

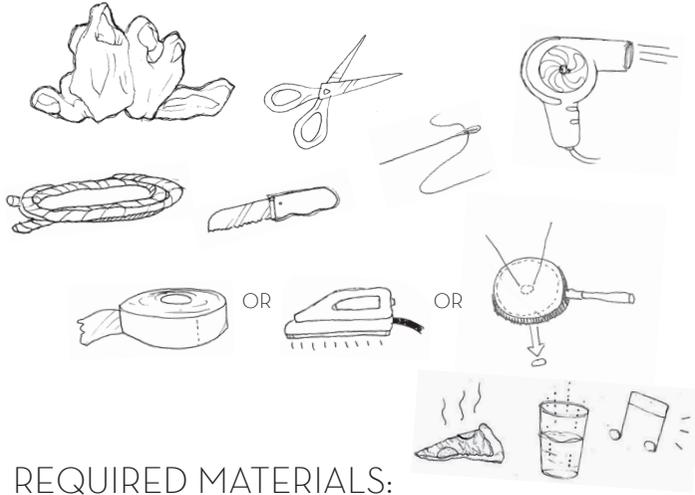
HOW TO LAUNCH YOUR IDEAS
INTO THE AIR

A MANUAL OF POSSIBILITIES

TETRO

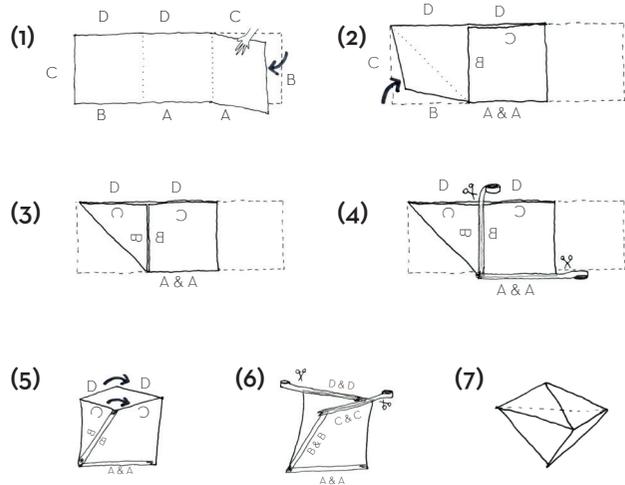
LIGHTER THAN AIR SOLAR SCULPTURE: TETRO

INSTRUCTIONS



REQUIRED MATERIALS:

Used plastic bags, a stanley knife, a ruler (or a straight-edged piece of wood). Either tape, a hot iron, or perhaps a focal lens (concentrating the rays of the Sun), a rope and a hair dryer.



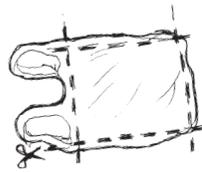
1 BUILD A PAPER MODEL

It is best to create a small paper model beforehand to understand the geometry of your LTA-S sculpture:



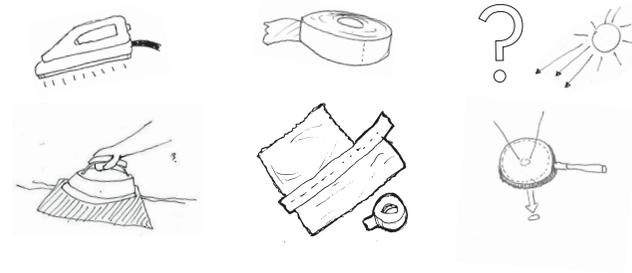
2 COLLECT USED (!) PLASTIC BAGS

Collect used plastic bags - the lighter they are, the easier your sculpture will rise in the sun! The surface of your sculpture should be as light as possible.



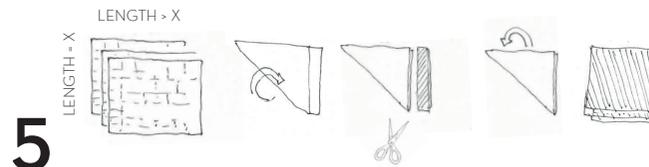
3

Cut each plastic bag into the same standard shape, in order to make them easier to assemble later.



