

LS Creative Learnings Pvt Ltd.,

STEM-Robotics Education

Report for Jan 2018

S B Patil Public School, Pune

Grade: III

Jan 2017

First week

Topic	Simple machine –Inclined plane
Lesson Objective	To understand about types of simple machine-Inclined plane
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of Ramp
Integration	Science : Effect of force and friction

Second Week

Topic	Weight balance
Lesson Objective	To understand the concept of weight
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of weight balance
Integration	Matter has weight

Third week

Topic	Motor Bike
Lesson Objective	To observe daily life, understand daily life; understand different modes of transportation- road ways- two wheeler
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of motor bike
Integration	Modes of transportation

Fourth week

Topic	Simple Machine-Pulley
Lesson Objective	To understand about types of simple machine-Pulley
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of well to draw water from well
Integration	Simple machine

Grade: IV

Jan 2018

First week

Topic	Goal Kicker
Lesson Objective	To build a mechanical leg that is motorized to swing and kick a paper ball.
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of Goal kicker
Integration	Energy and simple machine

Second Week

Topic	Odometer
Lesson Objective	To understand the concept of measuring distance
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of odometer
Integration	Units of measurement

Third week

Topic	Drumming Toy
Lesson Objective	To understand concept of cam gear
Robotic Kits used	Lego WeDo Kit
Activities	Build the model of drumming Toy
Integration	Science-force

Fourth week

Topic	Giraffe
Lesson Objective	Gear mechanism
Robotic Kits used	Science & Technology (S & T) Kit
Activities	Build the model of Giraffe
Integration	Science –herbivores animals

Grade: V

Jan 2018

First week

Topic	Helicopter
Lesson Objective	Gear mechanism(spur and crown)
Robotic Kits used	Lego wedo kit
Activities	Build the model of helicopter
Integration	Science-

Second Week

Topic	Amphibian animal (Frog)
Lesson Objective	Gear Mechanism (spur and cam gears)
Robotic Kits used	Lego WeDo Kit
Activities	Students are assigned to build the model of Frog and program by using scratch
Integration	Animal Life (Organs of breathing).

Third week

Topic	Goal Keeper
Lesson Objective	To understand how to move back and forth to block a paper ball from a goal.
Robotic Kits used	Lego WeDo Kit
Activities	Build the model of Goal Keeper
Integration	Science (transfer of energy)

Fourth week

Topic	Goal Kicker
Lesson Objective	To build and program a mechanical leg that is motorized to swing and kick a paper ball.
Robotic Kits used	Lego Wedo Kit
Activities	Build the model of Goal kicker
Integration	Science: Transmission of motion, Transfer of energy Math: distance

Grade: VI

Jan 2018

First week

Topic	High Security House
Lesson Objective	To understand about the security Houses..
Robotic Kits used	Lego WeDo Kit
Activities	Build the model of security house.
Integration	Designing security houses

Second Week

Topic	Mechanical grabber
Lesson Objective	To understand the concept of gear mechanism..
Robotic Kits used	Lego WeDo Kit
Activities	Students are assigned to build the model of Mechanical grabber and program it using Scratch software.
Integration	Gear mechanism.

Third week

Topic	We Do Arm
Lesson Objective	How to lift the objects by using Robo arm.
Robotic Kits used	Lego WeDo Kit
Activities	Build A wedo robo arm
Integration	Gear mechanism, Translational or rotational motion

Fourth week

Topic	Multiple Gear Mechanism
Lesson Objective	To understand about Multiple Gear Mechanism.
Robotic Kits used	Lego Wedo Kit
Activities	Students are assigned to build the model of Giraffe and a Tree, Giraffe bends its neck to pluck the leaves from the tree. And program by using Scratch Software.
Integration	Simple Machine

Grade: VII

Jan 2018

First week

Topic	Motion – Types of motion- Linear motion
Lesson Objective	To understand about motion and its types- Linear Motion
Robotic Kits used	NXT Mindstorm
Activities	Build the model of Automatic door and understand how to use ultrasonic sensor to control the automatic door using NXT programming with touch sensor
Integration	science –linear motion

Second Week

Topic	Periodic motion
Lesson Objective	To understand about Periodic Motion
Robotic Kits used	NXT Mindstorm
Activities	Build the model of Swing and programmed using NXT programming language.
Integration	Science-linear Motion

Third week

Topic	Hit a Ball
Lesson Objective	Understand how to detect the object using ultrasonic sensor and build and program the robotic arm to hit a ball.
Robotic Kits used	NXT Mindstorm
Activities	Attach the ultrasonic sensor to the NXT Drive base.
Integration	Science –Distance

Forth week

Topic	Object Detection
Lesson Objective	Understand how to program the robot to detect objects.
Robotic Kits used	NXT Mindstorm
Activities	Students have to build the model and run it in circular motion and write the program for detecting the object using ultrasonic sensor and play sound whenever it detects an object
Integration	science -circular motion

Grade: VIII

Jan 2018

First week

Topic	Mouse Trap
Lesson Objective	To understand the pressed and released actions of touch sensor
Robotic Kits used	NXT Mindstorm
Activities	Build the model of mouse trap using NXT Mindstorm
Integration	Computer-Control statements

Second Week

Topic	Motion – Types of motion- Linear motion
Lesson Objective	To understand about motion and its types- Linear Motion
Robotic Kits used	NXT Mindstorm
Activities	Build the model of Automatic door and understand how to use ultrasonic sensor to control the automatic door using NXT programming
Integration	Motion –linear motion

Third week

Topic	Motion – Types of motion- Linear motion
Lesson Objective	To understand about motion and its types- Linear Motion
Robotic Kits used	NXT Mindstorm
Activities	Build the model of Automatic door and understand how to use touch sensor to control the automatic door using NXT programming
Integration	Motion –linear motion

Forth week

Topic	Introduction to variables
Lesson Objective	To understand how to use variables – Create, Read, write and display
Robotic Kits used	NXT Mindstorm
Activities	Create variable using Math block in NXT programming
Integration	computer-logical operator