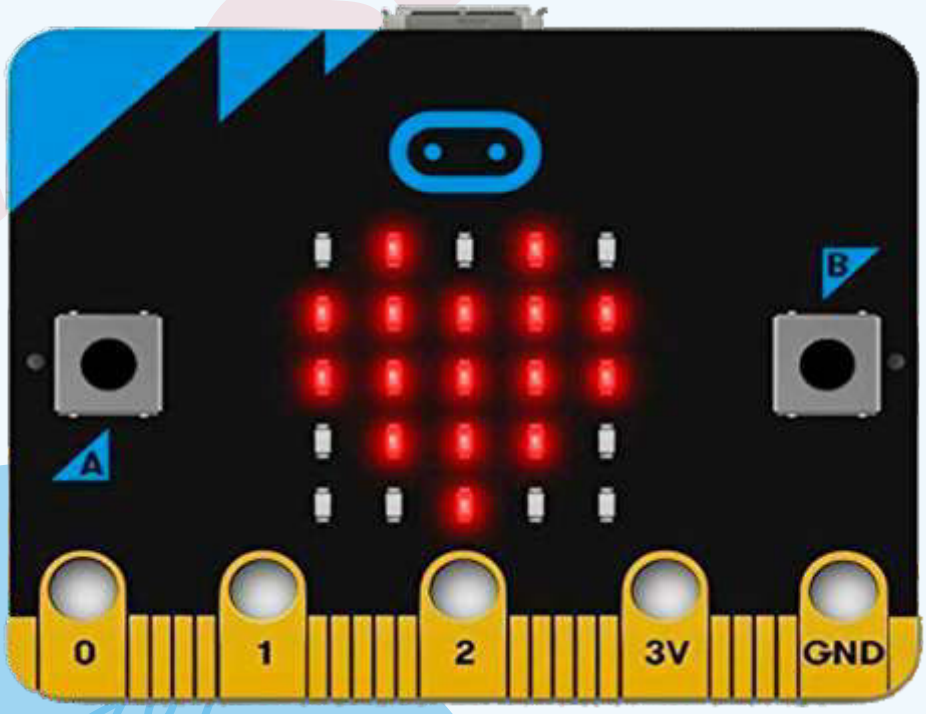
Microbit Explorer Kit
Order Code - STEM-017

The BBC micro:bit is a pocket-sized computer that introduces you to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world.

The new micro:bit with sound adds a built-in microphone and speaker, as well as an extra touch input button and a power button

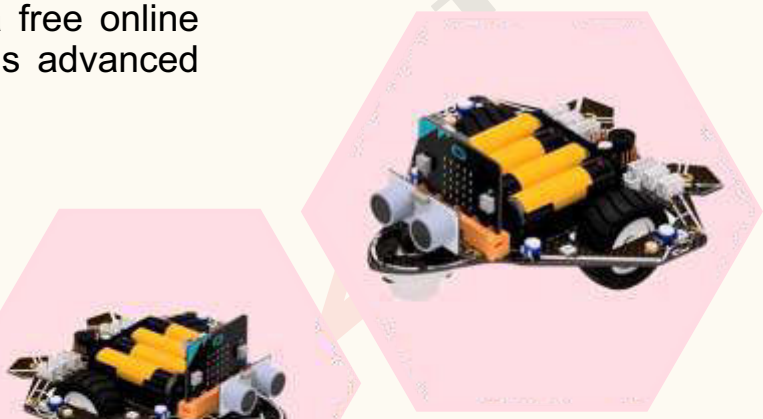


STEMBOT

Order Code - STEM-018

30+ Activity **20+** Projects

StemBot is a graphical programming robot for STEM education, which inherits playability and simple operation on the micro:bit (Version 2). Includes various sensors like IR (Infrared Sensor), Ultrasonic sensor, and Light sensor to make DIY robotics projects. MakeCode is a free online coding platform available to code and learns advanced coding concepts.



LEARNING OUTCOMES

1. Concepts of AI & ML
2. Computer Vision
3. Overview of Robotics
4. Digital Literacy & IOT

PRODUCT FEATURES

1. Support of Make Code.
2. Arduino & Python Compatible.
3. Android Application.
4. Graphical Programming Interface.

TECHNICAL SPECIFICATION

1. Programming Method: Make Code Graphical Programming
2. Connector Type: Magnetic
3. Servo Motor Compatible
4. Maximum Speed: 200RPM

DIA KITS ACTIVITY

1. Night Light
2. Range Indicator
3. Obstacle Avoider Robot
4. RC Car
5. Range Indicator on OLED

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3 in 1 Set of Linkers

Order Code - STEM-019

28+
Activity

Combination of 3 Kits for early Tinkerers to cultivate creativity, imagination, tactile skills, Logical Thinking and Hand-eye coordination. Students will be introduced to multiple types of links and Joint. Connecting components at different angles and create multiple objects.

LEARNING OUTCOMES

1. Hand to Eye Coordination
2. Construction Skills
3. Creative Learning
4. Ogranizational Skills

PRODUCT FEATURES

1. Made with Safe and Durable Materials.
2. Perfect Fitting.
3. No Share Edges.
4. Multicolor Sticks
5. Durable and Safe Colorful Parts.