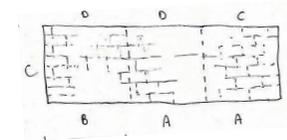
4

You can use different methods to connect two plastic bags to each other. One option is using a hot iron along the seam of two overlapping plastic sheets. Remember to place tissue paper on top of the surface to avoid melting of the plastic. Alternatively you can place tape along the seam. And maybe you could even invent a converging lens to fuse the plastic together?



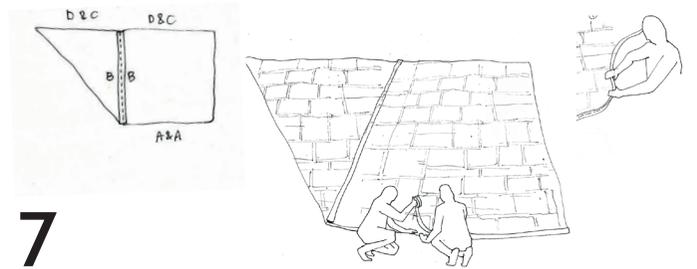
5

The drawing above illustrates how to make a 3-square design without using a measuring apparatus.



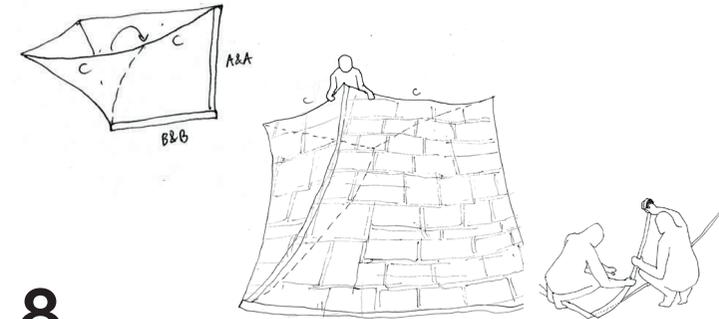
6

Join one third of the longer sides with opposite short side corresponding sides B-B in preceding diagrams. Tape or fuse the sides together.



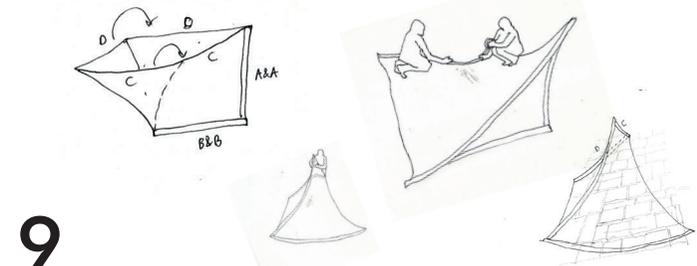
7

Tape the other pair of sides corresponding to A-A in the preceding diagram. Carefully fold the tape over the edge, pressing firmly to achieve a strong, reliable connection.



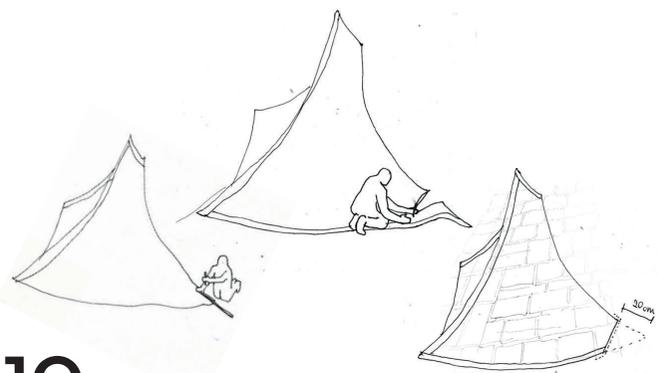
8

Repeat the steps for the sides corresponding to sides C-C in the diagram.



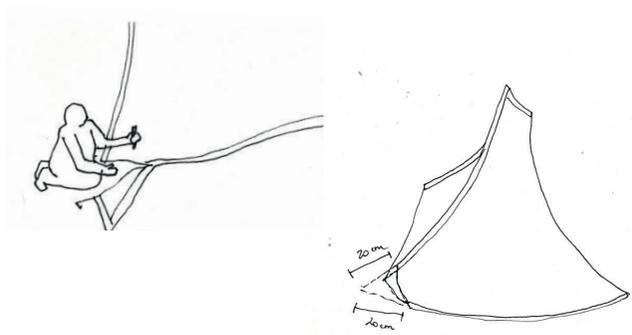
9

Repeat the steps for the sides corresponding to sides D-D in the diagram.



