

Catapult Design Project

Due on Thursday, _____

Meet at Eikel Park at 12:00 this day.

**South Grape Ave. and West San Antonio St.
(Go 0.4 miles down the street in front of the
church and turn right onto Grape Ave.)**

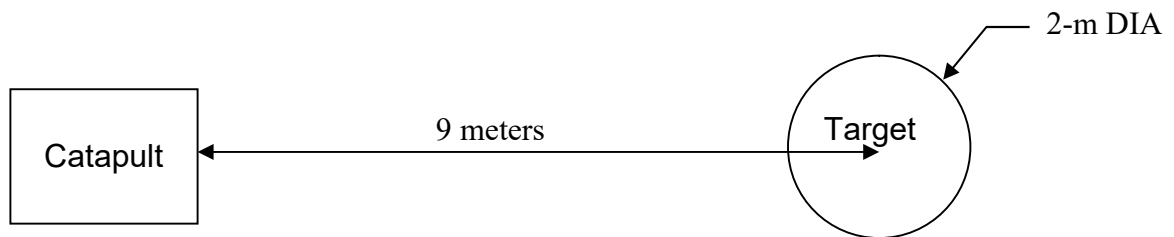
Problem Statement:

Design a catapult to throw a water balloon 9 meters and land within a 2-meter diameter target area.

The maximum overall size of the catapult cannot exceed 4' x 4' x 4'.

The machine must be a catapult or trebuchet, not a slingshot. It must have a throwing arm.

The approximate mass of each water balloon is 250 grams.



Grading Criteria:

1. Operational (75 points)
You build a catapult that is capable of throwing small water balloons.
2. Accuracy (15 points)
Your catapult should place at least 3 out of 5 balloons within the target area for a perfect score. (5 points for each water balloon inside the target area, with a max. possible 15 points.)
3. Precision (10 points)
Your catapult should place all the shots within a 1-meter diameter circle. This circle doesn't need to be the target circle. Your shots just have to have a close grouping.
4. Range (Bonus points)
After your five launches for accuracy and precision, you will get three additional launches to demonstrate the maximum range of your catapult. Three bonus points will be added to your overall project grade if yours attains the farthest distance, two bonus points for the second farthest, one bonus point for the third farthest.