TECHNICAL SPECIFICATION

1. Material Type: Polypropylene
2. Colorful Components
3. Adjustable Links

DIA KITS ACTIVITY

1. Rickshaw Frerris Wheel
2. Basket Ball Hoop
3. Supermarket
4. Space Rover
5. Multistory Building

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Mechanical Tools Box

Order Code - STEM-020

10+ Activity

Endless Projects

A must have toolbox for all innovators and creators. Your ideas need a right set of tools and this toolbox has got it covered. It includes all types of measurement, cutting, dismentelling and joining tools which can be used to measure thickness of wire, cutting or reshaping wooden pieces. This includes Long Nose Plier, Combination Plier, Wire Stripping Plier, Tweezer Set, Allen Key Set, Universal Multi Wrench Spanner, Screwdriver Set, Flexible Cutting Mat, PegBoard, measuring tape, Stainless Steel Rule, Digital Vernier Caliper.

LEARNING OUTCOMES

1. Handling Different Tools
2. Basic Workshop Practices
3. Safety Standards
4. Practices of Materials

PRODUCT FEATURES

1. Effective for Cutting Wires and Cables.
2. Electronics Tweezers with ESD.
3. Lightweight and Self Adjusting easily Fits.
4. Accurate Reading.
5. Vernier Caliper with LCD Display.

TECHNICAL SPECIFICATION

1. Combination Mini Plier Material: High-Carbon Steel
2. Tweezer Set Anti-Static, Curved
3. Adjustable Universal Multi Wrench Spanner Range: 22-32mm
4. Digital Vernier Caliper Measuring Range: 0-150mm/ 0-6 inch

DIA KITS ACTIVITY

1. Length Measurement
2. Wire Cutting
3. Fixing Parts
4. Removing Parts

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Agritech Kit

Order Code - STEM-021

The Agri-Tech kit v1.0 is a complete Internet of Things (IoT) based device which can be used to monitor as well as to control the agricultural parameters such as, soil moisture, rainfall, air quality around the crops, temperature and humidity on the field. In addition, the kit contains the flame detector which detects if there is any unfortunate fire scenario down the field. The kit contains the fully enabled Wi-Fi transceiver which facilitates the user to combine all the field parameters and uploaded to the cloud, which can be seen anytime and anywhere followed by monitoring and automatic control. The Wi-Fi transceiver also allows the user to remotely trigger actions like an alarm, pump etc on the field

Drone Kit

Order Code - STEM-022

12+ Activity

05+ Projects

Crash Resistant Smartphone Controlled DIY Nano-Drone Quadcopter with Rechargeable Battery for Coding and STEM

LEARNING OUTCOMES

1. Cognitive Learning
2. Concepts of UAVs and Drones
3. Computational & Observation Skills
4. Creative & Innovative Mindset

PRODUCT FEATURES

1. Wireless (Wi-Fi) Connectivity.
2. 10-Axis Stability.
3. Cygnus IDE.
4. Primus V4.

TECHNICAL SPECIFICATION

1. 10 DOF Sensor Suit
2. Camera: Photo, Vidoe@720p, SD Card
3. Battery: 1S 3.7V 600mAh LiPo with Inbuit Cahrger
4. Communication: Wi-Fi Interface Through Smartphone App

DIA KITS ACTIVITY

1. Concepts of Roll
2. Concepts of Yaw
3. Concepts of Pitch
4. UAV Concepts
5. Surveillance of an Area Using Drone

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AI Connect Platform
Order Code - STEM-023

"Subscription of AI Connect platform for the programming of AI (Python,Python Bascis, Machine learning and AI) which will be covering 100% syllabus of CBSE and 50+ Extra Activities for 5th Onwards.

Arctic 3D Printer

Order Code - STEM-024

Endless Activity

This 3D Printer is, an IoT-enabled FDM type 3D Printer, Loaded with exciting features, Arctic offers you the highest build volume in its segment. Student will learn the concept of Design Thinking, programming, and Prototyping. **It comes with 5 Kg Filament of different colors.**

LEARNING OUTCOMES

1. Design Thinking
2. 3D Designing
3. Additive Manufacturing
4. Rapid Phototyping

PRODUCT FEATURES

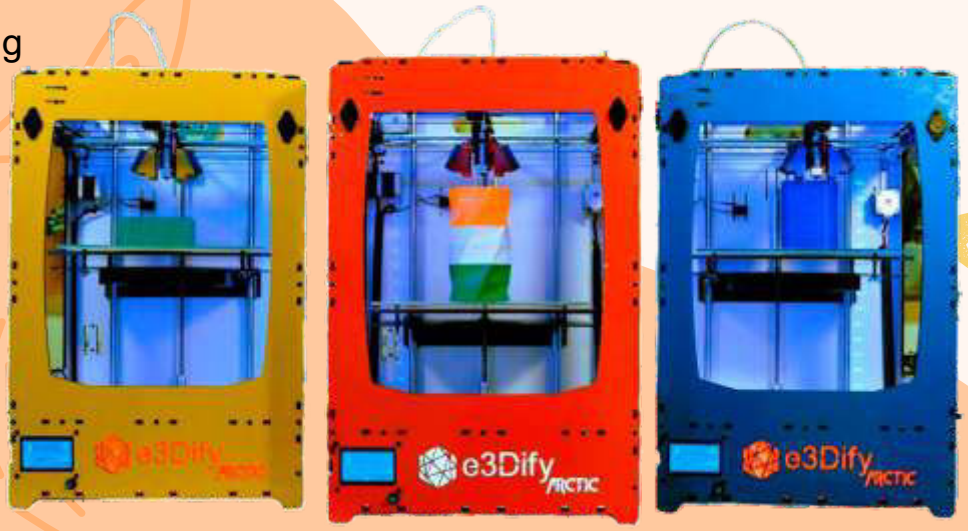
1. Full Graphics LCD.
2. Various Color Options.
3. Filament Runout Detection.
4. IOT Build Volume.

