1.5. Rover Design Requirement

BYOR - Bring your own Rover

In this challenge you can participate using hardware and materials not supplied by Ten80 - as long as you register. To use this curriculum in full we do recommend getting the "Brain" material from us, since instructions and lessons are very specifically tailored to the hardware we supply. Summarized that means you have the following options:

1. Use Ten80 supplied material and curriculum.
2. Use Ten 80 supplied Rover Brain (Arduino, motor controller, sensors etc.) and curriculum. Built your own chassis
3. Use your own material. The Rover has to meet the criteria below to participate in a competition. Parts of the Rover Challenge curriculum might not be usable for you since they refer to specific hardware.

Criteria:

The Rover has to meet the following criteria:

- Maximum Width: 11 inches
- Maximum Length: 15.5 inches
- At least 2 inches ground clearance. (Measured between the lowest part of the body and the ground. Motors and Motor mounts are exempt).
- Wheels on each side have to be powered by at least one individually controllable motor.
- Must be able to spin around its own center axis on the spot.
- The build process and design considerations have to be documented.
- Has to be controlled by a microprocessor (Arduino, Raspberry Pi, Intel Edison....)

Constraints:

- No common power transfer between left and right wheels is allowed (axis, shaft, chain, belt etc.)
- No "Out of the Box" assembled vehicles are allowed. Heavily modified vehicles might receive an exemption. Make sure to submit sufficient documentation to Ten80 Officials to get approval ahead of any competition.