

Vivekanand School - MICRO PLANNER (2024-25)							
Month	Sessions	Topic	Activity	Kits	Skills	Learning Outcome	Teacher Manual
April	1	STEM Orientation					
	2	Introduction to Basic electronics and components	Hardware components, Description and Kit	Electronics Kit	Basic Electronics	Students will learn to build simple electric circuits using batteries, wires, bulbs, resistors, capacitors, and switches.	NA
	3	LED & Breadboard	Led Glowing using Breadboard and battery	Electronics Kit	Basic Electronics	Students will learn to construct a basic LED circuit using a battery, resistor (if required), and appropriate wiring.	NA
	4	Transister and LDR	Use of IR Sensor, transistor and LDR	Electronics Kit	Basic Electronics	Students should be able to design simple transistor circuits, such as a basic amplifier or a switch circuit, and understand how changes in component values affect circuit behavior.	NA
	5	Project	Automatic Room Light Switch	Electronics Kit	Basic Electronics	Students will develop a basic understanding of electronic components such as resistors, capacitors, transistors, LDRs, and buzzers, as well as their functions within the circuits.	NA
May							
	1	Led Blinking	Led Blinking	Ablox	Electronics and Logical Thinking	1. Students will learn how to design a simple circuit that includes an LED, a switch, and appropriate resistors. 2. Students will be introduced to block-based programming environments compatible with Arduino.	NA
	2	Project-Control 3 LEDs	Traffic light	Ablox	Electronics and Logical Thinking	1. Students will be able to design, build, and troubleshoot a simple traffic light circuit using LEDs, resistors, and a control mechanism (e.g., push buttons or timers).	NA
	3	led control with switch	Switch control led	Ablox	Electronics and Logical Thinking	1. Students will be able to design, build, and troubleshoot a simple LED control circuit using switches to turn the LEDs on and off. 2. Students will understand the concept of input (switch) and output (LED) devices within a circuit, and how the state of the switch affects the behavior of the LEDs.	NA
	4	Kreativity Show					
	5	SUMMER CAMP					
July							
	1	Revision of Ablox with LED, Projects	Led Blinking, Traffic Light, Switch Control Led	Ablox	Electronics and Logical Thinking	1. Students will learn how to design a simple circuit that includes an LED, a switch, and appropriate resistors. 2. Students will be introduced to block-based programming environments compatible with Arduino.	
	2	led with potentiometer	Led Fading	Ablox	Electronics and Logical Thinking	1. Understand how a potentiometer can be used to vary resistance and consequently adjust the brightness of an LED. 2. Learn how to visually program the Arduino using blocks to read the potentiometer value and control the LED brightness.	NA
	3	Servo motor	Servo Interfacing	Ablox	Electronics and Logical Thinking	1. Learn about servo motors, their components, and how they differ from other types of motors. 2. Understand how to program a microcontroller (like Arduino) to control a servo motor.	NA
	4	Ultrasonic sensor	Ultrasonic sensor interfacing with Arduino	Ablox	Electronics and Logical Thinking	1. Learn about ultrasonic sensors, including how they work using sound waves to measure distance. 2. Develop programming skills to control the ultrasonic sensor using Arduino, particularly in sending ultrasonic pulses and measuring their reflection.	NA
	5	Final Project	Problem Statement	Ablox	Electronics and Logical Thinking	1. Learn about different types of sensors (like ultrasonic, infrared, or motion sensors) that can be used to trigger the gate's opening and closing. 2. Encourage creativity in applying the automated gate system to real-world scenarios, like home automation, parking barriers, or secure entry systems.	NA
August							
	1	Simple Machine	4WD car	MechanzO 9+	Creativity and Engineering	1. Grasp the fundamental principles of four-wheel drive systems, including traction, force distribution, and torque. 2. Develop the ability to test hypotheses and make adjustments based on observations.	NA
	2	complex machine	Speed adjusted car with gear	MechanzO 9+	Creativity and Engineering	1. Learn about the mechanical advantage provided by different gear setups. 2. Understand gear ratios and how they affect speed and torque.	NA
	3	final project	Drag and Drop bot	MechanzO 9+	Creativity and Engineering	Develop skills in designing and constructing a functional model car.	NA
	4	complex machine	Mechanical Base	MechanzO 9+	Creativity and Engineering	Students will learn about the basic mechanics of a car, including how different components like wheels, axles, and gears work together.	NA
September							
	1	complex machine	Fixing of motors and gears	MechanzO 9+	Creativity and Engineering	1. Grasp the fundamental principles of four-wheel drive systems, including traction, force distribution, and torque. 2. Develop the ability to test hypotheses and make adjustments based on observations.	
	2	complex machine	Fixing of Mopper Assembly	MechanzO 9+	Creativity and Engineering	Develop skills in designing and constructing a functional model car.	NA
	3	complex machine	Mopping robot	MechanzO 9+	Creativity and Engineering	1. Grasp the fundamental principles of robotic movement and task automation. 2. Understand the importance of efficient design in robotics.	NA
	4						NA
	5						NA