TECHNICAL SPECIFICATION

1. Extruder - Single Nozzle, Size-0.4mm
2. Technology: Fused Deposition Modeling (FDM)
3. Supported Materials: PLA, ABS, Nylon, Wood Fill and PETG
4. Media Interface: MMC, USB, IOT and Camera Monitoring Ready

DIA KITS ACTIVITY

1. Ludo Dice
2. Gear
3. Seal
4. Introduction of 3D Designing
5. Sword
6. Pokeball



BitLi

Order Code - STEM-027

30+ Activity

20+ Projects

Bitli is an innovative robot designed to engage young minds in both basic and advanced activities. Its block-based design allows for easy assembly and customization, making it an excellent tool for educational exploration.

Bitli empowers students to unleash their creativity by enabling them to build and program the robot using colorful blocks. From basic movements to complex AI-driven actions, Bitli adapts to student's skill levels and encourages them to experiment with new ideas.
Based on the Bitli V1 from TESCA, the micro: bit Bitli Bricks Pack contains 360 degrees servos, LED strips, and almost 200 pieces of bricks.

LEARNING OUTCOMES

1. Concept of AI & ML
2. Construction Skills
3. Organizatiocal Skills
4. Analytical & Critical Thinking

PRODUCT FEATURES

1. Support Microsoft MakeCod: Graphical Programming Interface.
2. No Sharpe Edge.
3. Durable and Safe Colorful Parts.
4. Develop Problem-Solving, Organization and Planning.
5. Develop Scientific and Technological Solution.

TECHNICAL SPECIFICATION

1. Operating Voltage: 4.5V
2. 2.4Ghz Radio Connectivity
3. 360 Degree Servo Motor
4. Protocol Supported: I2C, SPI, UART, PWM
5. Programming Method: MakeCode Graphical Programming
6. Material Type: High-Quality ABS Plastic

DIA KITS ACTIVITY

1. Traffic Light
2. CubeBot
3. Temperature Controlled Fan
4. Smart Desk Lamp
5. Wiper
6. Sky Slinger

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Name - DIY 0
Order Code - STEM-101

Unleash your creativity by building thousands of models and gift your loved ones this amazing set. You will have an everlasting experience with DIY 0 build mobile stand, keychain holder, goggles, etc.

SKU : Finished Goods1291
Categories : Non motorized 12%

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

24.06.2024

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TESCA™
www.tescaglobal.com

Name - CARS 1
Order Code - STEM-102

This Tesca robot kit for kids maybe be small in size but it's big in excitement. 4 large tyres and specially designed mudguards add tremendous appeal to your creation. This is a fantastic first step to introduce a child to the construction system and towards strengthening their cognitive skill.

SKU : Work In Progress1287
Categories : Non motorized 12%, Shop, Stem Toys

Specification

No. of Parts - 41
Models - 4
4 large tyres and specially designed mudguards

Note: Specifications are subject to change.

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TESCA™
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Name - BUDDY
Order Code - STEM-103

The Tesca robot kits for kids are perfect to work on construction and mechanism. Make a robot whose arms wave using links and joints, a moving horse that has a crank & slider mechanism, and many more creative models. Kids will enjoy building, learning, and exploring science concepts with this.

SKU : Inventory Asset1289
Categories : Non motorized 12%, Shop, Stem Toys

Specification

No. of Parts - 58
Models - 5

Note: Specifications are subject to change.

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Name - CARS 2
Order Code - STEM-104

This robot kit for kids takes the excitement of building cars to another level by the suspension system. Build 9 different types of vehicles from a Mono-shock racer to a Dual shock off-road buggy, all in this one set. Easy construction allows you to tinker with the models and build.

Categories : Non motorized 12%, Shop, Stem Toys

Specifications

No. of Parts - 76
Models - 9
Real working suspension system

Note: Specifications are subject to change.

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Name - AARTI SET
Order Code - STEM-105

Tesca gets children involved in aarti sessions. Let them make the models and feel pride for their creator with gears and motors. Let them create beautiful models of light, agarbatti, and the little bell for a complete aarti session. BRAND Tesca Aarti set is a Tesca Robotix toy for children.

