

# Instructables Cork Launcher

<http://www.instructables.com/id/Cork-Shooter/>

**Project Goal:** Students build and modify a simple trigger-release cork launcher that fires at least 10 feet

**Design Variables:** Number of rubber bands, length of the launcher, number of combined launchers

## Key Concepts

Trajectory is the path that an object follows through the air or other fluid

Trigger is a device that sets off a mechanism

**Prep:** Carefully cut corks into quarters (2 per student)

**Safety:** Always aim cork launchers away from people, even when unloaded.

## Step 1: Materials

For the basic model, you'll need:

6 craft sticks

3 craft cubes or foam beads

2 rubber bands

1 clothespin

Hot glue

Tape



## Step 2: Frame and trigger

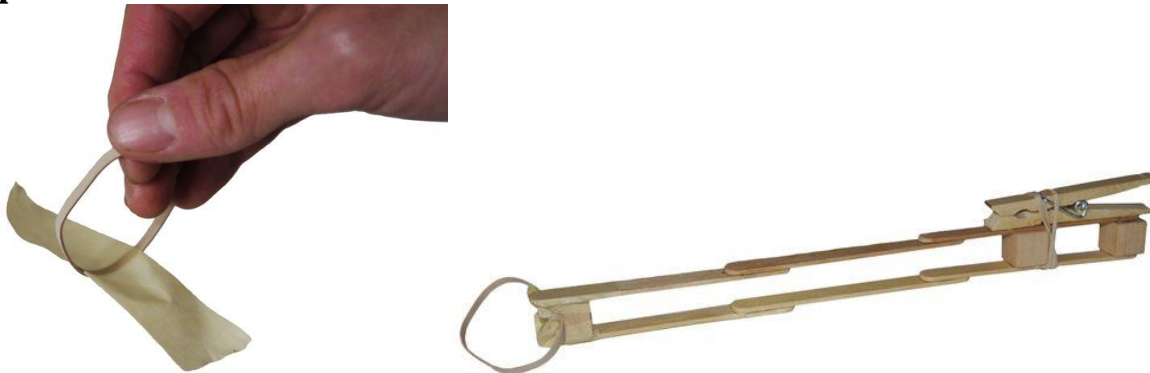


In the first picture, the sticks appear to be long shallow steps, descending from right to left. This is necessary because the rubber band will be released from right to left. If the edge of the craft stick is exposed, it may catch the rubber band and cause the shooter to not work properly.

Two cubes are placed close together on one end to support the trigger. This will make more sense in the next step.

Finally, the trigger (clothespin) is glued on.

## Step 3: Attach the rubber band



The rubber band that is used to fire the cork is simply taped to the front of the shooter.

**Bonus!** If you choose not to tape the rubber band to the front, then you'll have a rubber band launcher!

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### Step 4: Load and fire!



Use a utility knife or other tool to cut a piece of cork into a disk shape. This will help tremendously with the aerodynamics of cork.

To load: use two fingers to pull the rubber band back into the open trigger. Close the trigger, then let go of the rubber band. Insert the cork disk between the strands of taut rubber band.

Launching is easy: just aim and push the clothespin!

### Step 5: Advanced Ideas: Hinged Double Launcher, Cork Launcher Car



The skewer can be slid out of the frame, which allows for different cork launcher designs to be interchangeable. The example pictured has a basic cork launcher and an arrow launcher.



An arrow launcher fires projectiles that are identical to these. The basic example has one modification: a pair of small guide sticks glued at the front of the launcher. This increases reliability and accuracy.