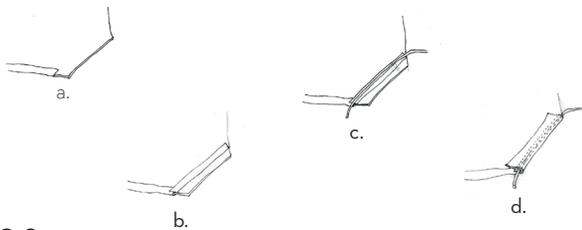
10

Flatten the structure around one of the corners. Your choice of corner will influence the final shape. Measure out 20 cm from corner on both of the edges. Mark the points and connect them. Cut a straight line.



10.1

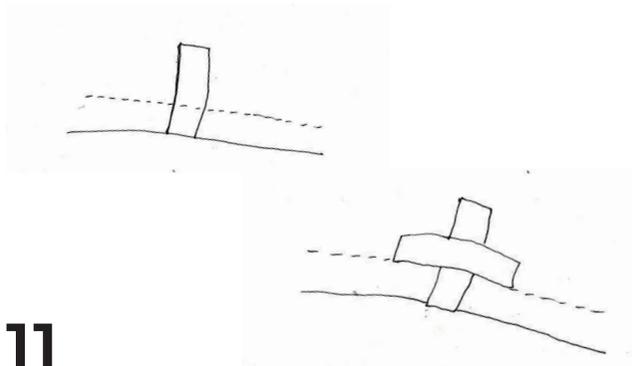
In order to achieve a different final shape, you can choose a different corner (as shown in the diagram above) and repeat the operations described in the previous step.



10.2

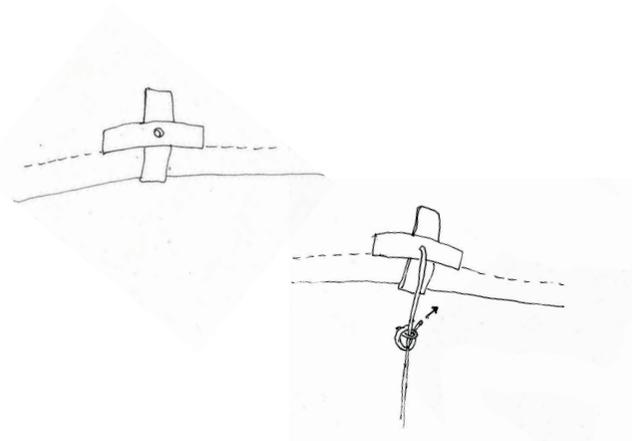
To reinforce the mouth of the sculpture:

- Cut about 10 cm along the seams of the sides.
- Place a strip of tape as shown in the diagram.
- Place a piece of rope for reinforcement.
- Fold over the rope and tape together along the edge.



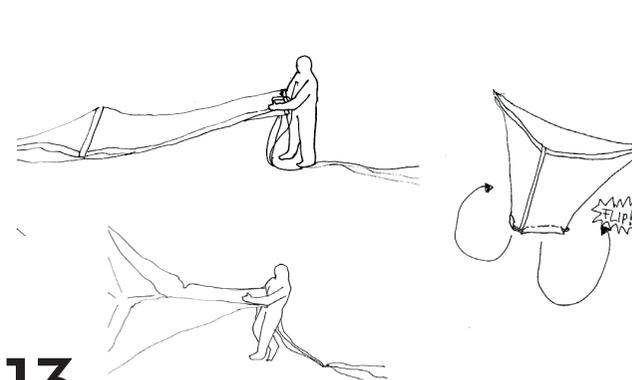
11

Cut three lengths of rope each approximately 150 cm long. Place tape for reinforcement in the middle of each of the edges of the opening. Then punch a hole through each of them above the rope reinforcement you created in step 5.



12

Thread three pieces of rope through the holes and tie with a secure knot.



