



**KIDSPARK**  
E D U C A T I O N

## 2nd - 5th Grade STEM Program

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**In Kid Spark's 2nd - 5th Grade STEM Program, students jump into the shoes of real engineers as they explore mechanical and structural engineering, applied mathematics, and coding and robotics.**

Throughout the program, students learn new STEM concepts and then apply what they have learned through creative invention challenges. Ultimately, these experiences help students develop a lasting interest in STEM.



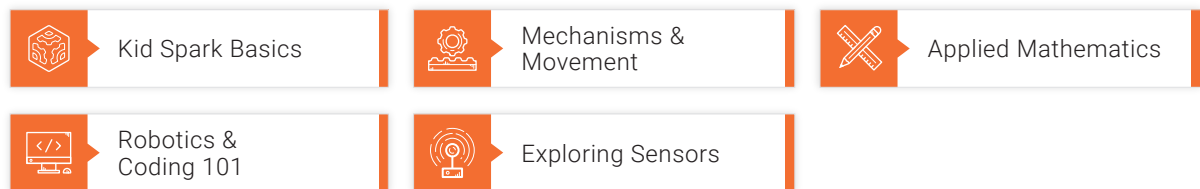
# What's Included in the Program?

Kid Spark's 2nd - 5th Grade STEM Program includes the following resources:



## 2nd - 5th Grade Curriculum

There are a total of five units of instruction included in Kid Spark's 2nd - 5th Grade STEM Program. Each unit includes a unit overview, multiple hands-on lessons, and a unit assessment. All lessons follow Kid Spark's convergent to divergent learning format, which allows students to learn new content and then apply what they have learned through creative invention challenges.



**TOTAL HOURS OF CURRICULUM** ..... **48+ HOURS**

Below is an example of how Kid Spark's 2nd - 5th Grade STEM Program might be implemented across grade levels. Ultimately, each school can decide which units of instruction to offer at certain grades. Kid Spark units are progressive which means educators have the ability to meet the needs of any student regardless of age or skill level.

Grade	Kid Spark Unit	Lessons & Assessments	Minimum Time Required
2	Kid Spark Basics	5 Lessons, 1 Assessment	(7) 60-Minute Sessions
3	Mechanisms & Movement	5 Lessons, 1 Assessment	(11) 60-Minute Sessions
4	Applied Mathematics	5 Lessons, 1 Assessment	(11) 60-Minute Sessions
5	Robotics & Coding 101	5 Lessons, 1 Assessment	(7) 60-Minute Sessions
	Exploring Sensors	6 Lessons, 1 Assessment	(12) 60-Minute Sessions



# STEM Pathways Lab

The STEM Pathways Lab supports Kid Spark's 2nd - 5th Grade STEM Program and covers a broad range of technologies and curriculum. Students get hands-on as they explore concepts in structural and mechanical engineering, applied mathematics, and coding and robotics.

Each lab is designed to accommodate students working collaboratively in teams of 2 - 4 students and includes:

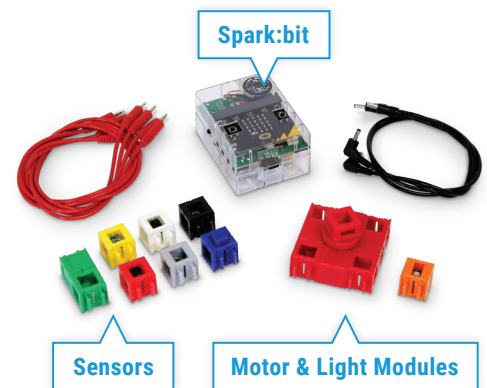
## ENGINEERING MATERIALS

A large assortment of structural building components, articulating components, and robotic and electronic components.



## SPARK:BIT ROBOTICS CONTROLLER

At the heart of the STEM Pathways Lab is Spark:bit, a Micro:bit-based robotics controller that can be combined with sensors, motors, and other Kid Spark engineering materials to create interactive, robotics systems. Students with little to no coding experience start with simple drag and drop coding and can transition to text-based coding when they are ready.



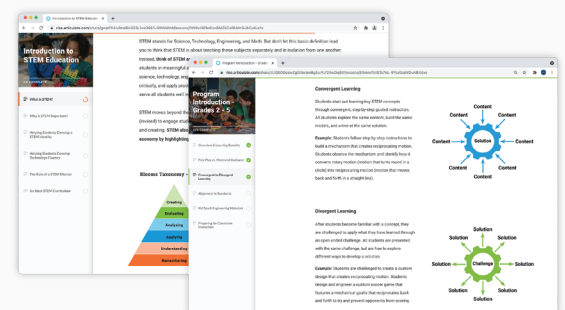
## TRANSPARENT LID

Includes an inventory and organization guide to easily locate and manage materials in the lab.



