

LS Creative Learnings Pvt Ltd.,

STEM-Robotics Education

Report for JULY 2017

S B Patil Public School, Pune

Grade: III

JULY 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	Bridge
Lesson Objective	To understand the concept of Strength, tall, short, pillars and height of the Bridge
Robotic Kits used	Science & Technology (S & T) Kit.
Activities	Build the model of bridge.
Learning Outcome	Learn about the uses of bridge and types of bridge

Fourth 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.

Grade: IV

JULY 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	Merry go round
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 Merry go round using motor.
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

JULY 2017

First week

Topic	Crane using gears
Lesson Objective	To understand use of gears.
Robotic Kits used	Lego Wedo Kit
Activities	Build model of crane.
Learning Outcome	Students learn the applications of gears and its working.

Second Week

Topic	Crown car
Lesson Objective	To understand the change in direction by 90 degrees
Robotic Kits used	LEGO-Wedo kit
Activities	To build the model of crown car
Learning Outcome	Students learnt about how to powered two wheels by motor and other two spin freely

Third week

Topic	Introduction to gear box
Lesson Objective	To understand concept of gearbox.
Robotic Kits used	Lego WeDo Kit
Activities	Build the model using gearbox
Learning Outcome	Students learn the applications of gearbox and its working.

Fourth week

Topic	Dancing birds
Lesson Objective	To understand use of gears.
Robotic Kits used	Lego Wedo Kit
Activities	Build model of dancing birds
Learning Outcome	Students learn the applications of gears ,pulley and its working.

Grade: VI

JULY 2017**First week**

Topic	Cheerful fans
Lesson Objective	To get familiarize to use parts in wedo kit like pulleys and gears.
Robotic Kits used	Lego WEDO Kit
Activities	To build the model of cheerful fans
Learning Outcome	Students learn to program the fans to move in clockwise and anticlockwise direction using scratch software.

Second Week

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

Third week

Topic	Roaring Lion
Lesson Objective	To build and program a Lion that roar when something is too close.
Robotic Kits used	Lego WeDo Kit
Activities	To build the model of roring lion.
Learning Outcome	Students learnt how to do the programming using loops from scratch

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**JULY 2017****First week**

Topic	Sensors – Ultrasonic
Lesson Objective	To understand the concept of sensors and attach different types of sensors to the drive base using NXT .
Robotic Kits used	NXT Mindstorm
Activities	Attach the Ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learn a concept of reflection, refraction , emitter, receiver, etc. and characteristics of ultrasonic sensor.

Second Week

Topic	Sensors – Ultrasonic
Lesson Objective	To understand the concept of sensors and attach different types of sensors to the drive base using NXT
Robotic Kits used	NXT Mindstorm
Activities	Attach the Ultrasonic sensor to the NXT Drive base.
Learning Outcome	Students learn a concept of reflection, refraction , emitter, receiver, etc. and characteristics of ultrasonic sensor.

Third week

Topic	Sensor – Light
Lesson Objective	To understand the concept of sensors and attach different types of sensors to the drive base using NXT
Robotic Kits used	NXT Mindstorm
Activities	Attach the Light sensor to the NXT Drive base.
Learning Outcome	Students learn a concept of Intensity of diff colors and characteristics of light sensor.

Forth week

Topic	Sensor – Light
Lesson Objective	To understand the concept of sensors and attach different types of sensors to the drive base using NXT
Robotic Kits used	NXT Mindstorm
Activities	Attach the Light sensor to the NXT Drive base.
Learning Outcome	Students learn a concept of Intensity of diff colors and characteristics of light sensor.

Grade: VIII

JULY 2017

First 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

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