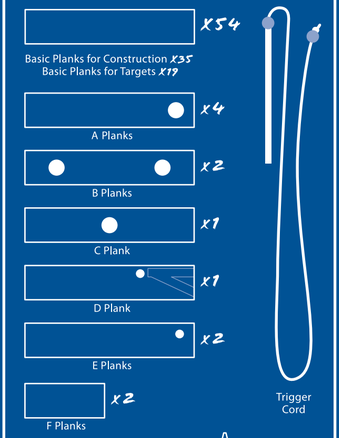
CONTENTS



SETUP

Before you begin, cut the Centering Template from the instruction sheet. Use disposable paper to protect your work area.

We recommend that you construct your Trebuchet with the wood glue included in the kit under adult supervision. Building with wood glue requires patience, as you must allow time for the joints to dry between steps, but it also allows you to position the pieces precisely.

Use the time while the glue dries to plan Trebuchet experiments!

1. Gather Counterweights

Find a variety of household objects to add varying amounts of weight to your Counterweight Basket—batteries, pennies and quarters work well.

2. Construct a Hypothesis

Note how much weight you have in your Counterweight Basket. Do your projectiles fling farther with 50 pennies or 10 quarters?

3. Test Your Hypothesis

Once the Trebuchet glue has dried, fling your KEVA® balls and measure the flight distance. Record and analyze your data. What conclusions can you make?

Note: The Trebuchet has been designed to work best with the KEVA® balls included in your kit. Using objects other than KEVA® balls can be hazardous and are not recommended.

It is possible to assemble your Trebuchet using a hot glue gun, which will speed up assembly as drying time is not required. However, we recommend that you take your time and enjoy the building process—you only get to build the Trebuchet once. If you choose to use a hot glue gun, ask an adult for permission and supervision.

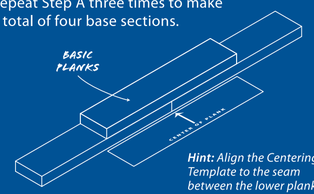
See the reverse side for step-by-step firing instructions.

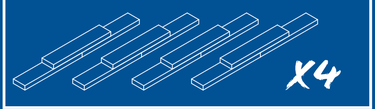
START HERE

STEP A:
Construct Base Sections

Glue three Basic Planks together, making sure that the top plank is centered.

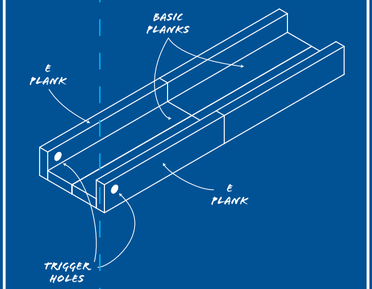
Repeat Step A three times to make a total of four base sections.





STEP B:
Construct Guide Chute

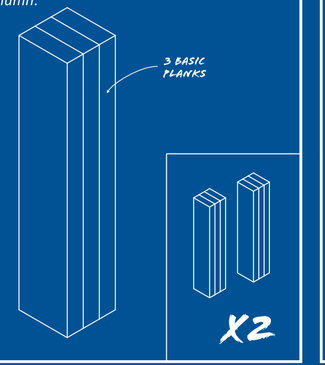
Glue two E Planks along with six Basic Planks. Note the position of the trigger holes in the diagram below.



STEP C:
Construct Support Columns

Glue three Basic Planks together to create a rectangular *Support Column*.

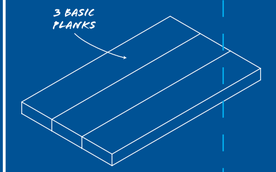
Repeat Step C to make a second *Support Column*.



COUNTERWEIGHT BASKET ASSEMBLY

STEP 1:

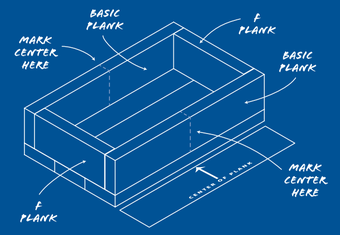
Glue three Basic Planks together to create the bottom of the *Counterweight Basket*.



STEP 2:

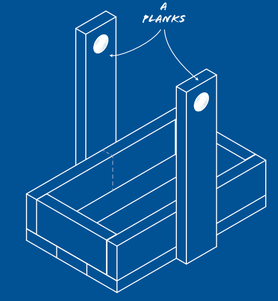
Glue two Basic Planks and two F Planks to the base of the *Counterweight Basket* created in Step 1.

Use the Centering Template to find and mark the center of the basket. Measure and mark the center of the basket on both sides.



STEP 3:

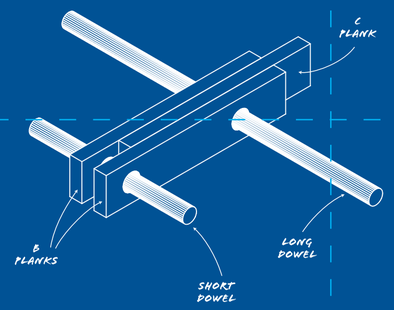
Glue two A Planks to the Counterweight Basket. Center the A Planks on the marks made in Step 2.



