

Week	Topic(s)	Task(s)	Resources
1	Intro to Robotics & VEX System	Familiarize with VEX System Build basic robot (Protobot or Tumbler)	- Teacher's Handbook - Inventor's Guide - Protobot/Tumbler instructions
2-3	Applied STEM Concepts	Learn about speed, power, torque, DC motors, friction, traction, gears, chains, and sprockets utilizing basic robot for examples	- Teacher's Handbook / Appendix B - Inventor's Guide - Hardware and tools
4	Drivetrains	Learn basics of robotic drivetrain construction & deconstruct, or modify basic robot drivetrain	- Teacher's Handbook / Appendix B
	Object Manipulation	Learn basics of robotic object manipulation & construct or modify manipulator for basic robot	- Teacher's Handbook / Appendix B - Inventor's Guide - Hardware and tools
5	Robotics Design Process – The Plan	Intro Robotics Competition Game Analyze the Game Choose a Strategy Creating Design Concepts	- Teacher's Handbook / Appendix A - Strategy aids
6-8	Robotics Design Process – The Build	Prototyping Testing Evaluation Iteration	- Appendix B - Inventor's Guide - Design Notebook - Hardware and tools
9	Robotics Competition Tournament	Match play culminating in a winner	- Teacher's Handbook / Appendix A - Timer/stopwatch - Tournament & score sheets - Scouting resources
10	Design Review	Teams present designs/results from engineering notebooks Review/Feedback from peers and instructor	- Teacher's Handbook - Design Notebook - Design review criteria/rubrics
11	Review/Further Instruction of Applied STEM Concepts	Targeted study (team and/or individual student) of STEM Concepts introduced in Weeks 2&3 based on need derived from design review	- Teacher's Handbook / Appendix B - Inventor's Guide - Hardware and tools
12-14	Robotics Design Process revisited – New Plan & Build	Modify/change/rebuild robot based on design review results: Prototyping Testing Evaluation Iteration	- Teacher's Handbook / Appendices A&B - Inventor's Guide - Game field & objects - Design Notebook - Hardware and tools
15	Robotics Competition Tournament Replay	Match play culminating in a winner	-Teacher's Handbook / Appendix A - Game field & objects - Timer/stopwatch - Tournament & score sheets - Scouting resources
16	Formal Design Review Preparation	Prepare formal presentation using design notebook and presentation software.	- Design Notebook - Design review criteria/rubrics - Presentation software/slideware - Digital camera
17	Formal Design Review Presentations	Comparison's made to previous design review	- Feedback from peers and instructor - Design Notebook - Design review criteria/rubrics - Presentation software/slideware
18	Awards Grading Re-inventory	Hold Awards Ceremony Inventory Parts	- Distribute Grades/Hold Grading Conferences - Disassemble robots and restock inventory for next class (make inventory worth a test grade) - Awards list - Teacher generated awards - Teacher/school provided grade report - Hardware, tools, school chosen storage