

EVA simulation using foam boat

Foam boat building process and CETA cart

You will need

Tools

- craft knife or serrated knife
- Hot glue gun
- Ruler
- Marker
- Cutting mat
- Metal ruler

Materials

- Foam (4" x 7" approximately)
- Cork
- Bamboo sticks
- Rubber bands
- Craft sticks

How to build your foam boat

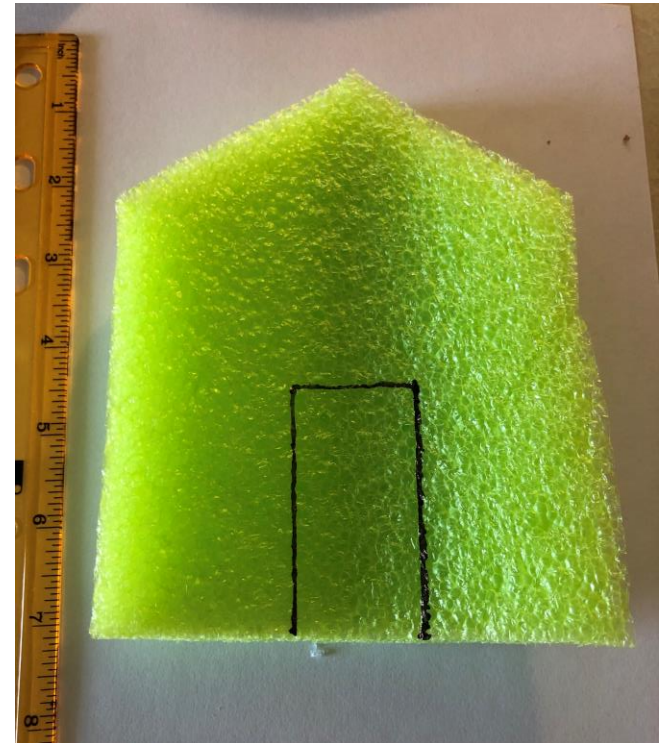
Step 1

- Take a piece of foam approximately 4" x 7". Shape the front of the body by drawing an arc from the center point at one end to approximately half way along the long edge.
- Use a serrated knife or craft knife to carefully cut along the curve.



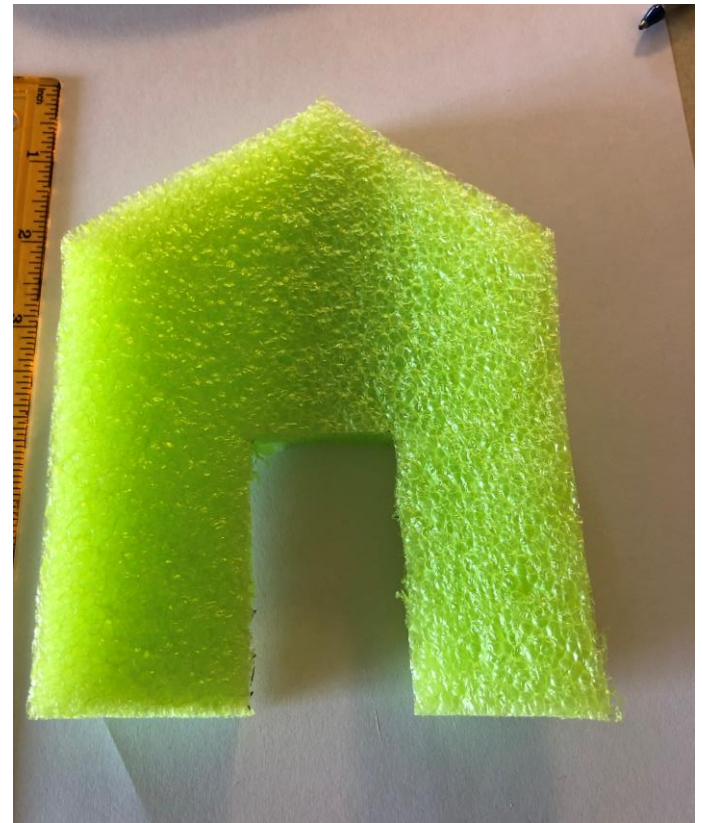
Step 2

- Center a ruler about 3” in at the back of the boat. Draw around it to form a long rectangle.