Specification

Categories : Shop, Stem Toys
No. of Parts - 86
Models - 5

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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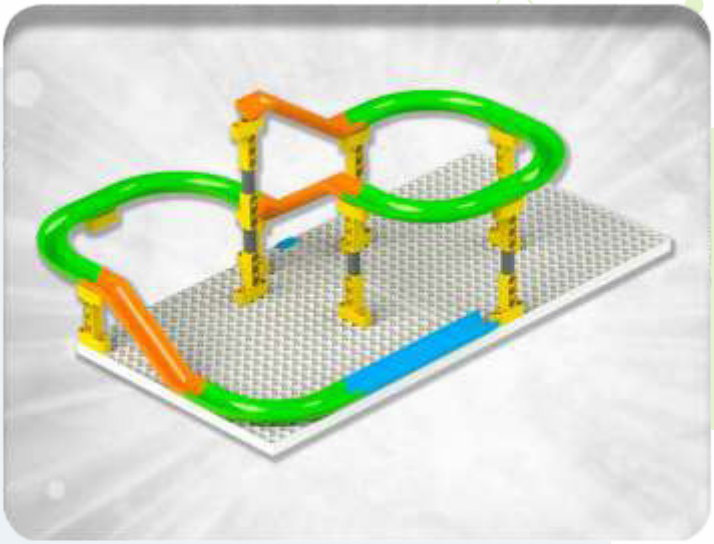
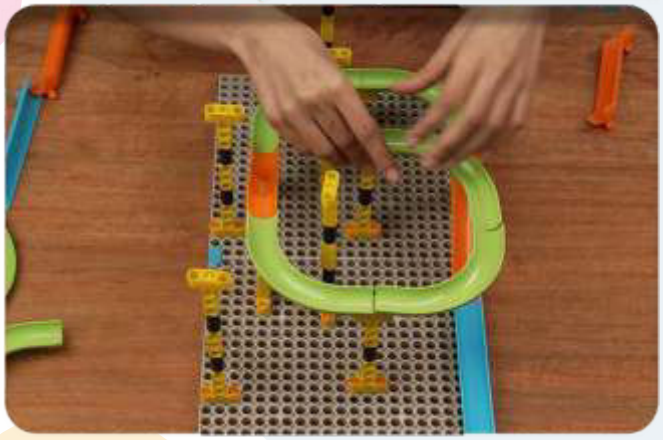
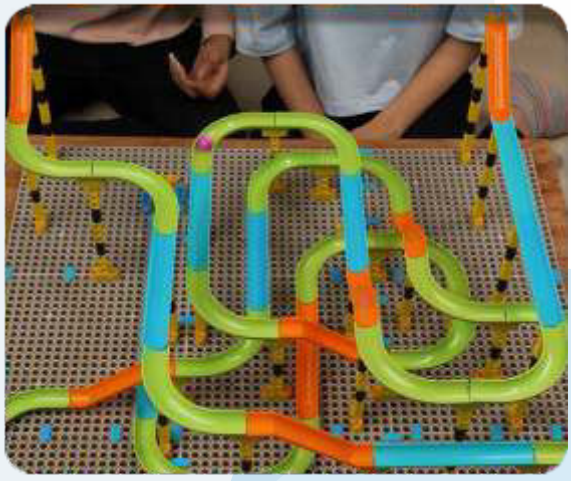
Name - MARBLE RUN 1
Order Code - STEM-106

Build these super fun and amazing roller coaster-like structures for your marble buddies and have unlimited hours of playtime. Use your creativity and building skills to build unlimited designs and make the marbles run on them.

SKU : Inventory Asset1288
Categories : Non motorized 12%, Shop, Stem Toys







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Name - CRAWLER
Order Code - STEM-107

A Tesca Crawler is designed for children aged 8+. With Tesca Crawlers, kids learn about the gears and walking mechanisms of two-legged and four-legged crawlers. It's time to put an end to your search for the best robot toys for kids! Build 8 cool motorised walking robots with this kit.

SKU : Finished Goods1293
Categories : Shop, Stem Toys

Specification

No. of Parts - 70+
Models - 8

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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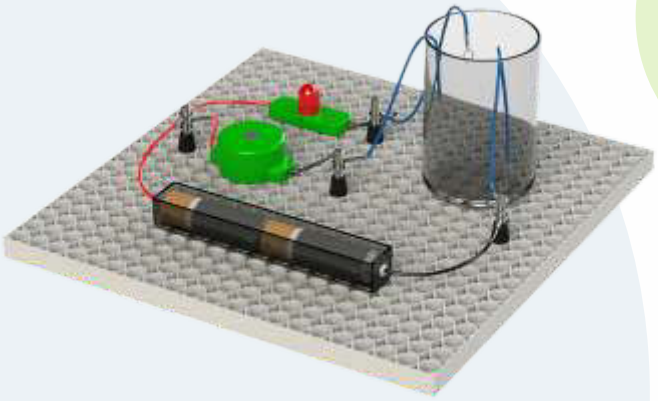
Name - ELECTROMAGNETIC
Order Code - STEM-108

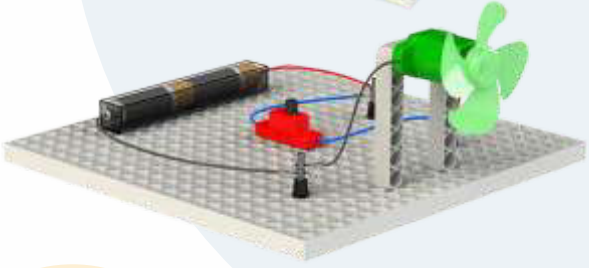
Tesca Electromagnetix is a robotic toy by Tesca Robotix for children between the age 8 to 15. The Tesca Electromagnetix kit is composed of 43 helps child to build 30 awesome projects such as Aero boat, String compass, and Magnet Football etc.

