

STEM Event Module: Catapult Challenge #2



UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE



Challenge #2:

THE TOWER TEST

Challenge Details:

Design a catapult to launch a projectile to destroy/move the most paper cups from the tower.

Running the Activity:

Provide each student with a bag of materials

- *The goal is to build a catapult that will launch a projectile that will create the most damage to the paper cup tower.*
- *This challenge will need plenty of testing to test precision and accuracy.*
- *Work with your team to design, build, test, and improve a catapult.*
- *You only have access to materials in bag. However, you do not have to use all the materials.*

WHOSE CATAPULT CAN DESTROY THE TOWER?

Preparation & Setup:

- **Assemble Kits:** Combine materials for students into brown paper bags to make kit distribution easier.
- **Work Station:** Allow plenty floor space to build and test catapults before testing occurs.
- **Tower Assembly:** Stack six cups forming a tower. Place three feet away from the start line.
- **Testing Zone:** A launching range to test catapults, allow for a 3-4 feet of space measured with a tape measure or meter sticks (ex. A hallway). Tape a starting line on the floor that catapults cannot cross.

Judging & Awards:

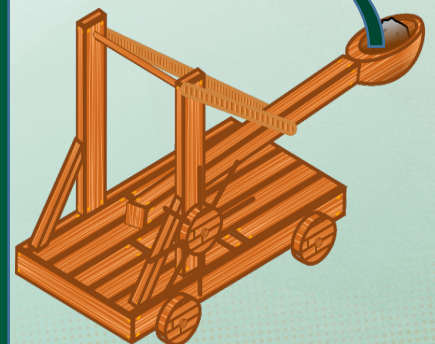
Engineers who successfully build a catapult that launches a projectile that knocks over the most cups wins THE TOWER TEST challenge. Each team has three tests to knock over the most cups.

Follow-up Questions:

- Which catapults were most successful? Why were they successful?
- What was the strongest part of your design? The weakest?
- If you could design another catapult, what would you design differently?



Do Not Cross



TEST #	Distance from spoon to ground	Cups moved?	Observations	Adjustments
1				
2				
3				
4				
5				
6				
7				
8				