# Professional Learning

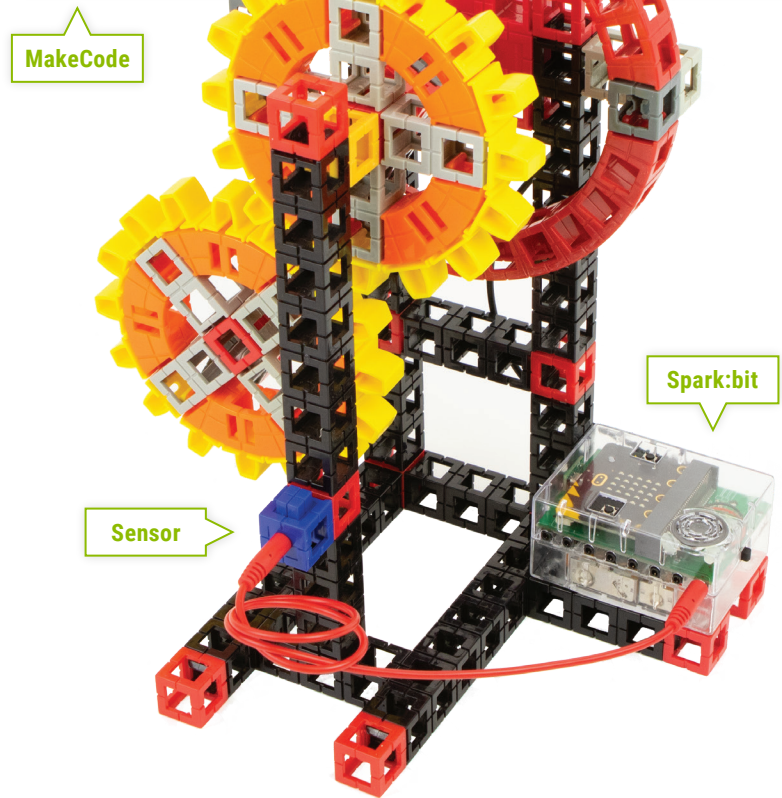
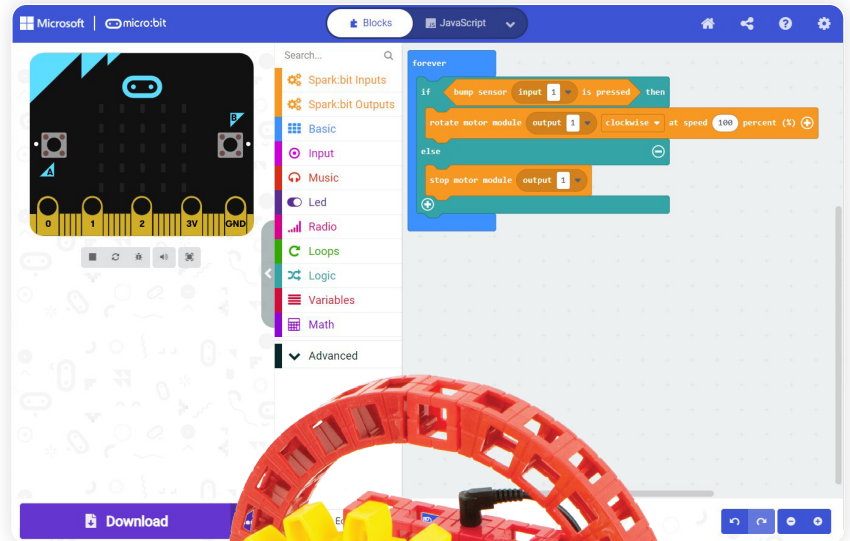
To help 2nd - 5th grade educators prepare to use program materials and resources in their classrooms, Kid Spark offers professional learning courses through our online learning management system.



# Teaching Computer Science?

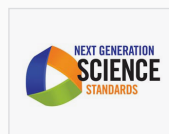
## Meet Spark:bit

- ⚙️ **Micro:bit-based**, programmable robotics controller that can be combined with sensors, motors and other Kid Spark engineering materials.
- ⚙️ Supported by **Microsoft's MakeCode** programming environment, and includes access to interactive MakeCode programming tutorials.
- ⚙️ Compatible with most operating systems including **Chromebook, MacOS, and Windows**.
- ⚙️ Includes **Motor Override Mode** feature which allows users to power motor and light modules with **no programming required**.
- ⚙️ Supported by **3 units of instruction (15 lessons)** in Kid Spark's 2nd - 5th Grade STEM Program.



## Standards Alignment

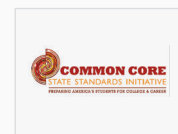
Kid Spark's 2nd - 5th Grade STEM Program is aligned to the following national education standards:



Next Generation Science Standards (NGSS)



International Society for Technology in Education Standards (ISTE)



Common Core State Standards (CCST)



Computer Science Teachers Association Standards (CSTA)



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EDUCATION

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