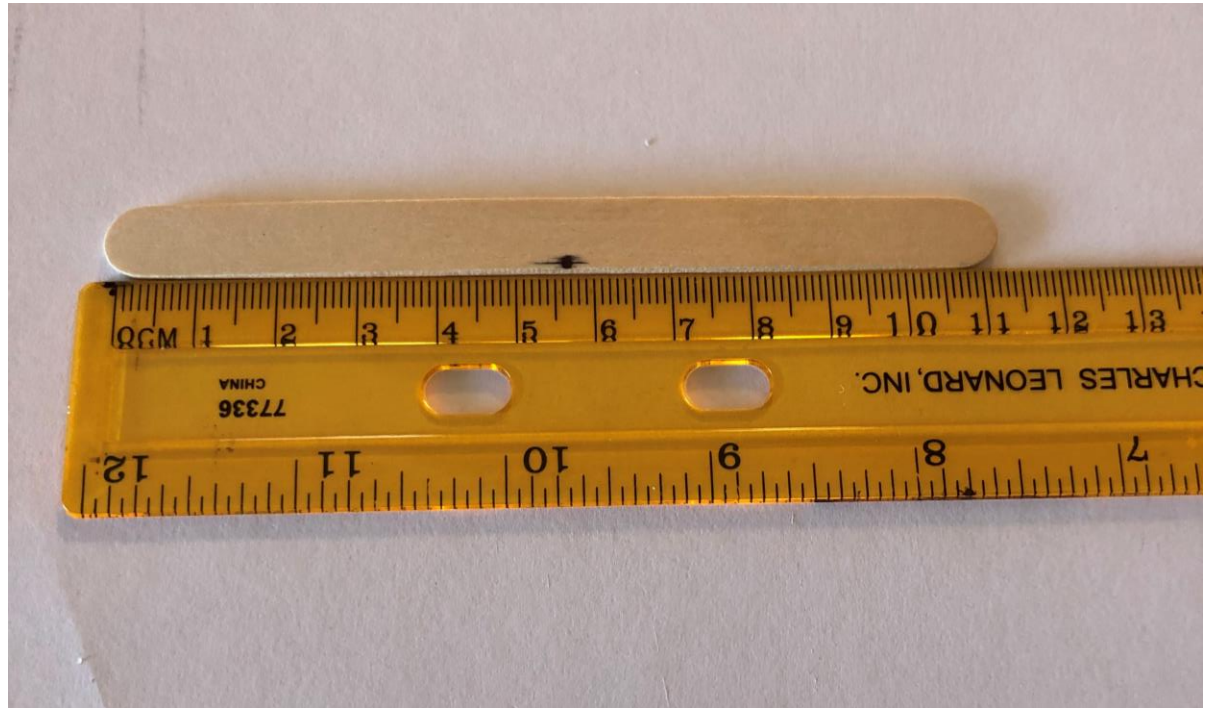
Step 3

- Cut out the rectangle and the chop about 1/3 off the end.



Step 4

- Take a thick craft stick and mark the center.



Step 5

- Use a large pair of scissors to cut the craft stick in a half, and round off the ends.



Step 6

- Use a ruler to mark the halfway point. Draw a line halfway across each of the short sticks.

