



Music City BEST Kick Off Day – September 8, 2018

- 8:00 – 9:00** **Doors Open & Registration at Allen Arena – View the Game Field**
- 9:00 – 10:30** **Welcome**
Music City BEST General Information
Game and Rules
Question & Answer Session on Game and Rules
- 10:30 – 11:00** **Experience the Playing Field**
- 11:00 – 1:00** **Break for Lunch (on your own) – Check out our Student Center**
Pick up Kits in the Fields Engineering Center – See Map in Team Notebook

	Room 211 Fields Engineering Center	Room 207 Fields Engineering Center	Room 209 Fields Engineering Center	Room 205 Fields Engineering Center
1:00 to 2:00	Engineering Notebooks – Fort Gwinn		Robot Building I & II – Scott Horton	VEX Control System – Greg Nordstrom
	This workshop will provide an introduction and overview of the Engineering Project Notebook. It will cover the key elements of the notebook and discuss what the judges want to see in your notebook.		This is a dual workshop. The first portion will provide an overview of the kit parts, do's and do not's with components, compliance, tools. Part II will cover servo's and proper usage, interfacing motors, wire management, tips and tricks on mechanical design of robots, common component construction, recommended tools, and sources.	This workshop will provide an introduction & overview of the VEX controls. It will explain how these components and controls work and how to use them in your robot.
2:00 to 3:00	Marketing Presentations – Megan Davis	Panel Discussion: Effective Strategies for Success in BEST – Michael Colletti		This workshop will take place during both sessions.
	The Marketing Presentation is an important component of the BEST Award. This workshop will focus on how to effectively present ideas and how to speak comfortably and skillfully in public.	This panel discussion will include two Music City BEST alumni who have offered to share their advice and guidance to help you be successful. The topics of this panel discussion will include: team organization and leadership, robot design and construction, writing the project notebook, preparing the marketing presentation, designing and constructing a team exhibit, and ensuring your team demonstrates spirit and sportsmanship.	Parts I & II recommended together. Part II may start during first session as time allows. Part II may end early depending on Q&A.	

CURRENT EVENTS – 2018 Game Summary

A **gyre** | *'jī(ə)r* | is a naturally occurring vortex of wind and currents that rotate in a clockwise direction in the northern hemisphere and counterclockwise in the southern hemisphere. These create a whirlpool effect, whose vortex moves more slowly at the center and that is where marine plastic debris collects. In 1992, a shipping crate containing 28,000 plastic bath toys was lost at sea. Those bath toys revolutionized our understanding of ocean currents.

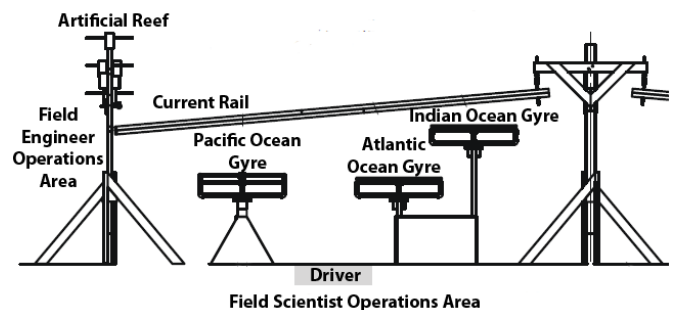
Game Objective:

BEST has released a request for proposal (RFP) to design and prototype a robot that will ride the ocean currents and do the following:

- Remove, sort, recycle garbage and create reef blocks
- Install reef blocks on artificial reef structure
- Data collection relevant to ocean current and the health of sea turtles
- Demonstrate robotic flexibility and diversity

Game Field:

Robots ride a current rail to reach the various gyres and retrieve recyclable garbage. Two teams share access to 4 gyres (2 Pacific Ocean, an Atlantic Ocean and an Indian Ocean gyre). Field Scientist work along the current gathering information from sea turtles and rubber duckies while gathering garbage. Field engineers collect garbage and recycle the items to create reef blocks and filament tubes which the robot can then attach to the artificial reef structure.



Game Pieces:

There are five types of recyclable garbage in the gyres: soup cans, 8-ounce bottles, 16-ounce bottles, 1-liter bottles and microplastics (practice golf balls). Rubber duckies ride the current rails. Field scientist note the number on the rubber ducky and can work with other team's field scientist to determine the current flow scenario for the match. Sea turtles eat the garbage in the gyres. Field scientist inspect the collected sea turtles to determine what they are eating and team then gets double points for collecting this type item to help protect sea turtles in the future. Field engineers collect the garbage to build reef block and filament tubes for the artificial reef structure. They also help the driver guide the robot in placing the reef elements onto the structure.

Game Scoring:

There are three main ways to score:

- Garbage items in the field engineer and scientist boxes. Microplastic is worth 5 points, while other items are worth 10 points. Each rubber ducky and sea turtle are worth 10 points.
- Completing reef blocks or filament tubes.
- Attaching reef blocks to reef structure by the robot.

Other scoring opportunities

- Captured sea turtle contains an item which doubles the value of a specified garbage type.
- Correct current flow scenario selection is worth 150 points.
- Two different installed reef boxes or filament tubes is worth 200 points.
- Four installed reef boxes (all different garbage types) and a filament tube is worth 400 points.