

Course Title:	STEM: Grade 3
Grade(s):	Grade 3

Course Description
This course is designed to turn third graders into real-world problem solvers. By blending the core principles of math and science with modern technology, students won't just learn about the world—they'll use their knowledge to create meaningful solutions.
Approved Curricular Materials/Textbook(s)
Code.org : Course D Ozobots Bridges in Mathematics 3rd Edition Snap Circuits Micro:bit

Unit Title	Unit Description (Include Unit Objectives)	Unit Pacing
Unit 1: Team Building/Engineering	Students use various materials to build, problem solve, and work together to solve challenges. Students will: - Cooperatively work with others to solve a problem - Begin learning and partaking in the engineering design process	4 weeks (September-October)
Unit 2: Coding	The course begins with a review of the concepts found in earlier courses, including loops and events. Afterward, students will develop their understanding of algorithms, nested loops, while loops, conditionals, and more. Students will: Identify repetitive patterns in a sequence and use Loops (repeat blocks) to simplify their code	10 weeks (October-January)

	• Use "If-Then" logic to make a program react to its environment (e.g., <i>If</i> there is a path to the left, <i>then</i> turn left) • Create programs that respond to external "triggers" (like clicking a mouse or pressing an arrow key) • Students will place a loop inside another loop to create complex patterns	
Unit 3: Circuits & Electricity	When Grade 3 students combine Snap Circuits with micro:bits, they move from simply "following a map" of a circuit to "writing the rules" for how that circuit behaves. Students will: • Identify the difference between a manual circuit (battery + switch + bulb) and a programmed circuit (battery + micro:bit + bulb) • Categorize components based on their function in a system • Write code that uses environmental data to trigger a mechanical response • Differentiate between a mechanical failure and a coding error	5 weeks (February-March)
Unit 4: Science-Fossils	This mini science unit transitions students from being "collectors" to "detectives." In Grade 3, the focus is on using fossils as evidence to understand what environments looked like millions of years ago and how living things have changed over time. Students will: • Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago	5 weeks (March-April)
Unit 5: Bridge Design and Construction	Bridges in Mathematics Unit 8: Students learn about different kinds of bridges and build their own model bridges. This unit integrates mathematics and engineering with a primary focus on designing and building model bridges, which are then tested in systematic ways to collect data. Students graph and analyze the data, find the range and mean, make conjectures, and draw conclusions about effective bridge design and construction. Students will: • Consolidate knowledge of bridge structures to design new structures with specific characteristics	5 weeks (May-June)

	• Synthesize knowledge of bridge structures to plan new structures that are stronger and longer • Build and test bridge structures for load capacity • Measure dimensions of bridge structures and draw scale models • Build and test bridge structures for length • Collect, display, and analyze data of span lengths and deck thickness on two different line plots • Collect, display, and analyze data of span length and deck thickness in a scatter plot	
--	---	--