

Catapult

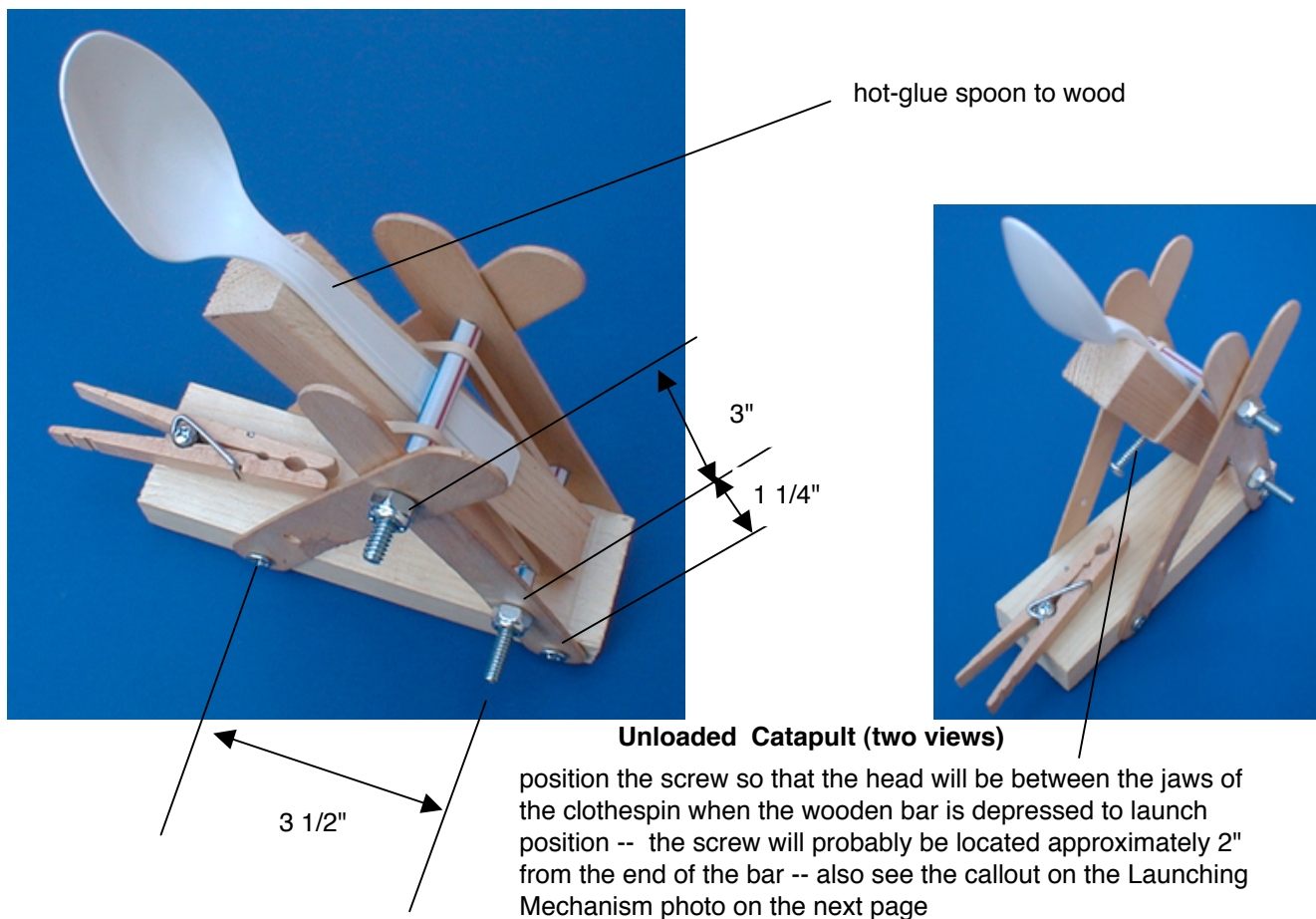
Materials

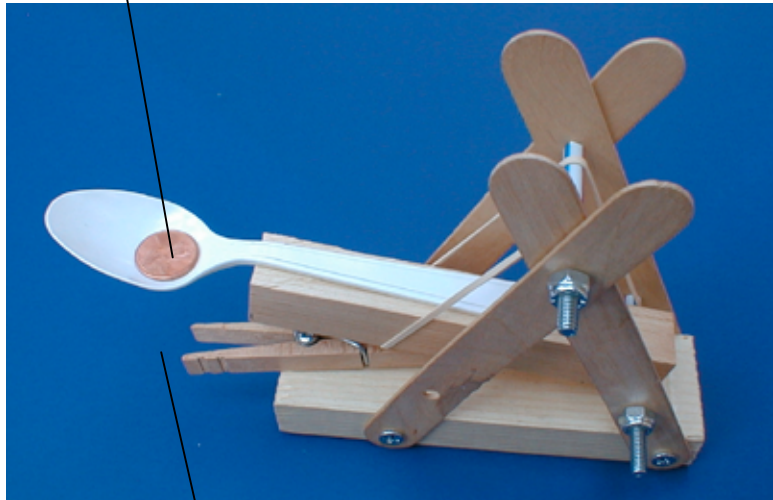
wooden base, 1 1/2" x 5" x 3/4"
 wooden arm, 3/4" x 3/4" x 5"
 4 wooden tongue depressors,
 6" long x 3/4" wide
 2 machine screws, 10-24 x 2 1/2" long
 2 teflon lock nuts, 10-24
 4 wood screws, 3/4" long

1 sheet metal screw, pan head, 1"
 wooden spring-loaded clothespin
 plastic drinking straw
 rubber band
 plastic spoon
 3/16" drill bit
 electric drill
 hot glue stick and gun

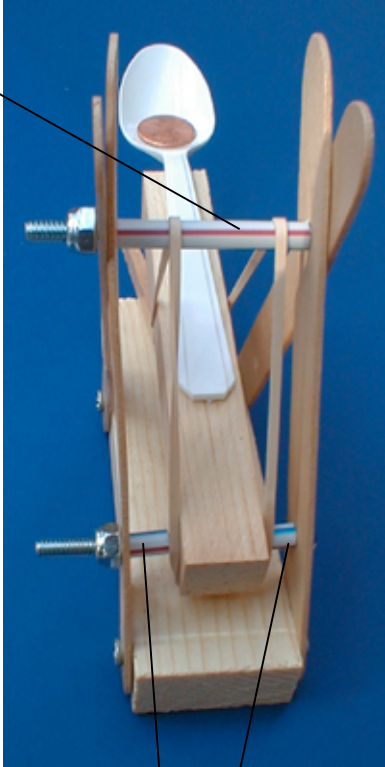
Notes and Comments (also see callouts on photos)

- Dimensions and specifications in this handout can in many cases be modified if desired. They reflect what was used in the prototype available in the shop. See the prototype for any details that may not be evident to you on the handout. Check with shop staff to be sure that there are no changes to the construction details due to constraints on materials or development of an improved design.
 - a 3/16" hole is the minimum size for the 10-24 machine screws -- if you use a smaller diameter machine screw (e.g., 8-32), you can drill smaller holes
 - this design is a modified version of a catapult sold by the Catapult Kit Company, Denver, Colorado
- hot-glue spoon to wood





penny or other coin can be used as projectile



piece of drinking straw used as spacer

Loaded Catapult (two views)

two separate small pieces of drinking straw used as spacers

to load the catapult, pinch the ends of the clothespin together, and push down on the movable bar until the head of the screw on the bottom of the bar can be held by the jaws of the clothespin (see photo below) -- to launch, pinch the ends of the clothespin together to release the screw

the head of the screw is shown below the bottom of the clothespin jaws -- this is a positive lock that allows use of a stronger rubber band -- with a weaker rubber band, the head of the screw may be held between the jaws of the clothespin



Launching Mechanism