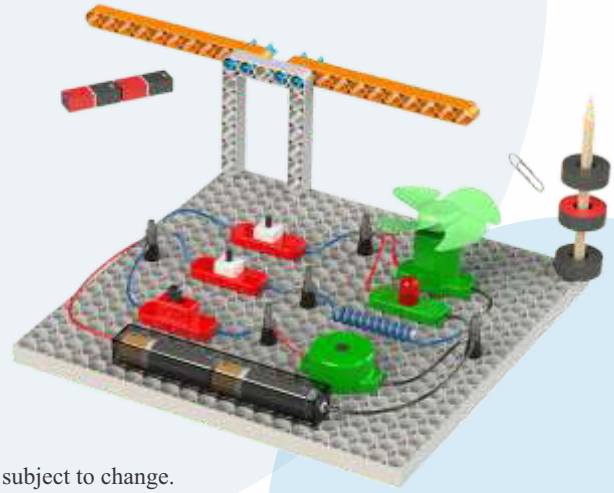
SKU : Inventory Asset1375
Categories : Shop, Stem Toys

Specification

No. of Parts - 43
Models - 30







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Note: Specifications are subject to change.

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Name - JUNIOR
Order Code - STEM-109

In Tesca Junior, go on an adventure with Kit, Laya & their robot Rob. In the Tesca junior , they will ride through the jungle, solve problems for the people in need, use suspensions to ride through the forest, make a bridge to cross a river filled with crocodiles,

SKU : Finished Goods1297
Categories : Non motorized 12%, REELUP (DO NOT DELETE), Robotix Sets, Shop

Specification

No. of Parts - 90+
Models - 10

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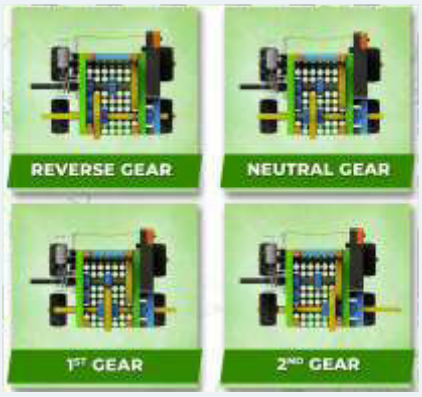
Name - GEAR BOX
Order Code - STEM-110

Gears are the biggest invention after the wheel, we cannot live a normal day in our lives without gears. The fact ignites a spark in the brains of children and transforms them into leaders who can define the next phase of human evolution. With these robot toys for kids, children.

Categories : Shop, Stem Toys

Specification

No. of Parts - 100+
Models - 10
Gear changing car



Note: Specifications are subject to change.

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Name - POWER SCREW
Order Code - STEM-111

The Tesca robot kits for kids are a complete package. In the manual, you will find instructions to build 7 different motorized models like a Dumper truck, a Scissor lift, A Pressing machine, and more. But that is just the beginning, with these robot toys for kids, you can build.

SKU : Finished Goods1294
Categories : Shop, Stem Toys

Specification

No. of Parts - 186+
Models - 7
Power screw mechanism, High torque motor

Note: Specifications are subject to change.

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Name - RACK AND PINION
Order Code - STEM-112

Rack and Pinion is one of the easiest ways to convert rotary motion (which is produced by motor) into linear motion. As you can build 6 incredible models from this set, you will see how this super mechanism is used in a forklift to lift up cargo, a garage.

Categories : Shop, Stem Toys

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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Name - MARBLE RUN 2
Order Code - STEM-113

Introducing Marble Run Part 2 Now with Motorized Models and More Pieces for Endless Fun! Get ready to take your marble racing experience to the next level with our upgraded and exhilarating Marble Run Part 2. With motorized models and an expanded set of pieces, the excitement never stops. Build,

SKU : 78765
Categories : New launch, Shop, Stem Toys

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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TESCA™
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Name - JUNIOR ELECTRONICS
Order Code - STEM-114

Dive into the world of "Junior Electronics" – where budding scientists in 1st, 2nd, and 3rd grade uncover the mysteries of electricity and electronics through hands-on projects! Say hello to Queaky, the buzzing sensation that sparks excitement as kids connect its terminals to create sounds. With Queaky and an array.

SKU : junelecto_222
Categories : Robotix Sets, Shop

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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TESCA™
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Name - AMUSEMENT PARK
Order Code - STEM-115

One of the best robot kits for kids, The Tesca Amusement park comes with more than 340 parts from which you can build 7 different Amusement Park robot toys for kids. These rides have entertained many in theme parks around the world, now with the best robot kits for kids,

Categories : Shop, Stem Toys

Specification

No. of Parts - 340+
Models - 7
Gear mechanism, High torque motor

Note: Specifications are subject to change.