SWING ARM CONSTRUCTION

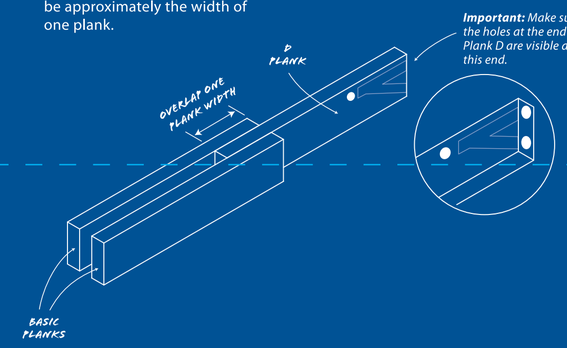
STEP 1:

Glue Plank C between two B Planks. Insert the dowels to make sure that the holes are lined up before the glue dries.



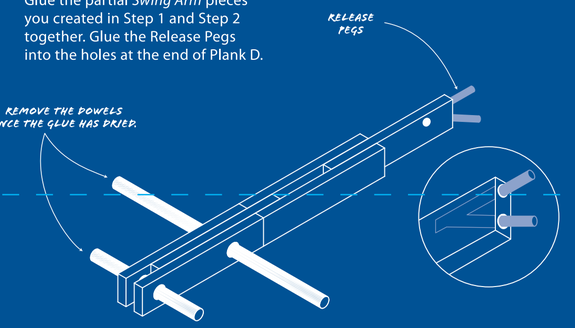
STEP 2:

Glue Plank D between two Basic Planks. The total overlap should be approximately the width of one plank.



STEP 3:

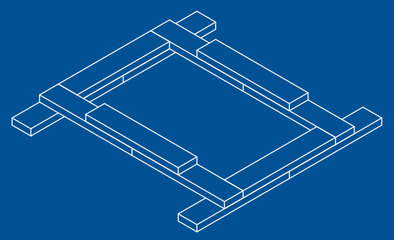
Glue the partial *Swing Arm* pieces you created in Step 1 and Step 2 together. Glue the Release Pegs into the holes at the end of Plank D.



ASSEMBLE THE TREBUCHET FRAME

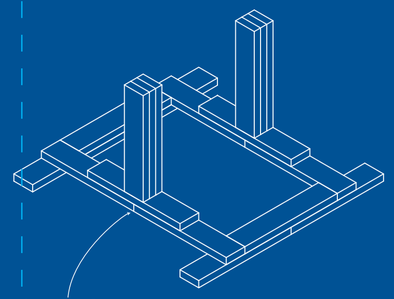
STEP 1:

Glue the four Base Sections you made in Step A together as shown to create the *Trebuchet Frame Base*.



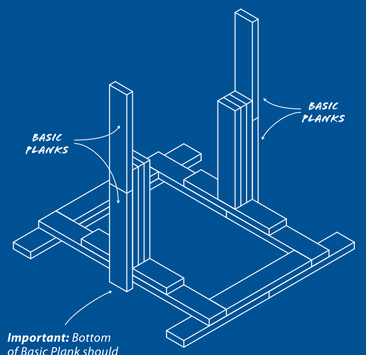
STEP 2:

Glue the *Support Columns* you made in Step C to the *Trebuchet Frame Base* constructed in Step 1.



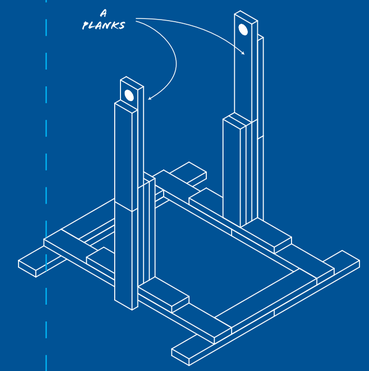
STEP 3:

Glue two Basic Planks to the outside of each *Support Column*. The bottom of the planks should touch your work surface to provide support.



STEP 4:

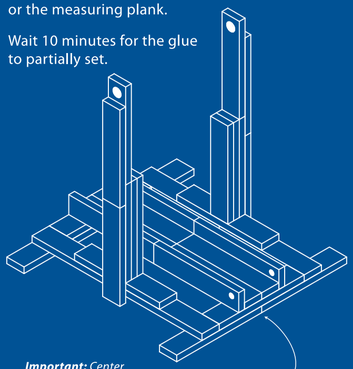
Glue two A Planks to the *Support Columns* as shown.



STEP 5:

Glue the *Guide Chute* created in Step B to the bottom of the *Trebuchet Frame*. Center the *Guide Chute* using the seam in the base section or the measuring plank.

Wait 10 minutes for the glue to partially set.



CENTERING TEMPLATE: Cut out for use in Trebuchet assembly.