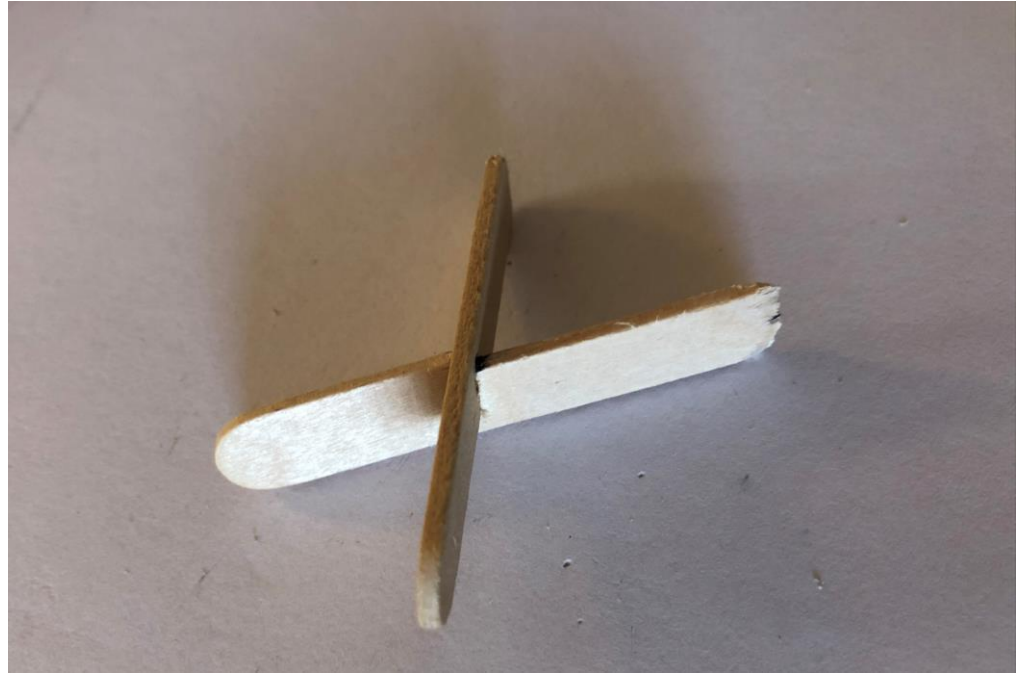


Step 7

- Use scissors to cut out a slit on both sticks.



Step 8



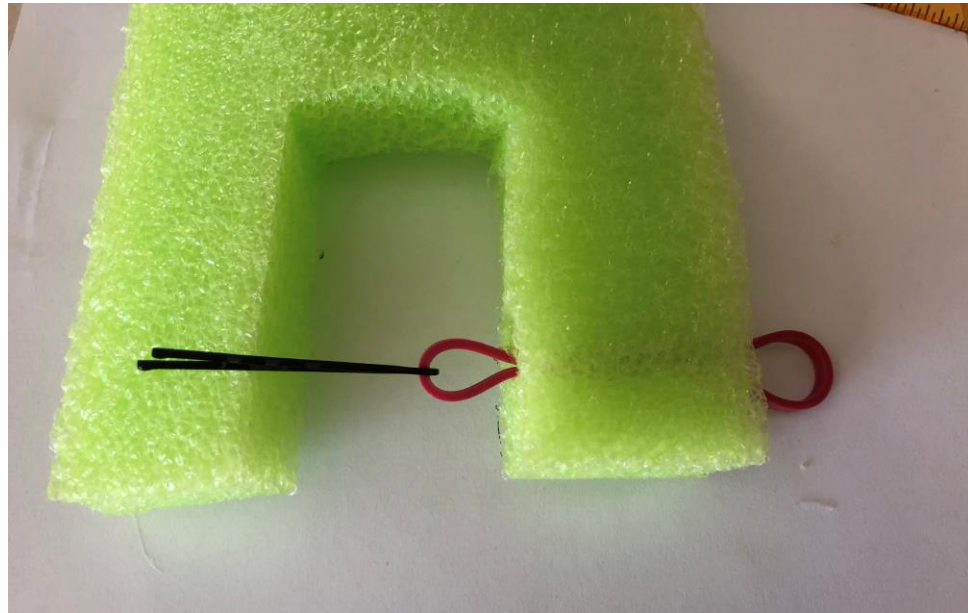
- Slot the two short sticks together to form an X and secure with a small amount of hot glue. This is the paddle that will help drive the boat.

Step 9

- Put the paddle in the cut-out, making sure it is not touching the boat at the front. Insert a skewer through the boat's side, in line with the paddle's center.
- Remove the paddle and push the skewer through the far side of the boat. Give the skewer a wiggle to enlarge the hole. You can use a bobby pin to do it instead of the skewer.



