



Robosoccer: 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 Speedbot: 120 mins. Discuss Using Exploration Questions: 5 min.	● Building and Exploring VEX Robots	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 Soccer:	● Artificial Intelligence	Teacher Direct Instruction	● VEX V5 Classroom Starter Kit (with	● Build Rubric

	5 min. Designing to Dribble: 45 min.	• Sportsmanship • Driver Control • Iteration on Improving a Build	Student Centered	• up-to-date firmware) • 3 Cones or cups • V5 Controller • Stopwatch • Soccer ball or similar sized ball • Roll of tape • Engineering Notebook	• Collaboration Rubric • Engineering Notebook Rubric (Individual Reflections) • Engineering Notebook Rubric (Team Reflections)
Apply	Robots in Sports: 10 min. VEX V5 Ball Launcher: 5 min.	• Application of Drones • Sensors	Student Centered Cooperative Learning	• Content Pages	
Rethink	Prepare for the Game of Robosoccer: 5 min.	• Sportsmanship • Application of Movement Concepts • Manipulating	Student Centered Cooperative Learning	• 1 soccer ball (or similar sized ball) • 3 people (2 players, 1	• Collaboration Rubric • Engineering Notebook Rubric (Team Reflections)

	Improve Your Build: 10 min. Playing Robosoccer: 30 min.	an Object • Measurement		referee) • 2 or more VEX V5 Speedbots • 2 identical empty boxes (large enough to fit a soccer ball) • Stopwatch • Open area with walls at least 3m by 3m (recommended size) with both boxes placed at opposite ends (think soccer field with walls!)	
Know	Comprehension Questions: 5 mins	Summative Assessment	Student Centered	• Multiple Choice Questions	Know Questions Know Question Answer Key