**Land Vehicle Challenge**

**Description**

Each team will be provided with a Hubsan X4 Mini Quadcopter. Teams will work together to brainstorm, design, construct, test, modify, and prepare their vehicle for the class competition.

**Criteria and Constraints:**

* Your final vehicle must fit in a 10” cube
* All materials must be pre-approved or provided by the instructor
  + The use of additional batteries or motors is prohibited
* Your vehicle must complete course A in under 30 seconds
* Your vehicle must complete course B in under 45 seconds
* Your vehicle must be controlled by nothing other than the remote control (i.e. once the race starts you are not allowed to handle/touch your vehicle

**Rubric**

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| **ITEM** | **DESCRIPTION** | **POINT VALUE** |
| **Criteria & Constraints** | Student design must follow all rules, criteria, and constraints listed here and set forth by the teacher | 10 |
| **Course A** | Vehicle completes course A in:   * Under 30 seconds * 30-45 seconds * 45-60 seconds * 60+ seconds | 10  7  5  4 |
| **Course B** | Vehicle completes course B in:   * Under 45 seconds * 45-60 seconds * 60-75 seconds * 75+ seconds | 10  7  5  4 |
| **Hovercraft** | Students design and build a functioning hovercraft | 10 |
| **Speed Demon** | Students design and build a vehicle which completes the challenge courses (A & B) in half the allotted time | 10 |
| **Creativity** | Students wow the teacher with their creativity, design, and innovation skills | 10 |