



Middle School Catapult Design

Event Coordinator:

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Description:

Design and construct a device that fits the description of a catapult. The device will be used to launch a projectile of choice at a given target.

Specifications:

1. There may be only one catapult structure per group. Groups may consist of 1 or 2 people.
2. Schools may enter a maximum of 5 teams
3. Teams may bring their own projectile for testing, however, the mass of the projectile has to be between 40-50 grams
4. No projectiles can bounce or be deemed damaging by the coordinators (golf balls, marbles, etc.)
5. In order for each shot to be scored, the projectile must go completely through the opening of the target. Any projectiles "resting" on the target cannot be scored. Any projectile that goes through the target and bounces out due to the netting will be scored as a hit.
6. There will be a taped off 12"x12" starting box. Students must shoot from within this starting box. Wheeled trebuchets may roll out of the starting box after being launched.
7. It is up to the team of students to decide how they are going to secure their device. However, the base of the catapult must remain in the 12"x12" starting box. An exception will be made for wheeled trebuchets. They may roll out of the starting box after being launched but must be reset after each shot.
8. All materials used for the project must be deemed safe by the instructors at the competition
9. All catapult bases (where the catapult meets and rests on the ground) must fit within a 12" X 12" start box
10. The overall height of the catapult can be no more than 24"
11. The overall width of the catapult can be more than 24"
12. Students are given 5 minutes to complete 2 practice shots and a total of 6 final shots at the given target. The points will be scored according to the testing diagram and description.
13. The targeting and scoring system are new this year:
 - There will be 3 separate targets each being a 12" inside diameter circle set at 45 degrees to the catapult. They will be in a straight line from the center of the shooting box.
 - The first target is 12" high from the floor to the center of the ring; the second 18"; the third 24".
 - The first target will be at 15 feet and will be worth 2 points.
 - The second target will be at 20 feet and will be worth 5 points.
 - The third target will be at 25 feet and will be worth 7 points.