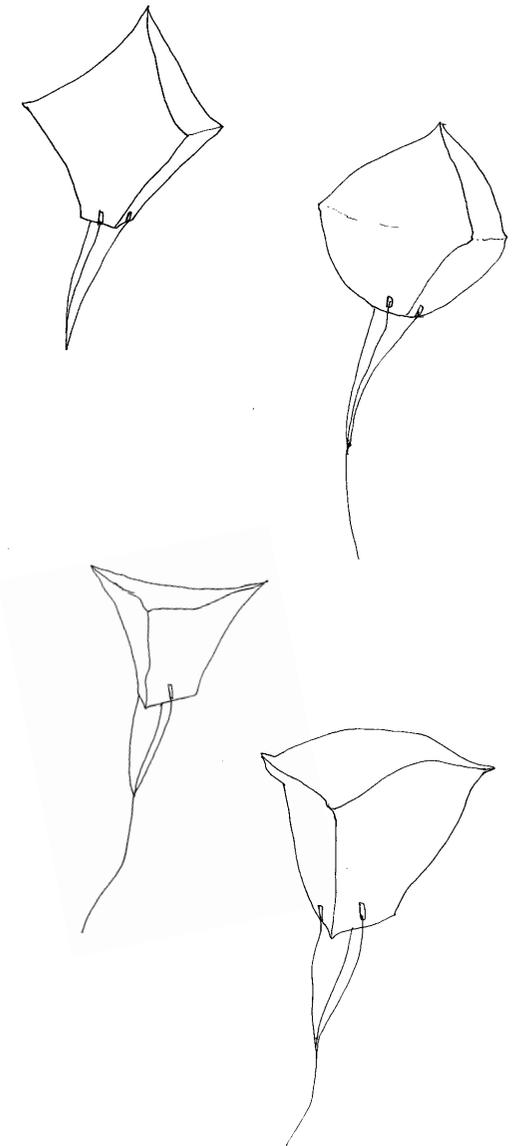
13

Flip the structure inside-out to conceal all the tape.

14

Only after you have flipped the structure inside out, tie the three ropes together and then attach a longer piece of rope to the connection...

Your Lighter Than Air solar sculpture TETRO is finished! - Yippi -
With the same principles and materials shown above and a little imagination, you can create your own instructions and share them!
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Let the Sun make it fly, let the Sun raise it high!

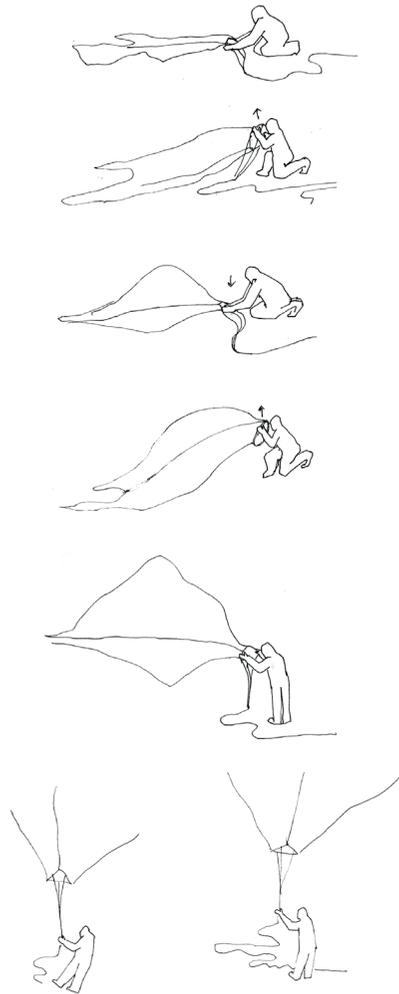
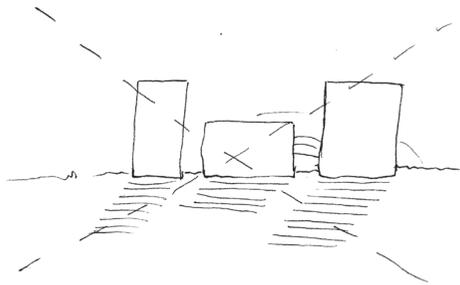


The location should be free of stones or sharp bushes that might damage your sculpture while still on the ground. The launching area should be clean and the surface preferably flat, possibly a football or basketball field with a cut lawn, devoid of sharp objects, only soft vegetation.

