

Tier _____

Total Score _____

1st Tiebreaker: best launch Score,

2nd Tiebreaker: 2nd best launch score

3rd Tiebreaker: 3rd best launch score

TIERS

1. No violations (penalties in 5.c. do not count) _____
2. Construction violation(s) or missed Impound deadline _____
3. DQ – see reason on back of this page – coaching, interference by others, cheating, etc. _____

School Name: _____ Team Name: _____

Storm the Castle – Division B
San Diego Regional Science Olympiad - 2012

Student(s): 1.) _____ 2.) _____

CONSTRUCTION QUALIFICATION	LAUNCH 1	LAUNCH 2	LAUNCH 3	LAUNCH 4
In ready-to-fire position entire device fits in 65.0 cm cube				
Device not anchored to the ground				
AC electrical equipment NOT used (if used = DQ)				
Device has no potential energy without counterweight When unloaded, center of gravity drops during launch motion Trigger process provides momentum; Other potential energy Unloaded device may NOT move toward launch motion				
Device accommodates counterweight and projectiles				
LAUNCH OPERATION Allow 5 minutes (use a stop watch) for up to 4 launch attempts				
Team wore safety glasses (no glasses = DQ)				
Before launch, device fit in 1.0 m x 1.0 m square launch area				
Device was triggered remotely from outside launch area				
After launch no part of the device or counterweight extended beyond launch area - except for the trigger device which must be outside the launch area				
Projectiles and counterweights were not modified				
Team operated device safely – if not = DQ				
Team did not enter target area to view or measure the results of a previous launch.				
PENALTIES – 3 points / penalty				
Team warned for improper wear of safety glasses				
Student was in launch area during launch				
Unintentional launch				
No warning given prior to launch				
Team received assistance, coaching, tools or supplies				
Team violated any other rule in 4.a. – 4.l.				
SCORING				
In meters to nearest cm	Launch 1	Launch 2	Launch 3	Launch 4
TD = chosen target distance				
A = accuracy = distance from impact to target center	-	-	-	-
B = bonus = TD X 0.15 if projectile hits the target on first impact	+	+	+	+
B = bonus = TD X 0.30 if projectile on first impact, lands and stays in target				
TOTAL (Launch Score)				

Launch Score (Total) = TD – 3A + B

Graphs – Max = 5 graphs, 12 pts.

Best launch score 1st counterweight _____

1 pt / graph, max = 5 _____

Best Launch Score 2nd counterweight _____

1 pt – example calculation page _____

For ONE GRAPH:

2 pt if it has school and student names _____

Graph points Total _____

2 pt has title & X / Y axes labeled _____

SUBTOTAL _____

2 pt – appropriate units & axis increments _____

TOTAL Graph Score _____

- Penalty points _____

Graph points = max =12

Penalties _____ x 3 pt/penalty = _____

TOTAL SCORE: - _____

Penalty points