

# ANNUAL IMPLEMENTATION PLANS THIRD GRADE

## 3-5 Engineering Design Performance Expectations

3-5 ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time or cost.
3-5 ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5 ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

## Science and Engineering Practices

3-5 ETS1-1	Asking Questions and Defining Problems
3-5 ETS1-2	Planning and Carrying Out Investigations
3-5 ETS1-3	Constructing Explanations and Designing Solutions

## Disciplinary Core Ideas

3-5 ETS1.A	Defining and Delimiting Engineering Problems
3-5 ETS1.B	Developing Possible Solutions
3-5 ETS1.C	Optimizing the Design Solution

## Crosscutting Concepts

Patterns
Cause & Effect: Mechanism & Explanation
Scale, Proportion, and Quantity
Systems & System Models
Structure & Function

## Third Grade STEM Lessons

## Minutes

Third Grade STEM Lessons		Minutes
<b>MAKEY MAKEY</b>		
Makey Makey Introduction Lesson 3-5 Basic Circuitry		60
Makey Makey 3-5 Block Coding		60-120
Makey Makey Music and Fun!		60-120
<b>OZOBOT</b>		
Ozobot Bowl-O-Rama		60
OzoBlockly Basic Training		25-50
Basic Training Color Code Lessons		50-150
Ellipses & Celestial Mechanics		45-55
Modeling Animal Habitats		30-60
<b>ROK BLOCKS, FOUNDATIONAL FLUENCIES, AND STEM PATHWAYS</b>		
<b>Kid Sparks- Engineering Basics w/ROK Blocks</b>		
Introduction to ROK Blocks		60
Mechanisms		120-180
The Design & Engineering Process		120
ROK Blocks Cargo Racer Challenge		60-75
<b>SNAP CIRCUITS</b>		
Snap Circuits Electric Bingo		60
Get Snapped with Snap Circuits 3		60-120
<b>SQUISHY CIRCUITS</b>		
Squishy Circuits Conductive Creations		60
<b>3D PRINTING</b>		
3D Printing		60 +
<b>LITTLEBITS</b>		
Introduction to littleBits: Input Circuits		60
Introducing the littleBits: Invention Cycle		60
Invent an Art Machine		60-120
Invent a Chain Reaction Contraption		120+
Constellation Viewer		60
Speed Racer		60
Environmental Sign		45
Inherited Traits		45

littleBits Engineering Design	60-90
<b>SPHERO</b>	
Sphero Bolt Long Jump	60
Bridge Challenge	120-240
Light Painting	60-120
Tractor Pull	120-240
Hydro Hypothesis	120-240
Organ Quiz	60
Planets Quiz	120-240
Blocks 1: Intro & Loops	60-120
Maze Mayhem	60-120
Blocks 2: If/Then/Else	60-120
Blocks 3: Lights	60-120
Blocks 4: Variables	60-120
Draw 2: Spelling	60
Sphero City	240-360
Swim Meet	60
Chariot Challenge	240-360
What a Character	60-120
Avoid the Minotaur	60-120
Draw 1: Shapes	60
Draw 3: Perimeter	60-120
Area of A Rectangle	60-120
	<b>3360-5250</b>

*\*This is an estimated amount of time for these lessons, it could be more or less depending upon kids' needs. **Indicates Cal Ripken, Sr. Foundation STEM Lesson.** All other lessons are created by the manufacturer of these STEM products.*

### **Common Core State Standard Connections**

#### **ELA/Literacy-**

L.3.5b Identify real-life connections between words and their use.

SL.3.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 3 topics and texts, building on other's ideas and expressing their own clearly.

#### **Math-**

3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.