




OCTOBER STEM CHALLENGE

PUMPKIN CHUCKING








CHALLENGE: Design and construct a catapult that will launch a mini pumpkin at least three feet.



CONSTRAINTS:

-  Catapult must support the weight of a mini pumpkin, unassisted
-  Catapult must be able to be operated by a single person
-  Only use materials listed




RECOMMENDED MATERIALS:

-  Jumbo craft sticks
-  Rubber bands
-  Craft Sticks
-  Masking Tape
-  5 household/classroom items of your choice

DESIGN:

-  Draw a labeled schematic (blueprint or outline) of your design
-  Decide what materials you need and how much of each item

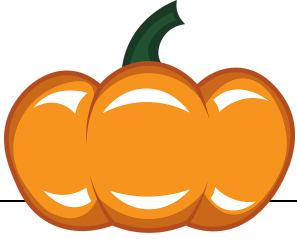
BUILD, TEST, ANALYZE:

-  Did it work how you expected?
-  What changes could you make to improve the launch?
-  Should you change the length of the launch arm? Do you need it to be stronger? Was your launch force big enough? Too big?

Tips for Teachers:

- ★ Substitute allowable materials to your convenience
- ★ Have students work in small teams to improve communication and collaboration skills
- ★ Adjust required launch distance to match materials allowed and time constraint
- ★ If supplies are limited, challenge the students to build a candy-launcher, which won't need to be as sturdy.
- ★ Have students discuss what they would do differently if given more time.

Student Challenge Worksheet



Design Challenge: Design and build a catapult that will launch a mini pumpkin at least three feet.

Draw the design in the space below and label the materials.

Build: Build your design based on your plan.

Test:

Measure and record the distance your pumpkin travels.

<i>Mini Pumpkin Chucking Data Table</i>	Trial			
	1	2	3	4
Distance (ft.)				
Changes needed				

Analyze:

Which pumpkin chucking trial went the farthest distance? How far did it go? WHY did it work so well?