24.06.2024

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TESCA™
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Name - RC EXPLORER
Order Code - STEM-116

Unleash endless fun and creativity with Tesca DIY Remote-Controlled Toy! Featuring a powerful 2.4GHz wireless transmitter and receiver, you'll experience seamless connection and control like never before. This versatile kit allows you to build over 6+ unique robot models, providing hours of entertainment and hands-on learning.

SKU :0
Categories : New launch, REELUP (DO NOT DELETE), Shop, Stem Toys

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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TESCA™
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Name - DISCOVERING MOTION
Order Code - STEM-118

Tesca Discovering Motions, one of the finest robotics for kids, makes it easier for children to understand the basics of Physics. Introduce robotics training for kids and let them learn complex scientific concepts with the Tesca Discovering Motions. Children build complex machines and mechanisms and see the advantage of one.

SKU : Finished Goods1332
Categories : Robotix Sets, Shop

Specification

No. of Parts - 176
Models - 13

Note: Specifications are subject to change.

24.06.2024

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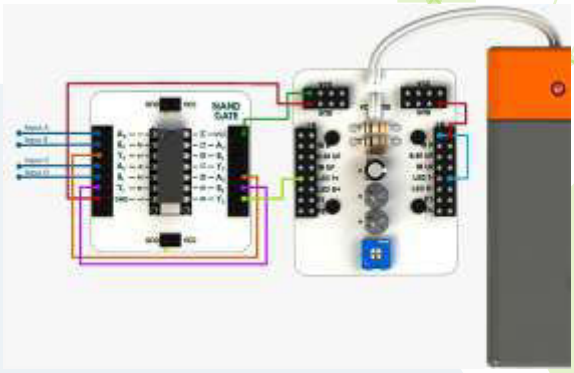
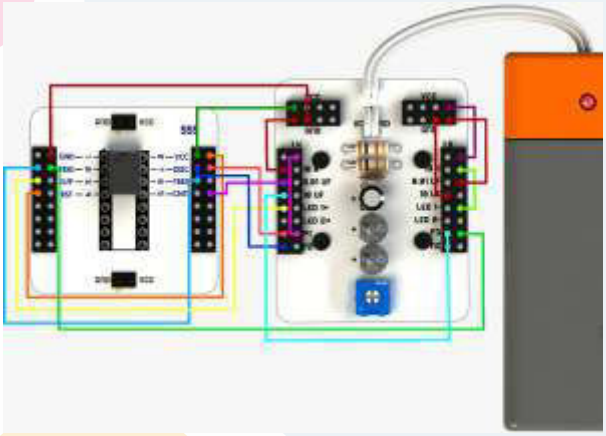
TESCA™
www.tescaglobal.com

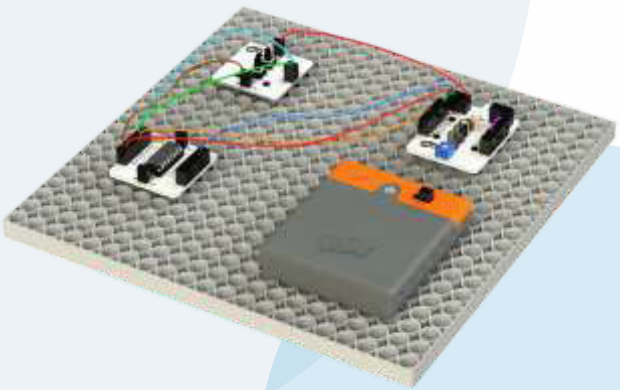
Name - DISCOVERING ELECTRONICS
Order Code - STEM-119

Introducing "Discovering Electronics" – an engaging and educationaljourney into the world of electronics for kids aged 8 and above!Unleash creativity with PCBs featuring logic gates, a 555 timer IC,multiplexers, demultiplexers, and a 7-segment display. No complexbreadboard mastery required – simply connect wires to IC pins,following our easy manual for over...

Categories : Robotix Sets, Shop







Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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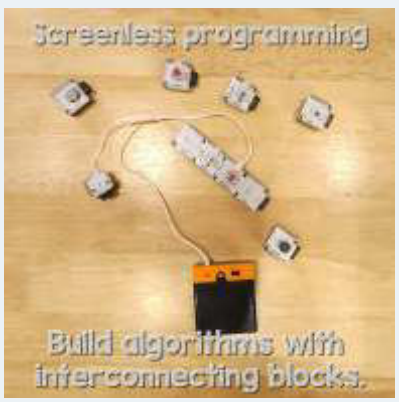
Name - LOGIC BLOCK V2
Order Code - STEM-121

Introducing robotics for kids by Tesca for kids between the age of 8 to 14. In the Tesca Logic Blocks, the child will build robots using the Tesca construction parts, and add intelligence to them using the Logic blocks. Tesca Logic Blocks uses real engineering components like sensors, motors, gears,...

Categories : Robotix Sets, Shop

Specification

No. of Parts - 152+
Models - 10



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Name - AVIATOR
Order Code - STEM-124

Enjoy flying the aviator drone wirelessly using your mobile phone. Learn how the drone overcomes gravity by increasing the thrust and moves in 3 dimensions when its yaw and pitch are controlled. You can program your drone for a specific application. Learn to program it using the step-by-step manual included.