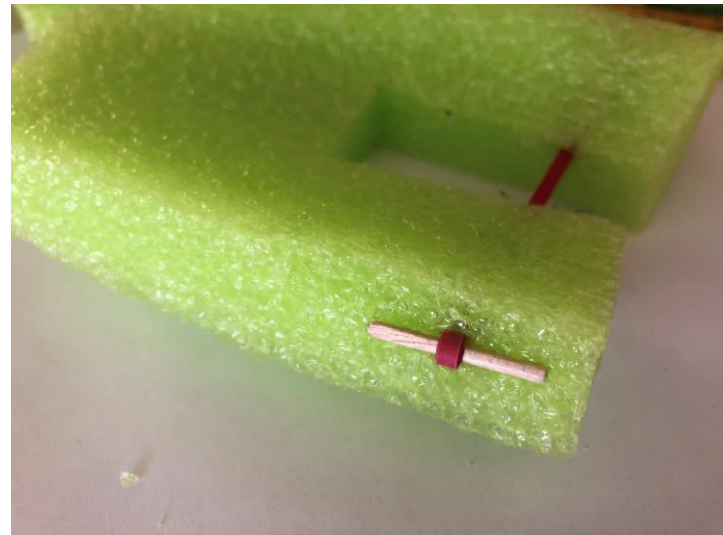
Step 10



- Remove the skewer and place a rubber band over the blunt end. Use the end of the skewer to thread the band through the holes. You can use a bobby pin to do it instead of the skewer.

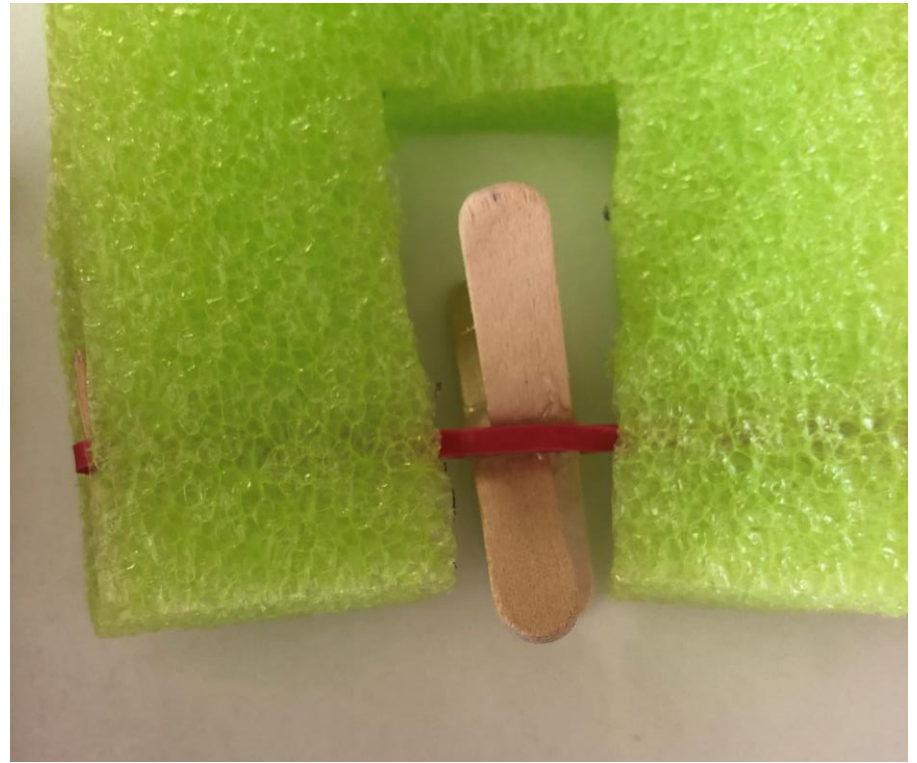
Step 11

- Once the band is all the way through, remove the skewer and cut off two short lengths. Thread them through the end loops of the ban on either side of the boat to hold it in place.



Step 12

- Thread the paddle through the rubber band.



Step 13

- Paint your boat (optional).
- Wind up the paddle tightly. Place your boat in water before releasing the paddle.
- Watch it go!



Thread the paddle through the rubber band.



