Swedesboro-Woolwich School District's STEAM Curriculum Guidance Document

GRADE 5 – Unit 2 - Using Code to Program a Robot

Mission Statement
The primary goal of the Swedesboro-Woolwich School District is to prepare each student with the real life skills needed to compete in a highly competitive global economy. This will be achieved by providing a comprehensive curriculum, the integration of technology, and the professional services of a competent and dedicated faculty, administration, and support staff. Guiding this mission will be Federal mandates, including No Child Left Behind, the New Jersey Core Curriculum Content Standards, and local initiatives addressing the individual needs of our students as determined by the Board of Education. The diverse resources of the school district, which includes a caring PTO and active adult community, contribute to a quality school system. They serve an integral role in supporting positive learning experiences that motivate, challenge and inspire children to learn.

Unit/Module Overview
In unit 2, students will learn to: ● utilize problem solving skills and block coding to achieve a specific outcome.

Standards Covered in Current Unit/Module
Related Standards and Learning Goals
CS.3-5.8.1.5.CS.1 - Model how computing devices connect to other components to form a system. **CS.3-5.8.1.5.AP.6 -** Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.

	Unit/Module Weekly Learning Activities and Pacing Guide		
Topic & # Days	**NJ Standards**	**Critical Knowledge & Skills**	**Possible Resources & Activities**
Introduction to Robot (1)	● **CS.3-5.8.1.5.CS.1**	**Obj. We are learning to**: ● describe the function of the components of a robot; connect the robot to a Chromebook via Bluetooth. **Suggested Formative Assessment(s)**: ● Robot Practice	● Activity 　○ Introduction to robotics ● Materials 　○ Lego Spike Prime Robot 　○ USB Cables and chargers 　○ Chromebooks ● Websites 　○ https://spike.legoeducation.com/prime/lobby/
Introduction to Robot Programming (1)	● **CS.3-5.8.1.5.AP.6**	**Obj. We are learning to**: ● 1) Join a robot to their Chromebook using Bluetooth 2) send basic code to the robot **Suggested Formative Assessment(s)**: ● Robot Practice	● Activity 　○ Robot programming practice ● Materials 　○ Lego Spike Prime Robot 　○ USB Cables and chargers 　○ Chromebooks ● Websites 　○ https://spike.legoeducation.com/prime/lobby/
Construction of Maze Mat (3)	● **CS.3-5.8.1.5.AP.6**	**Obj. We are learning to**: ● 1) create a maze for their robot based off of a prototype 2) construct a maze for their robot and program their robot to traverse it **Suggested Formative Assessment(s)**: ● Completed constructed mat	● Activity 　○ Introduction to robot maze project 　○ Construction of maze mat (group project) ● Materials 　○ Lego Spike Prime Robot 　○ USB Cables and chargers 　○ Chromebooks

			○ Paper
			○ Masking tape
			○ Pencils
			○ Rulers
			○ Sharpies
			○ 📄 Array.jpg
			● Websites
			○ https://spike.legoeducation.com/prime/lobby/
Programming of EV3 Through Maze / Evaluation (5)	● **CS.3-5.8.1.5.AP.6**	**Obj. We are learning to**: ● program a robot to traverse a designed maze. **Suggested Summative Assessment(s)**: ● 📗 Scale Tracking Sheet Gr 5 Unit 2 ● 📄 EV3 Rubric	● Activity ○ Program a robot to traverse a created maze ● Materials ○ Lego Spike Prime Robot ○ USB Cables and chargers ○ Chromebooks ○ Partner Evaluation Survey ● Websites ○ https://spike.legoeducation.com/prime/lobby/

Link to Additional Components including Cross Curricular Connections, Accommodations, Assessments, Etc

ELA Enduring Understanding Statements