

Storm the Castle 2012

(Talking Points from the Coaches' Extravaganza)

WHAT THE TEAMS BRING:

- **Eye protection!!! You will not be allowed to compete without it!**
- The device.
- Graphs & Calculations - **After the launches, I will be asking the team to leave a copy to use in scoring and may not be able to get these back to you.**
- Parts, tools, **duct tape**, etc. needed to make repairs or adjustments to the device.

*** NOTE: ONLY EYE PROTECTION CAN BE BROUGHT INTO THE LAUNCH AREA AFTER IMPOUND**

WHAT THE EVENT SUPERVISOR BRINGS:

- Counterweights* - Built to the plans on the National Science Olympiad web site (http://soinc.org/storm_the_castle_b)
- Projectiles*
- Target*

*** You will need to build your own for practice, though.**

*** NOTE: THE WEIGHTS OF THE PROJECTILES & COUNTERWEIGHTS WILL BE ANNOUNCED AFTER IMPOUND. I WILL ALSO PROVIDE THE SIZE & TYPE OF PROJECTILE THEN.**

THE DEVICE:

- The device does **not** have to be a trebuchet (catapult) design; See the National Science Olympiad web site (http://soinc.org/storm_the_castle_b) for other allowable designs
- The device can only use energy provided by the falling counterweight
 - **Simple test: Put the device in the ready to fire setup, but without the projectile or counterweight. Release the trigger. If there is FORWARD movement, then the device fails this test and would be disqualified!**
- The device must fit into a 65cm X 65cm X65cm cube when in the **ready to fire position**.
- Everything, except the triggering mechanism, must be inside a 1m X 1m "Launch Area" (not the 65cm cube) before and after the launch. All components must return to within the launch area on their own.
- The device must be able to accommodate any projectile within the size and weight parameters on the rule sheet (Para 3.d) and a standard 1" open hook bolt for the counterweight.
- The device cannot be anchored to the floor – I have a question into the committee asking whether they can be weighted.

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THE COMPETITION:

- When directed, the team will place their device inside a 1m X 1m “Launch Area”. **DO NOT BEGIN SETUP AT THIS TIME!!!**
- The team will provide the event supervisor with the distance to the target for their first shot.
- Once the target is positioned, the team will be given the counterweight and the first two projectiles. They may then begin setup; the clock will start at this time.
- The team **must** announce when they are ready and, with the event supervisor’s permission, they will fire the device.
- After the projectile lands, the team may immediately begin setup for the next shot. During setup, the team may relocate their device anywhere within the launch area, but the target may not be moved unless a hit was scored on the first shot.
- Measurements on their first shot will be taken while the team sets up for their second shot. At any time during this period, the team may ask to go down range and observe where their shot landed. **THE CLOCK WILL BE RUNNING DURING THIS TIME!**
- The team will again announce when they are ready and, with the event supervisor’s permission, fire the device.
- Should the team finish setup before the measurements are complete, the team will notify the event supervisor and timing will stop until the measurements are complete. Timing will resume with the event supervisor’s permission to fire.
- Timing will stop when the projectile hits.
- After measurements are completed, the team will then provide the event supervisor with the distance for the second set of projectiles and counterweight and the target will be moved to the new distance.
- The team will then be given the new counterweight and projectiles, timing will resume, and the process above repeats until all shots are complete or time has expired.

Scoring:

- Pretty well covered in the rule sheet.
 - Launch Score = Target Distance – 3X Accuracy + Bonus (if target is hit)
 - Pay close attention to the graphing/calculation sections – lots of easy points to be gained here.
 - I will probably use my own data sheet for the event (it will be posted if I do), but plan to use the [Event Score Sheet/Spreadsheet](http://soinc.org/storm_the_castle_b) 2012 located on the National Science Olympiad web site (http://soinc.org/storm_the_castle_b)