It is very important to see the Sun coming up from the horizon. Choose a place where you can see the Sun rise as early as possible. If there are large obstacles like big trees or buildings around your chosen spot, choose another location as the sunlight will be blocked and reach your sculpture too late.

Day and time: good weather, sunny day, no clouds, no wind or with a very light wind (you can determine the level of wind from the leaves of the trees), possibility to shelter behind a wall, early in the morning (from 10:00am/11:00am the thermal convection create more likely some wind).

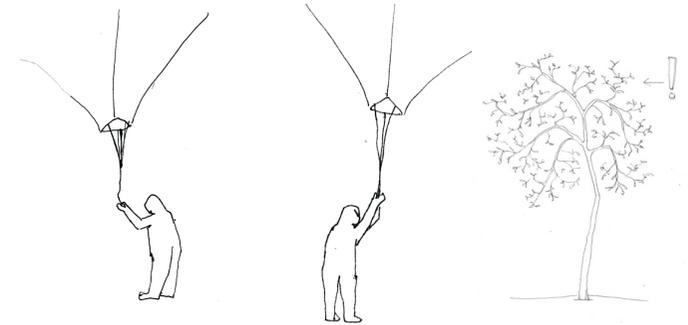
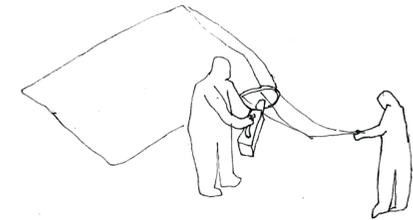
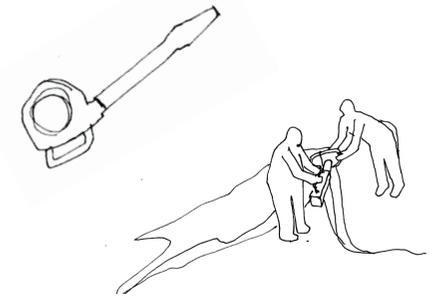
The greater the difference between the outside temperature and the enclosed volume of the sculpture, the better the lift will be.



LAUNCH YOUR LTA-S SCULPTURE BY HAND

This method is recommended for small-sized sculptures. Lay the LTA-S sculpture on the ground. Flap the side of the opening to let air in. After air fills the sculpture, lower it back down to the ground. Repeat this motion several times until the sculpture is sufficiently filled with air.

The Sun will heat the enclosed air quickly and your sculpture will start to rise. Due to the heat of the Sun, the enclosed air will continue to expand and completely inflate the sculpture. Hold the sculpture using the line. After 5-10 minutes absorbing the heat of the Sun, the sculpture should be able to lift its own weight. Keep the structure tethered securely at all times and be careful of the wind blowing it towards electric lines or buildings.

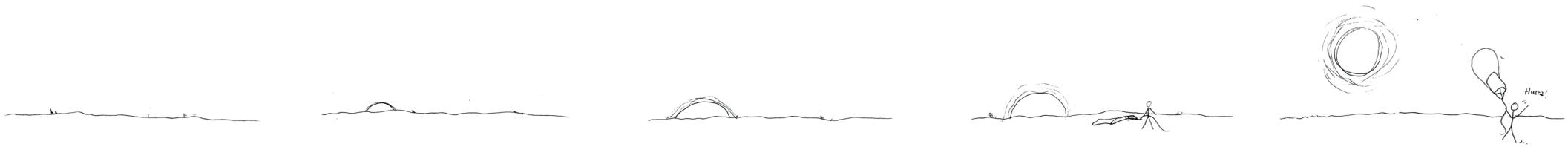


LAUNCH YOUR LTA-S SCULPTURE WITH A LEAF-BLOWER

This method is appropriate for sculptures of any size, however it is strongly recommended for larger sculptures. Locate an electric leaf-blower. Hold open the mouth of the sculpture and lift it slightly off the ground. Get someone to help you in order to facilitate the process.

After the air enters the sculpture and it starts lifting off the ground, flip it vertically. Hold the sculpture using the line. After 5-10 minutes absorbing the heat of the Sun, the sculpture should be able to lift its own weight. Keep the structure tethered securely at all times and be careful of the wind blowing it towards electric lines or buildings.

HAVE A GOOD FLIGHT!



Now.... you're ready to float! Lifted only by the power of the Sun.