

Harford District  
2015 Cub Scout Day Camp  
June 27 - July 1  
Cubstruction

# Catapults



**Station Volunteer's Guide**

Thank you for being a station volunteer! The stations are the heart of camp and truly provide our scouts with an opportunity to try out a new skill (or build on one they know) while having a great time. Our volunteers' knowledge and enthusiasm is what makes our camp great!

To make running the station easier, please take some time to read through the station guide. **While, what is being covered at the station needs to remain as outlined so that the scouts earn the correct achievements, how it is covered is only one of many methods.** If you find a better way to accomplish the requirements or if the method we have outlined doesn't seem to be working...please feel free to change it! This is only a guide...do what works best for you and the scouts coming to your station.

**One other thing to keep in mind** - some stations will be visited by all ranks. That means you may have 6 year olds through 11 year olds and may have to simplify or intensify the methods to meet the skills and knowledge of all the scouts.

Thanks again - we are glad to have you as part of Harford Day Camp!

## **Station Procedures**

- The first station begins at 10:15 on Monday and 9:15 other days...so you have some time! We've tried to only schedule 2 dens at a time (max. 24 boys) but, there may be times when you have 3. Consult your station schedule so you will know who to expect and when.
- Greet dens as they arrive. Many will have a den cheer, ask to hear it!
- Once all the dens arrive or the start time has come, begin going through the procedures for the station. **It is very important that you start and end on time!** Each time slot lasts 45 minutes. If a den arrives 10 minutes late, they **CANNOT** stay 10 minutes past the end of the station...that would make you and them late for the next station. If a den doesn't get finished, suggest they come back during a break or take the remaining activity with them to work on at the den.
- **Execute the station with energy and enthusiasm!** Let the scouts do as much for themselves as possible. It doesn't need to be perfect, they just need to Do Their Best!
- Don't forget the beads. Each scout earns a bead at every station for participating. Beads can be given to the den leader for distribution.
- Once the den is finished, begin resetting for the next group.
- Close the station at the end of the day by packing/organizing the supplies and cleaning and disposing of all trash. Let the Program Director responsible for the station (either Tiger/Wolf/Bear or Webelos) know if supplies are running short!

## **Station Overview**

The boys will see first hand the engineering involved as they build their own teeny catapult and use it.

**PLEASE NOTE: THERE ARE ONLY ENOUGH KITS FOR THE NUMBER OF SCOUTS SCHEDULED TO COME THROUGH THIS STATION. THERE ARE ALSO A LIMITED NUMBER OF SPARE PARTS AVAILABLE. PLEASE ENCOURAGE THE SCOUTS TO TAKE THEIR TIME WITH THE KITS. SLIGHTLY BENT NAILS MAY BE REUSED. IF NEEDED, YOU MAY GIVE THEM SPARE PARTS, BUT PLEASE DO NOT OPEN A NEW KIT IF ONE HAS ALREADY BEEN PROVIDED.**

## **Core Values:**

Perseverance: sticking with something even though it may be difficult.

## **Set-up:**

Open the bins and unpack supplies. Each scout will receive a catapult kit and all the necessary supplies are in it (even the ball). It may be fun to have some "props" to shoot at once finished. Markers are provided for decorating.

## **Break-Down**

Check supplies and put in station boxes for the night.

## Station Objectives:

Each scout will:

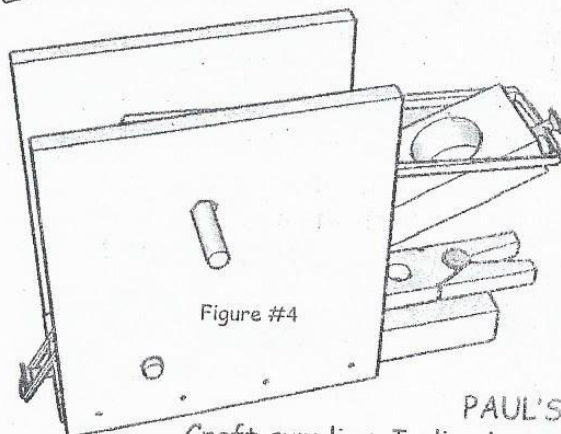
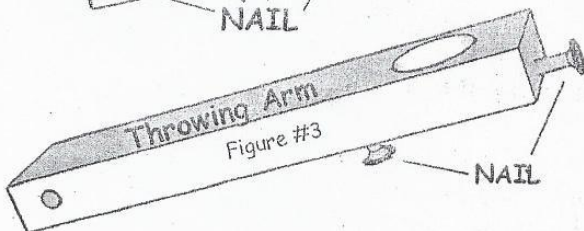
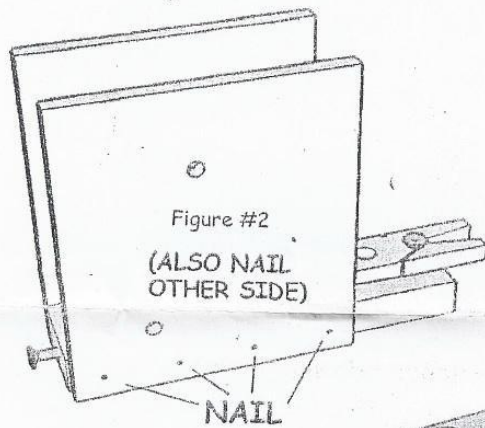
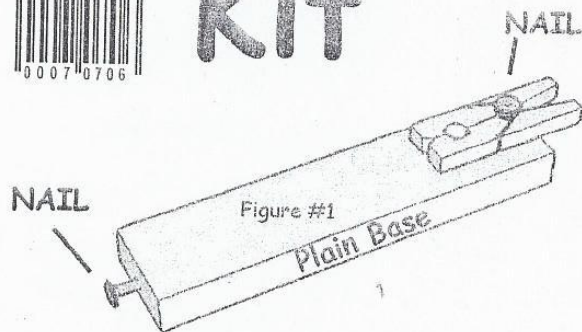
Build a catapult and show how it works.

**Before they begin to build, show the sample and ask** "Does anyone know why a catapult works?" **Solicit answers from the scouts and emphasize these points:** "the catapult is a simple machine and works on the principle of stored energy." **Point out the parts involved and explain that** "tension is applied to the arm when it is forced down...the energy is stored there. The clothespin holds the rubber band in place until you are ready to release the energy. That released energy sends the ball flying!"

Scouts can now start building. Have volunteers monitor progress and give help as needed. Scouts can decorate their catapult if they choose and if there is time.



# Catapult Kit



Kit contains: wooden parts, nails, rubberband and pingpong ball  
You will need: a hammer, paint and brush

1. Sand all parts until smooth.
2. Hammer a large nail half-way into the pilot hole at the end of the plain 1" x 2" base. (Figure#1)
3. Use a nail to attach the clothes pin though its spring. (Figure#1)
4. Nail the sides to the base with the lower holes to the front. (Figure #2)
5. Hammer a large nail half-way into the pilot hole at the end of the throwing arm. (Figure #3)
6. On the side opposite the large circle hole, hammer a nail in half-way so the clothes pin trigger can hold it. (Figure #3)
7. Push the shorter dowel through the bottom holes and through the holes in the throwing arm (Figure #4)
8. Push the longer dowel through the top holes on each of the side pieces leaving some of the dowel sticking out on the side you will hold. (Figure #4)
9. Loop the rubber band around the front nail, pull it over the upper dowel and loop it around the throwing arm nail. Push the rubber band over the sides of the arm to uncover the hole for the ball. If your nail shows in this large hole it won't hurt the functioning of your Catapult.
10. Pull down the throwing arm and lock it into position with the clothes pin. After you aim, set the ping pong ball into the arm and then launch it.
11. Now paint your catapult.

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Craft supplies, Indian Lore, Rockets, Basketry, Metal Work  
[www.paulssupplies.com](http://www.paulssupplies.com)

## Background that may be helpful....

### *How Does It Work?*

- The catapult has a basket on the end of a movable arm strong enough to hold the weight of the object it is intended to hurl. Tension is applied to the arm, which is forced down and secured in place; springs and twisted ropes are two ways to provide the necessary tension. After the object is added to the basket, the bindings are cut or removed. The arm then succumbs to the tension and flips to the other side, like pulling a rubber band and then releasing. The object is propelled forward.