CETA Cart Mission STS - 119

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boat**

You will need

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- Hot glue gun
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- Marker
- Cutting mat
- Metal ruler

Materials

- (1) Industrial Velcro 2" x 4" (roll)
- (1) Corrugated plastic 18" x 24"
- (1) Pool noodle
- (1) Cable ties 8" (package)
- (1) Jumbo Straw
- (2) Straws (bended)
- (1) Styrofoam (4" x 3" approximately)
- Sticker letters (optional, you can write it with a Sharpie)
- (1) Hot glue sticks
- (1) Epoxy or marine silicone

Cut approximately 2 mm (3 cuts) in one end of the straw. Fold the part with the cuts and put inside the other straw.



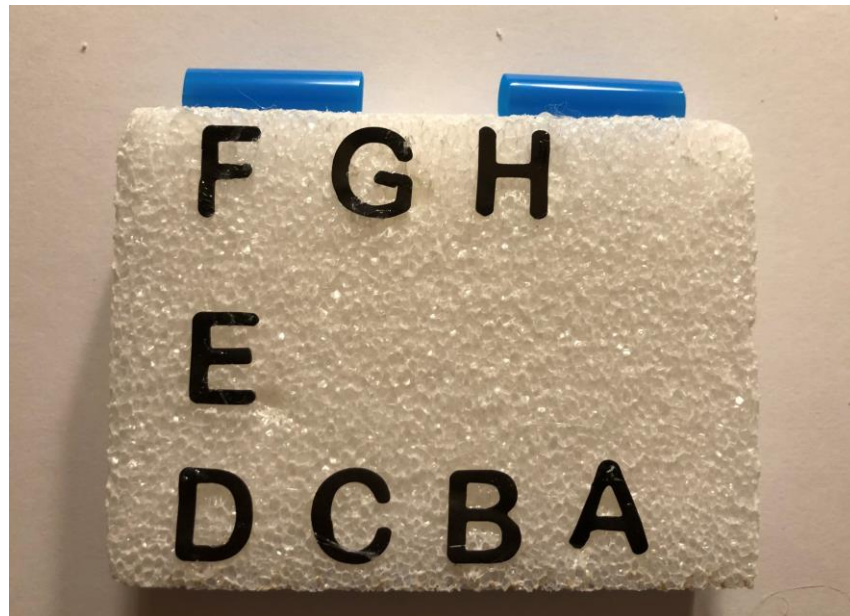
Take a piece of foam 7 cm x 10 cm and glue the letters.



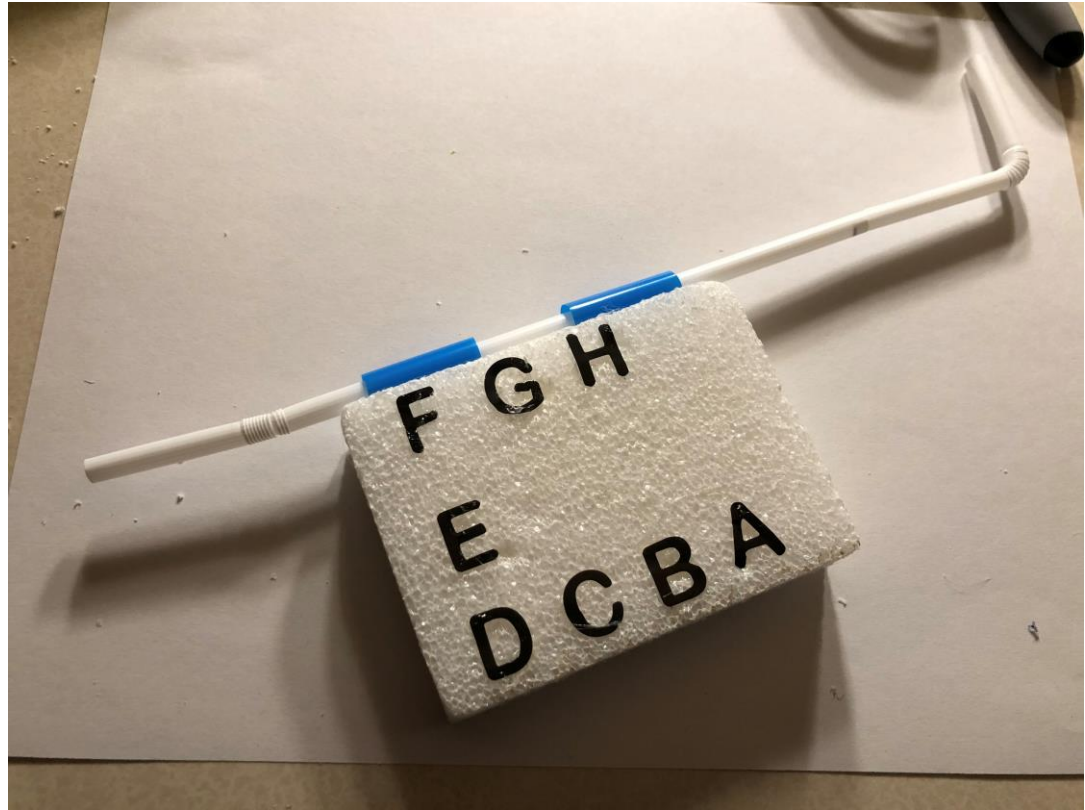
**Take a
jumbo
straw and
cut two
pieces of 3
cm**



