

LS Creative Learnings Pvt Ltd.,

STEM-Robotics Education

Report for April 2018

S B Patil Public School, Pune

Grade: I

April 2018

First week

Topic	Introduction to STEM education
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	-
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to Basic blocks of ESM kit
Lesson Objective	To introduce the Basic blocks
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build any simple model using ESM kit
Learning Outcome	Students understand the different blocks in the kit with different size, color, shape and studs, base block

Third week

Topic	Walls and Roofs
Lesson Objective	To understand the concept of overlapping and Interlocking of blocks.
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build a model of wall
Integration	Science- overlapping and interlocking concept.

Fourth week

Topic	Different shapes
Lesson Objective	To make the children know about different shapes.
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build different types of shapes(Square,rectangle etc).
Integration	Maths (Geometrical shapes).

Grade: II

April 2017

First week

Topic	Introduction to STEM education
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	-
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to Basic blocks of ESM kit
Lesson Objective	To introduce the Basic blocks
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build any simple model using ESM kit
Learning Outcome	Students understand the different blocks in the kit with different size, color, shape and studs, base block

Third week

Topic	Walls and Roofs
Lesson Objective	To understand the concept of overlapping and Interlocking of blocks.
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build a model of wall
Integration	Science- overlapping and interlocking concept.

Fourth week

Topic	Different shapes
Lesson Objective	To make the children know about different shapes.
Robotic Kits used	Early Simple Machine(ESM)kit
Activities	Build different types of shapes(Square,rectangle etc).
Integration	Maths (Geometrical shapes).

Grade: III

April 2017

First week

Topic	Introduction to STEM education
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	Science and technology kit
Activities	
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to science and technology kit
Lesson Objective	To understand the different parts from S & T kit
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build any simple model using S & T kit
Learning Outcome	Students learnt about the different blocks ,gears and connectors and their uses.

Third week

Topic	Tower
Lesson Objective	To understand the concept of balancing, strength, base .
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model of tower
Learning Outcome	Learn about balancing and stability of model

Fourth week

Topic	Strong wall
Lesson Objective	To understand the concept of height of wall ,strength,stability and base.
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model of wall
Learning Outcome	Learn about the concept of interlocking and overlapping

Grade: IV

April 2017

First week

Topic	Introduction to gears
Lesson Objective	To understand different types of gears from the kit
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build any model using gear meshing.
Integration	Math- count the no. of teeth of different gears.

Second Week

Topic	Merry go round
Lesson Objective	To understand the concept of rotation
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of merry go round
Integration	Science - rotation: spinning of earth on its own axis

Third week

Topic	Wind mill
Lesson Objective	To understand the concept of wind
Robotic Kits used	Science & Technology kit
Activities	Build the model of wind mill
Integration	Science : Wind Energy.

Fourth week

Topic	Hand fan
Lesson Objective	To understand the mechanism of gears in hand fan.
Robotic Kits used	Science and technology kit
Activities	Build the model of Hand fan
Integration	Simple machine-gears.Changes in speed of fan using gearing up and down mechanism

Grade: V

April 2017

First week

Topic	Introduction to STEM education
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	Lego WeDo Kit
Activities	Build any model using WeDo Kit.
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to WEDO kit
Lesson Objective	To get hands on experience with Lego Wedo kit
Robotic Kits used	Lego WeDo Kit
Activities	Build any simple model using WEDO kit
Learning Outcome	Students learn the different parts in kit and learnt how to use these parts.

Third week

Topic	Simple machine
Lesson Objective	To understand concept of Simple machine
Robotic Kits used	Lego WeDo Kit
Activities	Build the model using wheel ,pulley and axle
Learning Outcome	Students learnt the applications of simple machine

Fourth week

Topic	Simple Machine – Levers
Lesson Objective	To understand concept of SM & basic functions of Levers and its types.
Robotic Kits used	Lego Wedo Kit
Activities	Build models of different types of levers of class I,II,III
Learning Outcome	Students learnt the different types of levers which we are using in day to day life also learn to build various models.

Grade: VI

April 2017

First week

Topic	Introduction to STEM education and scratch
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	WEDO kit
Activities	Do animation using three different charctors.
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to scratch software
Lesson Objective	To understand concept of conditional statements and loops.
Robotic Kits used	WEDO kit
Activities	To get hands on experience with scratch
Learning Outcome	Students learn the different blocks from scratch

Third week

Topic	Introduction to loop and variables
Lesson Objective	To understand the different types of loop
Robotic Kits used	Lego WeDo Kit
Activities	Wite a program for calculator
Learning Outcome	Students learnt how to do the programming using loops and variables from scratch

Fourth week

Topic	Swing
Lesson Objective	To understand different command from motion block and to and fro motion
Robotic Kits used	Lego Wedo Kit
Activities	Build the model of swing
Learning Outcome	Students learn the different types movements using motion block commands.

Grade: VII

April 2017

First week

Topic	Introduction to STEM education
Lesson Objective	To understand the meaning and applications of robotics
Robotic Kits used	NXT Kit.
Activities	-
Learning Outcome	Students learnt about STEM education.

Second Week

Topic	Introduction to NXT kit
Lesson Objective	To get hands on experience with the parts in kit
Robotic Kits used	NXT Mindstorm
Activities	Build any simple model using NXT kit
Learning Outcome	Students learnt about different parts and its uses

Third week

Topic	Simple drive base model using one motor
Lesson Objective	To understand the working of processor and motor
Robotic Kits used	NXT Mindstorm
Activities	Build the simple drive base model using NXT kit
Learning Outcome	Students learnt concept of forward and backward movement of model ,connections of motors and functioning of processor

Forth week

Topic	Simple drive base model using two motors
Lesson Objective	To understand how to build the model using two motors
Robotic Kits used	NXT Mindstorm
Activities	Build the simple drive base model using two motors
Learning Outcome	Students learnt about purpose or use of processor and two motors.

Grade: VIII

April 2017

First week

Topic	Introduction to Mindstorm
Lesson Objective	To Understand the NXT programming concepts
Robotic Kits used	NXT Mindstorm
Activities	Build NXT Drive base model using NXT kit
Learning Outcome	Students learnt about the different palette from mindstorm

Second Week

Topic	Build a simple drive base model using Nxt kit
Lesson Objective	Understand how to program the robot to move in different shapes.
Robotic Kits used	NXT Mindstorm
Activities	Students have to build a model and program it to move model in square ,circle ,S shape.
Learning Outcome	Students learn mathematical concept to move robot in different angles.

Third week

Topic	Build a simple drive base model using light sensor.
Lesson Objective	Student understand how to calculate intensity using light sensor to detect black color.
Robotic Kits used	NXT Mindstorm
Activities	Build a simple drive base model using light to stop when detects dark color.
Integration	Science –how to measure intensity.

Fourth week

Topic	Build a simple drive base model using light sensor.
Lesson Objective	Student understand how to calculate intensity using light sensor to detect different color.
Robotic Kits used	NXT Mindstorm
Activities	Build a simple drive base model using light sensor and display different images for different color.
Integration	Science –how to measure intensity.