

High School Design Brief

2020 3D Printing Competition

Objective:

High School students will individually design and make a device to launch a projectile. Technical drawings of all parts and assembly must accompany the device.

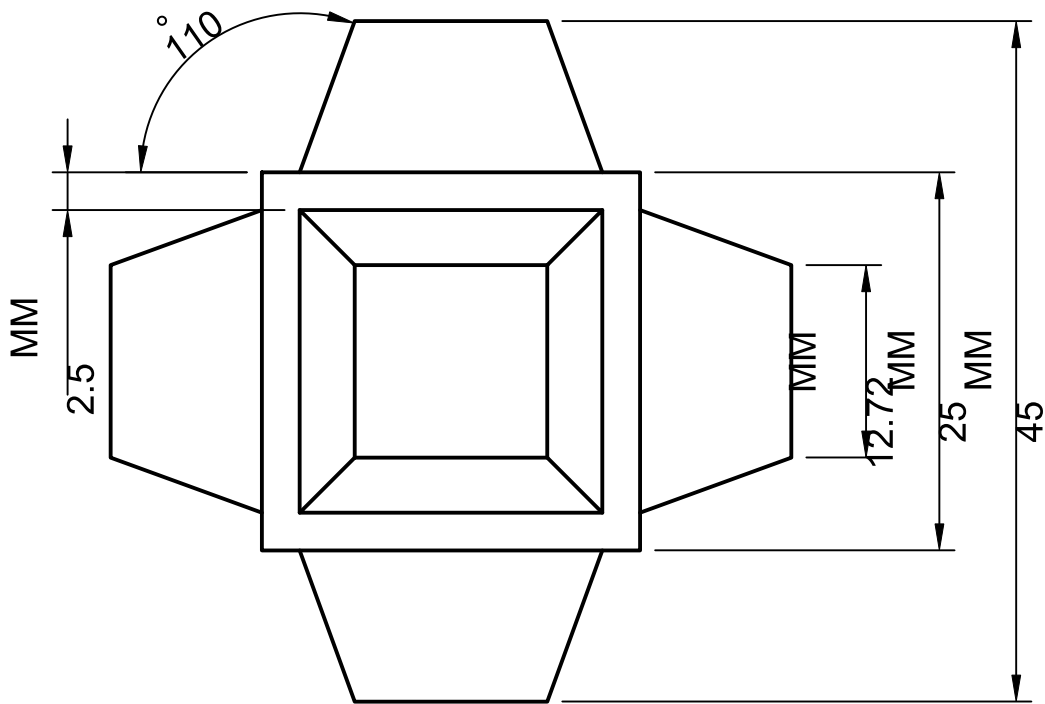
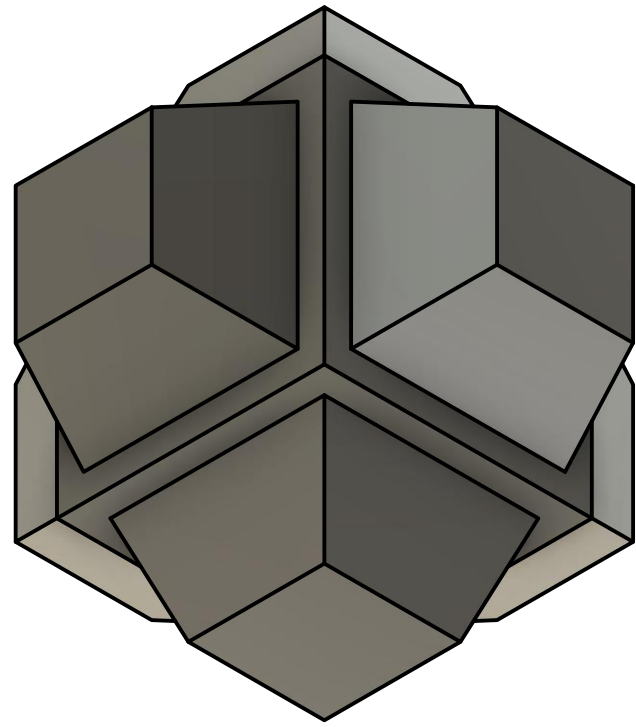
Each device/student will be given three (3) attempts to launch the projectile the farthest. The student with the longest distance will be declared the winner.

The attached drawing and specifications of the projectile is included in this brief on the following page. You may design and 3D print projectiles for testing. The day of the competition it will be provided.

Constraints:

- Parts can only be manufactured using a 3D printer
- No rubber bands, string, springs, mechanical fasteners, or other non-3D printed parts can be used on the device
- All drawings must follow the following specifications
 - Drawn in CAD (individual components and full assembly)
 - Orthographic drawings of components
 - Orthographic and at least two isometric drawings of full assembly
 - List all measurements of individual parts
 - Printed on 8.5" x 11" paper
- The devices total weight may not exceed 750 grams
- The device must not break during the attempt, if it does it will be considered catastrophic failure*

*In the event of a catastrophic failure the device will no longer be able to continue. Replacement of parts will not be allowed and the student will forfeit present and remaining attempts.



Dept. AMT	Technical reference Cole Goldstein	Created by Cole Goldstein 10/1/2019	Approved by Johnson College 10/1/2019
Scale 2:1 3D Printed Part Weight Approx. 40g	Document type Projectile Blueprint	Document status Released	
	Title 3D Printing Challenge High School Projectile	DWG No. 1/1	
		Rev. 1	Date of issue 10/1/2019