SKU : Finished Goods1333
Categories : Robotix Sets

Note: Specifications are subject to change.

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Name - BOFFIN LITE V2
Order Code - STEM-126

Boffin Lite kit comes with a variety of sensors, motors, and a wonderful controller companion “Boffin” to start your journey in the amazing world of Tesca Boffin. This kit has sensors like IR sensor, Limit Switch, Sound sensor, Light sensor, and ultrasonic sensor. Control output devices like LED, Buzzer, Servo.

Categories : Robotix Sets, Shop

Specification

No. of Parts - 120+
Models - 32
Age 14+

Note: Specifications are subject to change.

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Name - BOFFIN MASTER V2
Order Code - STEM-127

This kit has sensors like IR sensor, Limit Switch, Sound sensor, Light sensor, motion sensor, soil moisture sensor, temperature and humidity sensor, tilt sensor, encoders, and ultrasonic sensor. Control output devices like LED, Buzzer, Relay, Pump, Servo motor, DC motor that are a part of this kit.

Categories : Robotix Sets, Shop

Specification

Models 100+
Pieces 650+
Age 14+

Note: Specifications are subject to change.

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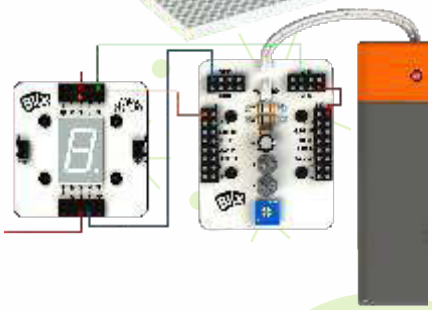
Name - EDUCATOR KIT 1 TO 2 GRADE (1:4)
Order Code - STEM-128

What is an Educator Set ?

Educator Kit is a One Stop Solution for schools.
It has features like-

- One set for Grade 1-8.
- Set is designed in the student kit ratio of 1:4 or 1:2, depending as per the school requirements.
- 30 projects per Grade.
- Total of 240 projects - Grade 1 to 8
- Manuals can be accessed online, easily.

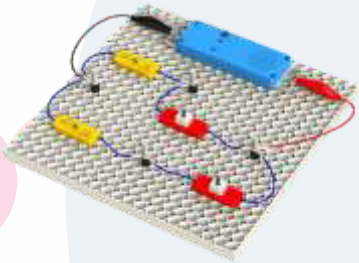


How to use Educator set

- Fetch the required grade manual.
- From the index, identify the boxes required to perform the required experiment.
- Remove the corresponding boxes from the educator set.
- Refer the manual for the chapter and using the parts from the boxes, build the model and perform the experiment.

Construction to Solve problems

- Build vocabulary of science through **Construction.**
- Symmetry, time and money like concepts



Human Circuits with Queaky

- Open & closed loops
- **Earthing**
- **Resistances**
- Fun games with Queaky

Story telling for maximum engagement

- Stories to instill maximum engagement.
- Empathize with characters &solve their problems.

Tesca Technologies Pvt. Ltd.

Note: Specifications are subject to change.

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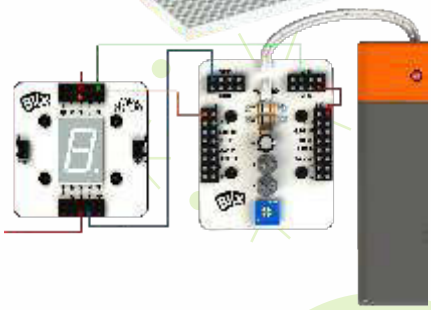
Name - EDUCATOR KIT 3 TO 5 GRADE (1:4)
Order Code - STEM-129

What is an Educator Set ?

Educator Kit is a One Stop Solution for schools.
It has features like-

- One set for Grade 1-8.
- Set is designed in the student kit ratio of 1:4 or 1:2, depending as per the school requirements.
- 30 projects per Grade.
- Total of 240 projects - Grade 1 to 8
- Manuals can be accessed online, easily.

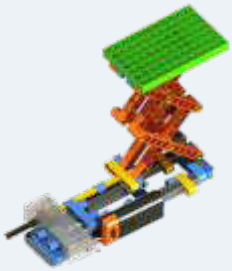


How to use Educator set

- Fetch the required grade manual.
- From the index, identify the boxes required to perform the required experiment.
- Remove the corresponding boxes from the educator set.
- Refer the manual for the chapter and using the parts from the boxes, build the model and perform the experiment.

Screenless Programming

- Build **algorithm** using the logic blocks.
- Convert **logics into Truth Tables and Truth tables into logics.**
- Experiment with sensors & Motors.

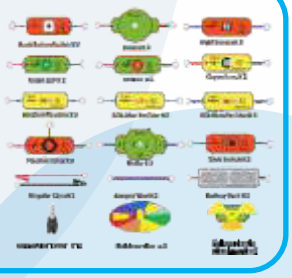


Machines & mechanissm

- Motion
- Mechanism
- **Mechanical Advantage**
- **Energy, Force , Power**
- Work done
- Simple Machines

Basics of Electricity

- Make electricity intuitive & fun.
- Learn about **Voltage-current, AC-DC, Resistances, Capacitances , Electric Power etc.**



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Name - EDUCATOR KIT 6 TO 8 GRADE (1:4)
Order Code - STEM-130

What is an Educator Set ?

