

# ANNUAL IMPLEMENTATION PLANS KINDERGARTEN

## K-2 Engineering Design

K-2 ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
K-2 ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
K-2 ETS1-3	Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

## Science and Engineering Practices

K-2 ETS1-1	Asking Questions and Defining Problems
K-2 ETS1-2	Developing and Using Models
K-2 ETS1-3	Analyzing and Interpreting Data

## Disciplinary Core Ideas

K-2 ETS1.A	Defining and Delimiting Engineering Problems
K-2 ETS1.B	Developing Possible Solutions
K-2 ETS1.C	Optimizing the Design Solution

## Crosscutting Concepts

Patterns
Scale, Proportion, and Quantity
Structure & Function

## Kindergarten STEM Lessons

## Minutes

Kindergarten STEM Lessons	Minutes
<b>CODE HOPPER</b>	
Code Hopper	60-120
<b>INDI</b>	
Indi Basics (part 1 & part 2)	100-120
Indi Card Challenge	50-60
Indi Algorithm Detectives	50-60
Indi Maze Race	50-70
<b>BEE-BOT</b>	
Bee-Bot and/or Bee-Bots Diorama Storyboard	60-180
<b>MAKEY MAKEY</b>	
Makey Makey Introduction Lesson K-2 Basic Circuitry	60
Makey Makey K-2 Block Coding	60-120
<b>ROK BLOCKS, FOUNDATIONAL FLUENCIES, AND STEM PATHWAYS</b>	
<b>Kid Spark – It’s All About the Blocks!</b>	
Yellow Block	30-40
Little Blue Block	30-40
Angled Red Block	30-40
Medium Green Block	30-40
<b>Kid Spark – I Am an Engineer!</b>	
What Is an Engineer?	30-40
Patterns & Pyramids	30-40
What’s in The Lab?	30-40
Free Build	30-40
<b>OZOBOTS</b>	
Ozobot and Ozocodes Intro.	60
Basic Training Color Codes Lesson 1 and 2	100
Hungry Hungry Ozobot	45
I See Ozobot Sees	45
Code a Story – There Was a Cold Lady	45

<b>SPHERO</b>	
Light Painting	60-120
Draw 1: Shapes	60
Draw 2: Spelling	60
<b>SQUISHY CIRCUITS</b>	
Squishy Circuits Conductive Creations (consider having cross-grade buddies)	60
<b>3D PRINTING</b>	
Introduction to 3D Printing Concepts	60+
	<b>1325-1765</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-**

SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics.  
 W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

#### **Math-**

K.G.1 Describe objects in the environment using names of shapes.  
 K.G.3 Identify shapes as two-dimensional or three-dimensional.  
 K.CC.5 Count to answer "how many?"