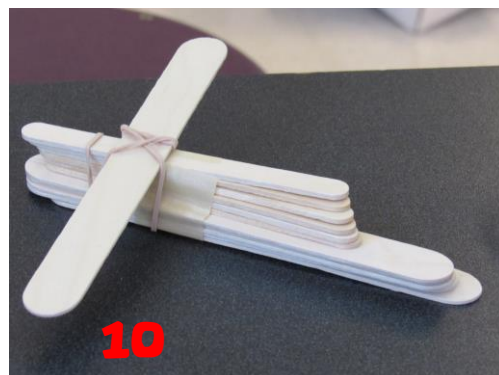
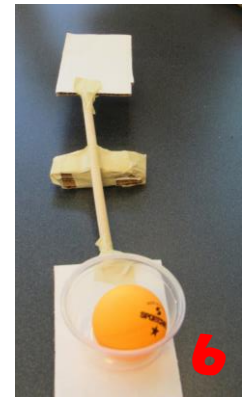
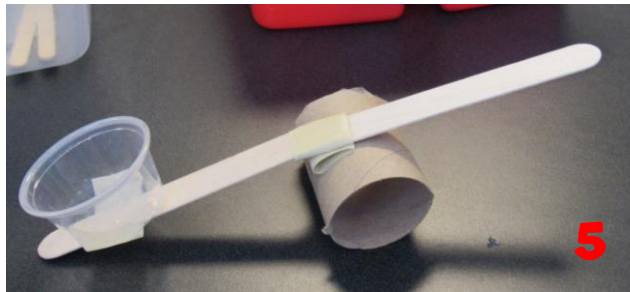
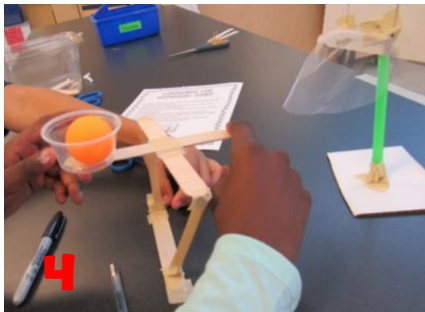
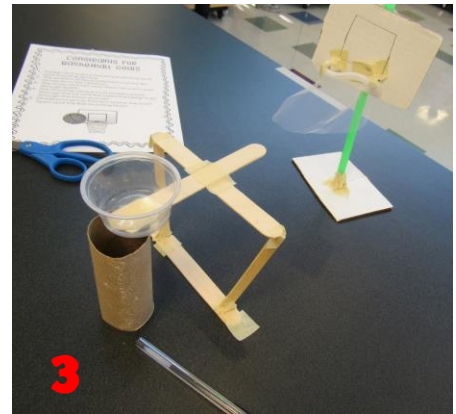
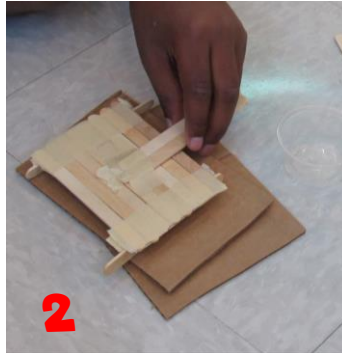


# Photographs

## The Throwing Devices (Catapults)

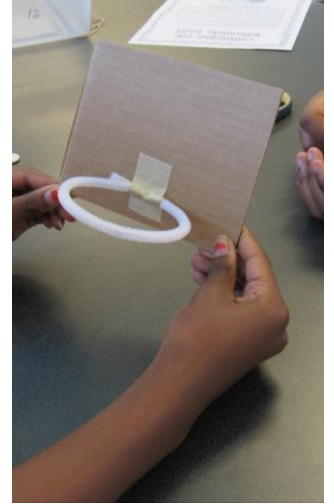
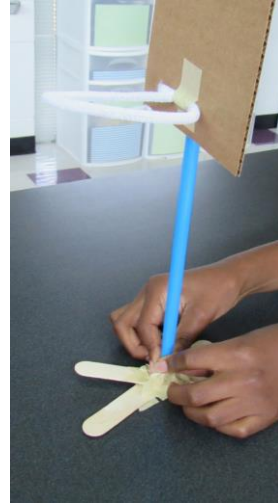
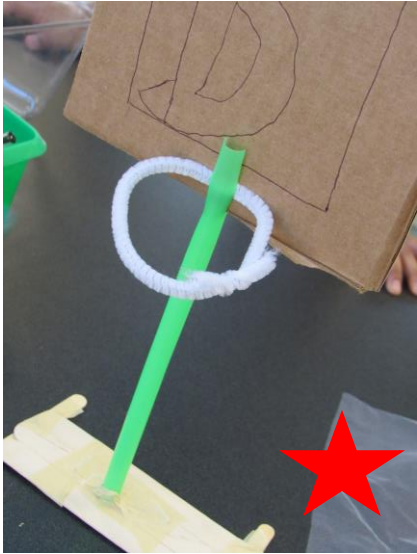


There were many variations of catapulting devices!

