



Loop There It Is!: Pacing Guide

The Pacing guide for each STEM Lab provides step-by-step instructions on What, How and When to teach. The Individual STEM Lab Pacing guide contains valuable information below:

- **Pacing** - Provides the approximate time duration of each section of the STEM Lab.
- **Concepts** - Lists the themes that surround the STEM Lab.
- **Delivery** - Provides guidance on teaching strategies for each STEM Lab section to improve student mastery of the content.
- **Materials** - Lists the materials that are essential to completing the STEM Lab.
- **Resources** - Provides the linked content and resources needed by the teacher to complete the lessons and activities.

Section	Pacing	Concepts	Delivery	Materials	Resources
Seek	Building the V5 Clawbot: 150 min. Exploration: 5 min.	● Building and Exploring V5 Robots ● Prerequisites: (Moving Forward and Moving Backward, Turning Right and Turning Left, Moving the Arm, Opening and Closing the Claw, Loops)	Student Centered Cooperative Learning	● 1 or more VEX V5 Classroom Starter Kits ● Engineering Notebook	● Build Instructions ● Build Rubric ● Collaboration Rubric ● Engineering Notebook Rubric (Individual Reflections)
Play	Robot	● Programming-Loops	Teacher Direct	● VEX V5 Clawbot (built from	

	Repetition: 5 min. Programming Loops: 40 min.	Repeated Actions	Instruction Student Centered	Classroom Starter Kit) VEXcode V5	
Apply	Robots in Manufacturing: 5 min. Controllers and Loops: 10 min.	- Robots in Manufacturing - Loops in Competitions	Student Centered Cooperative Learning	Content Pages	
Rethink	Prepare for the Groove Machine Challenge: 5 min. Design, Develop, and Iterate on your Project: 30 min. The Groove Machine Challenge: 30	- Iteration on Improving a Build - Pseudocode - Programming Design - Creativity - Adaptability	Student Centered Cooperative Learning	- VEX V5 Clawbot (built from Classroom Starter Kit) 1x1 meter area - Engineering Notebook	Collaboration Rubric Engineering Notebook Rubric (Team Reflections) Pseudocode Rubric Programming Rubric

	min.				
Know	Comprehension Questions: 5 mins	Summative Assessment	Student Centered	Multiple Choice Questions	Know Questions - Blocks Know Question Answer Key - Blocks Know Questions - C++ Know Question Answer Key - C++ Know Questions - Python Know Question Answer Key - Python