

LS Creative Learnings Pvt Ltd.,

STEM-Robotics Education

Report for AUGUST 2017

S B Patil Public School, Pune

Grade: III

AUGUST 2017

First week

Topic	Shapes
Lesson Objective	To understand the concept of shapes
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build different shapes like triangle, square, rectangle.
Learning Outcome	Students learn different shapes which we are using in day to day life.

Second Week

Topic	Transportation – Car
Lesson Objective	To observe daily life, understand daily life; understand different modes of transportation - road ways- four wheeler
Robotic Kits used	Science & Technology (S & T) Kit.
Learning Outcome	Learn about different parts of vehicle.

Third week

Topic	Transportation- Bus
Lesson Objective	To observe daily life, understand daily life; understand different modes of transportation - road ways- four wheeler
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model of car make to move forward.
Learning Outcome	Learn about different parts of vehicle.

Fourth week

Topic	windmill
Lesson Objective	To understand the concepts of energy and sources of energy
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model of windmill
Learning Outcome	Learn about renewable and non-renewable energy

Grade: IV

AUGUST 2017

First week

Topic	Cheering Fans
Lesson Objective	To understand the mechanism of gears and motors.
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build the model of Cheering fans
Learning Outcome	To understand the use of gear and pulley .

Second Week

Topic	Trundler wheel
Lesson Objective	To understand the mechanism of meshing of spur and crown gears.
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build the model of trundler wheel
Learning Outcome	To understand the use of spur and crown gear.

Third week

Topic	Hammer
Lesson Objective	To understand the mechanism of Cam gear.
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model Hammer
Learning Outcome	Students learn about the working and building mechanism of Hammer

Fourth week

Topic	Lego Grinder
Lesson Objective	To understand about uses and features of gears.
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build a model of Lego grinder
Learning Outcome	Students learn about the working and building mechanism of Lego grinder.

Grade: V

AUGUST 2017

First week

Topic	Introduction to scratch software
Lesson Objective	To understand programming concepts
Robotic Kits used	Lego Wedo Kit
Activities	
Learning Outcome	Students learn to get familiarize with scratch

Second Week

Topic	Scratch-Motion block
Lesson Objective	To understand the commands in motion block
Robotic Kits used	LEGO-Wedo kit
Activities	Use motion block commands and make small programs
Learning Outcome	Students learnt about how to change the movement of sprite using commands

Third week

Topic	Scratch-control
Lesson Objective	To understand how to use control block commands
Robotic Kits used	Lego WeDo Kit
Activities	
Learning Outcome	Students learnt forever if,if –else,repeat commands and how to control script using these commands

Fourth week

Topic	Scratch-looks
Lesson Objective	To understand use of looks block
Robotic Kits used	Lego Wedo Kit
Activities	
Learning Outcome	Students learn how to change the appearance of sprite

Grade: VI

AUGUST 2017

First week

Topic	Giant wheel
Lesson Objective	To understand the working mechanism of gear
Robotic Kits used	Lego WEDO Kit
Activities	Build the model of giant wheel
Learning Outcome	Students learn to program the giant wheel to move when man is close to the distance sensor.

Second Week

Topic	Sliding door
Lesson Objective	To learn rack gear mechanism.
Robotic Kits used	Lego WEDO kit
Activities	To build the model of sliding door.
Learning Outcome	Understand the concept of rack gear mechanism, meshing of gears and using distance sensor in the model

Third week

Topic	Sliding door
Lesson Objective	To learn rack gear mechanism.
Robotic Kits used	Lego WEDO kit
Activities	To build the model of sliding door.
Learning Outcome	Understand the concept of rack gear mechanism, meshing of gears and using distance sensor in the model

Fourth week

Topic	Smart Spinner
Lesson Objective	Students will build and program a spinner mechanism that is motorized to spin and release a top and that uses a motion sensor to turn off the motor when the top is released.
Robotic Kits used	Lego Wedo Kit
Activities	To build the model of Smart spinner.
Learning Outcome	Learn the concept of distance sensor.

Grade: VII

AUGUST 2017

First week

Topic	Introduction to Mindstorm	Introduction
Lesson Objective	Introduction to NXT and to get hands on experience with mindstorm.	To understand
Robotic Kits used	NXT Mindstorm	NXT Mind
Activities	Write the program on mindstorm.	Attach the U
Learning Outcome	Students learn mindstorm software.	Students lea receiver, etc

Second Week

Topic	Mindstorm-Move block
Lesson Objective	To understand the use of move block to do the NXT programming
Robotic Kits used	NXT Mindstorm
Activities	Build the simple drive base model .
Learning Outcome	Students learn how to use move block for programming the drive base model using steering and motor power options .

Third week

Topic	Display and sound block
Lesson Objective	To understand how to use display block and sound block for programming
Robotic Kits used	NXT Mindstorm
Activities	Build the simple Drive base model and display image on the screen.
Learning Outcome	Students learnt to display image ,text,shapes on the processor screen.

Forth week

Topic	Switch and loops
Lesson Objective	To understand the switch and loops
Robotic Kits used	NXT Mindstorm
Activities	Build the simple drive base model and run it repeatedly using loops.
Learning Outcome	Students learnt how to repeat sequence of code and choose one sequence of code between two.

Grade: VIII**AUGUST 2017****First week**

Topic	How to avoid the obstacle on the dark line and follow the dark line
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Lesson Objective	understand how to follow a dark line, avoid obstacle on the dark line by going around it and again follow the dark line.
Robotic Kits used	NXT Mindstorm
Activities	Attach the Light sensor and ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learnt about how to use multiple sensors

Second Week

Topic	How to avoid the obstacle on the dark line and follow the dark line
Lesson Objective	understand how to follow a dark line, avoid obstacle on the dark line by going around it and again follow the dark line.
Robotic Kits used	NXT Mindstorm
Activities	Attach the Light sensor and ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learnt about how to use multiple sensors

Third week

Topic	Claw Stricker
Lesson Objective	Claw Striker will use the ultrasonic sensor to automatically locate a target, adjust its distance to the target, then swing it's claw like a whip to strike the target.
Robotic Kits used	NXT Mindstorm
Activities	Attach the ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learnt about how to use multiple sensors

Fourth week

Topic	Drive base model should not follow down from the table.
Lesson Objective	
Robotic Kits used	NXT Mindstorm
Activities	Attach the ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learnt about how to use multiple sensors