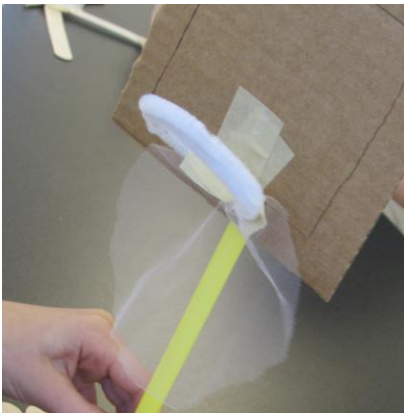
1- Typical t-shaped catapult made of craft sticks. We added the small cup to hold the ball in place. 2- This sled-like device had runners on the bottom that rocked when the front sticks were pressed down. The cardboard was added to give more height. 3-4 - This team built a stand up frame and added the catapult to the top. The cardboard tube is preventing it from sagging. 5- One way to use a tube! 6- This one resembles a see-saw with a fulcrum in the center made of folded cardboard. 7-8- More ways to use that tube! 9- When I mentioned a slingshot was not really okay, this team improvised and tried to build a way to make it stand up. 10- Instead of cardboard tubes this team stacked sticks to make the fulcrum for the throwing arm.

# Photographs

## The Goals and Nets



Hoops were taped or threaded through the cardboard. Notice the goal with the star—the team split the green straw and inserted the cardboard without using tape!

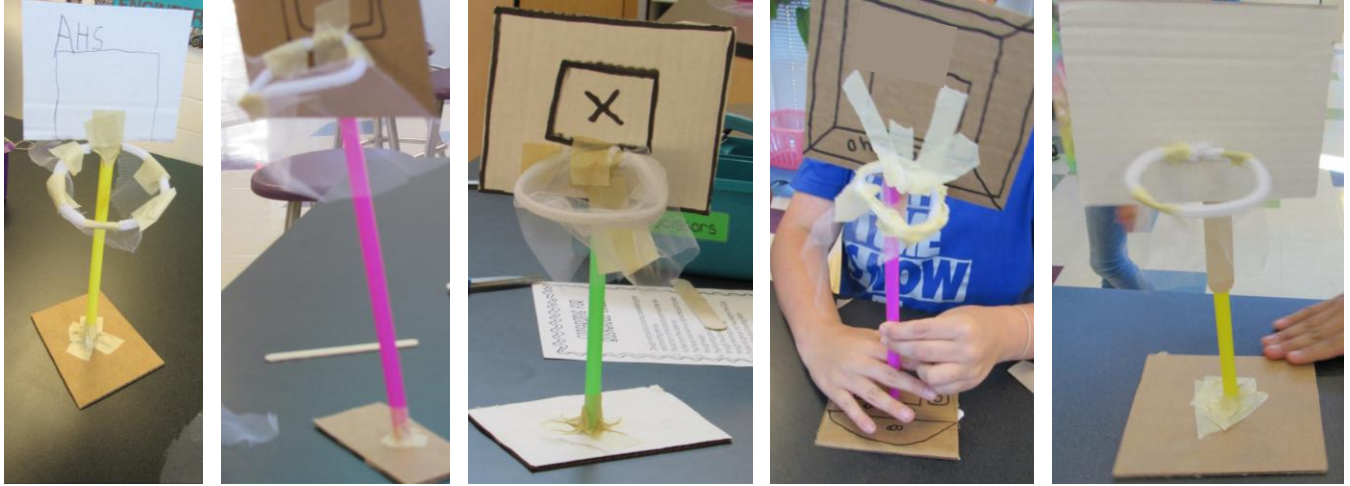


Adding that netting was difficult for some kids. The teams that did the best with it cut a rectangular piece of net and then just wrapped the top edge around the hoop all the way around. Others cut the netting into smaller pieces and taped them individually.



# Photographs

## FINISHED GOALS

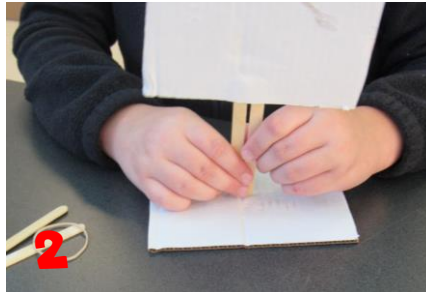


These really are just amazing! Kids loved working on these!

## SOME THINGS TO THINK ABOUT.....



1



2



3

As with any STEM Challenge there are going to be kids that try something that just doesn't work or those that add some creativity to the project.

1- This looks like it just might work! When you push down on the craft sticks, the arm does move forward, but not very far. The tape was supposed to keep the cup and ball in place. They fixed this by turning the top craft sticks perpendicular to the bottom and making a t-shaped device.

2- This goal is too short!

3- This team added craft sticks players!

4- This one has no net because they just couldn't get it in place.

5- The trick shots! This was inevitable and they did actually make it once!



4



5

# Photographs

## TRYING THE DEVICES TOGETHER!