**Take the 2
pieces of
straw and
glue to the
foam.**



**Pass the
cart
through the
straw and
bend the
ends.**

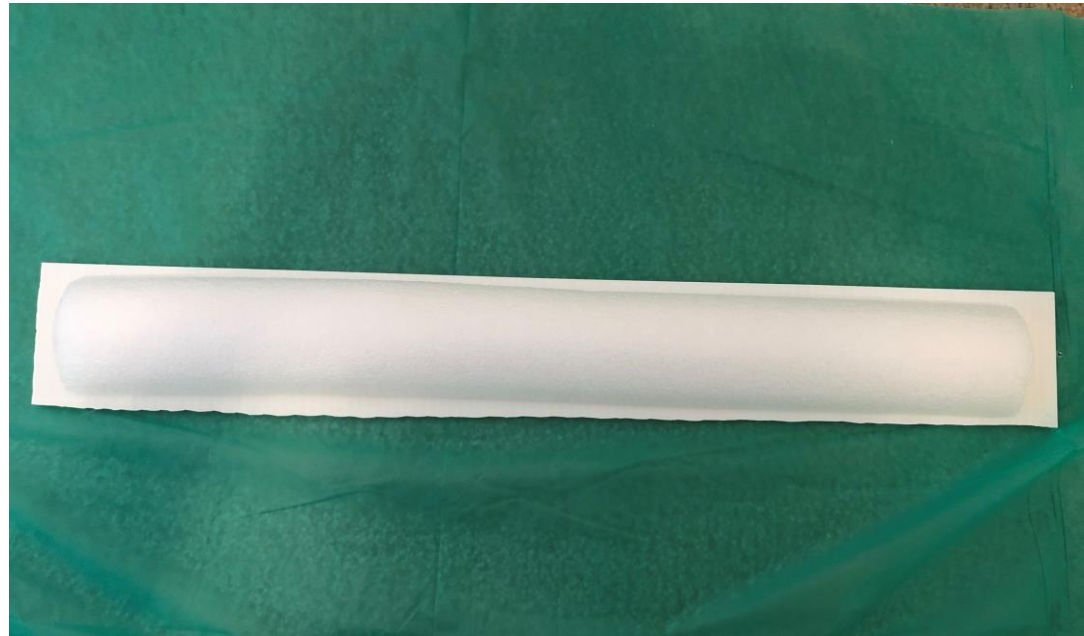


**Take a piece
of corrugated
plastic (22" x
3").
Cut 20" of
pool noodle,
and then cut
it in half.**



Use hot glue and glue it to the corrugated plastic leaving approximately 1" from each end.

Before glue the pool noodle to the corrugated plastic, cut 3 pieces of 2" x 4" of Velcro and glue it, one in each end and the other in the middle. Flip the plastic and glue the pool noodle.



Measure approximately 9.5 cm and with a drill bit or something pointy do a hole.



**Insert the
straw.
You are
ready to
attach the
truss
segment to
the storage
tote or test
tank.**