Educator Kit is a One Stop Solution for schools.
It has features like-

- One set for Grade 1-8.
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- 30 projects per Grade.
- Total of 240 projects - Grade 1 to 8
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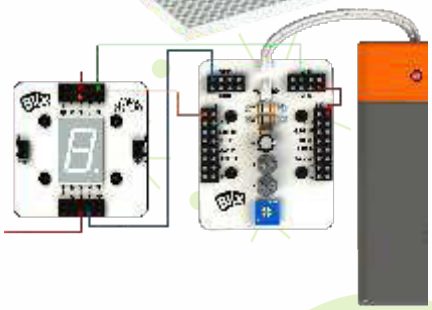

How to use Educator set

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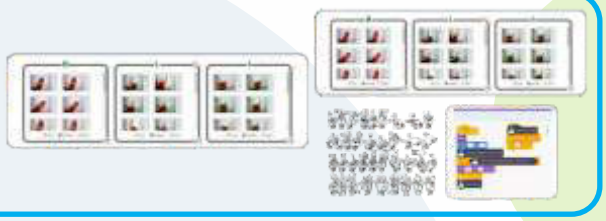
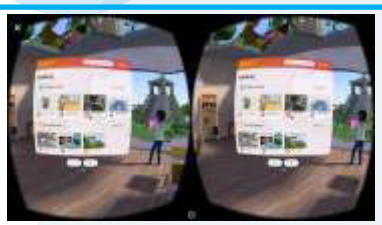
AI / ML

- Train the model.
- Create **hardware and software** based projects **AI projects**



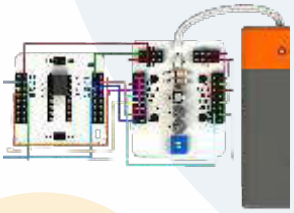


AR / VR

- Design 3d objects on tinkercad
- Create 3D environment and merge 3d objects in Reality

Coding-Block based & Text

- Decision based block coding.
- Text based syntax, through **C++ and python coding.**



Discovering Electronics

- Breadboard free electronics
- Experiment with **gates, timers, 7 segment LED etc**

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Name - EDUCATOR KIT 1 TO 8 GRADE (1:4)
Order Code - STEM-131

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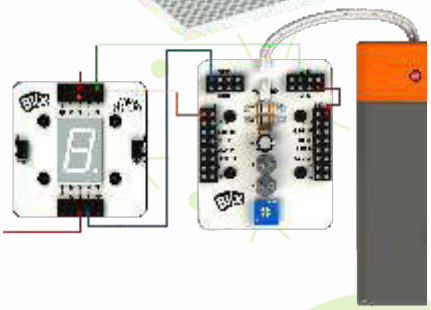

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Grade (1-2)

Construction to Solve problems

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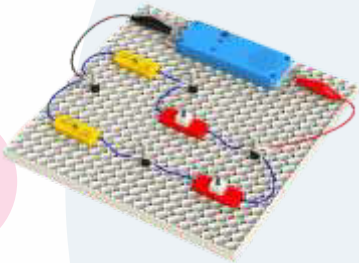
- Symmetry, time and money like concepts



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Name - EDUCATOR KIT 1 TO 8 GRADE (1:4)

Grade (3-5) Order Code - STEM-131

Screenless Programming

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- Experiment with sensors & Motors.

Machines & mechanissm

- Motion
- Mechanism
- **Mechanical Advantage**
- **Energy, Force , Power**
- Work done
- Simple Machines

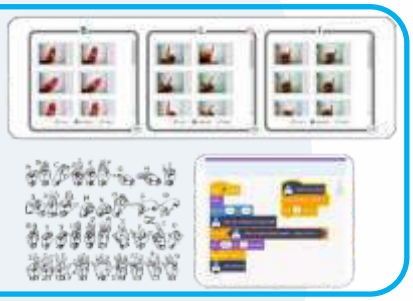
Basics of Electricity

- Make electricity intuitive & fun.
- Learn about **Voltage-current, AC-DC, Resistances,Capacitances , electric power etc.**

Grade (6-8)

AI / ML

- Train the model.
- Create **hardware and software** based projects **AI projects**



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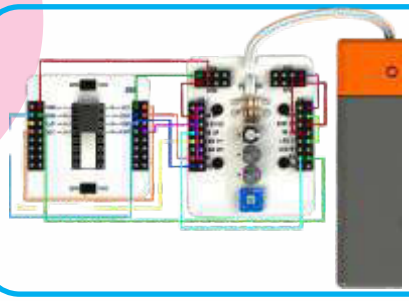

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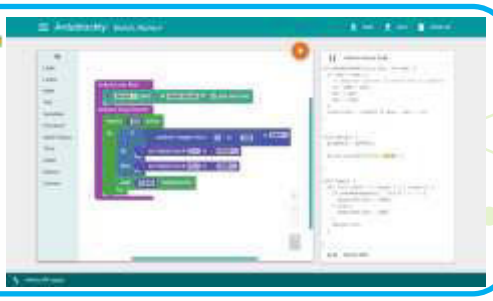

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