

# **NIFT SITUATION TEST 2015**



**NIFT SITUATION TEST QUESTIONS – 2015**

1. Design a 3D model to promote any one of the following. Give a write up of 60 words explaining your work-

- Garbage Recycling
- Wind Energy

Give a write up of 60 words explaining your work.

OR

2. Design a tool/equipment for any one of the following. Give a write up of 60 words explaining your work-

- Newspaper Boy
- Railway Porter

**MATERIAL :**

- |                          |                         |                                    |                             |
|--------------------------|-------------------------|------------------------------------|-----------------------------|
| • 1 A4 size Pastel Sheet | • 2 A4 size Mount Board | • 1 A4 size Ivory Sheet            | • 1 A4 size Cartridge Sheet |
| • 6 Big Buttons          | • 1m thin Aluminum Wire | • 2 A4 size OHP / Cellophane Sheet | • 8 Tachni / All pins       |
| • 1 Tape Roll            | • 8 Ice Cream Sticks    | • 6 Straws                         | • 5 Rubber Bands            |

**SOLUTION 1:**

**A. 3D Model on Wind Energy**

The idea was to create a 3D model promoting Wind Energy. Direct Depiction can be done by using windmill. We can actually show it using the dynamic model. The below sketch is a model representing how the wind energy can be used. The shown model is a direct inspiration from the airplane structure where the wind mill / wings has been used at the bottom attached to a cylindrical pipe made by using paper ( if required layering of paper can be done to make it more thick). The centre part of the cylindrical tube is attached to the wind mill tube to make all the three fans / wings moving at same direction. A wire / rubber band is attached / joined from inside the tube so that all three can rotate at one time (you can do so by same movements or different movements at a time)

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**HOW TO MAKE WINGS:**

- |   |  |
|---|--|
| A. Paper cutting in triangular shape.             | B. Paste them in different angles      |
| C. Overlap them                                   | D. Make a structure of these triangles |
| E. Paste on cylindrical tube (as shown in sketch) |  |

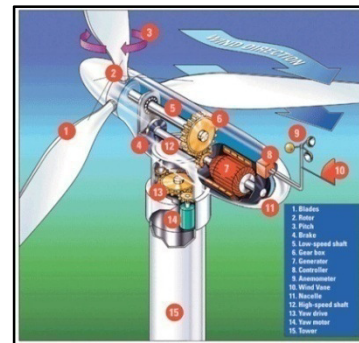
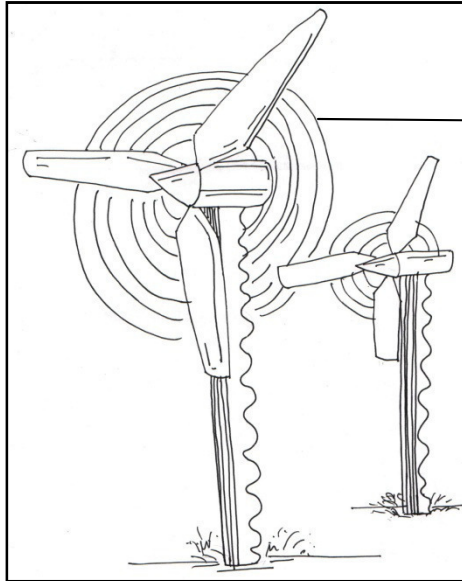


Image Credits : <http://c03.apogee.net/contentplayer/?coursetype=kids&utilityid=pseg&id=16208>

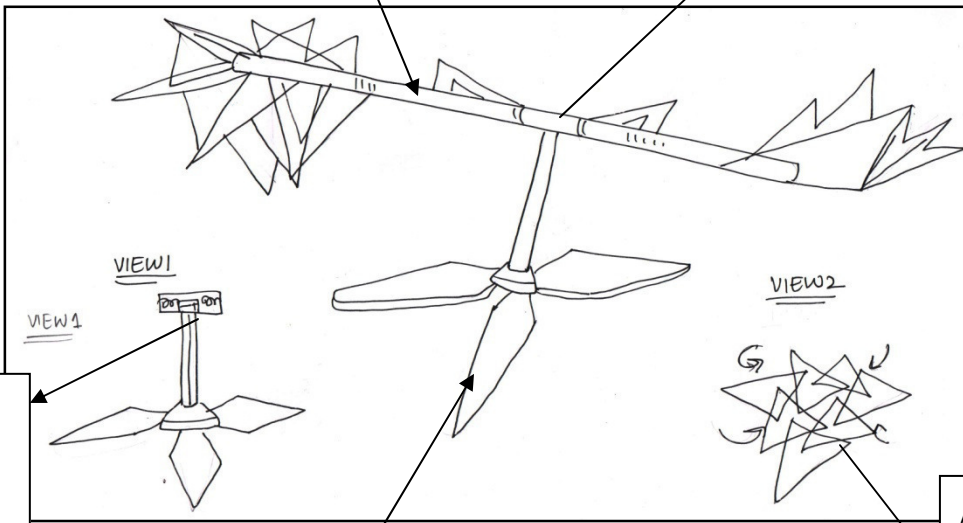
Image Credits : <http://www.alliantenergykids.com/energyandtheenvironment/renewableenergy/022397>



**Reference 1:**  
See how a wind mill works. Understand direction and movement so as to imply the same in your 3D model.

Use Ivory (thick) paper / double layering paper to make the cylindrical tube strong for base structure. You can use straw also; make it thick by using paper layering to hold the weight of the model. Wire can be used from inside (inside of tube) to connect the other parts of model .

You can decorate the model by using paper / cellophane transparent sheets. Give a new look to your wind mill



View 1 show how the wire will be attached to the other two ends of cylindrical tube

**3D Model:** Taking Inspiration from windmill the same has been attached here but using the wings at the base for master movement.

As mentioned in How to make wings, the structuring of paper cuttings / wings can be overlapped in any way / as required according to the 3D model

**B. 3D Model on Garbage Recycle**

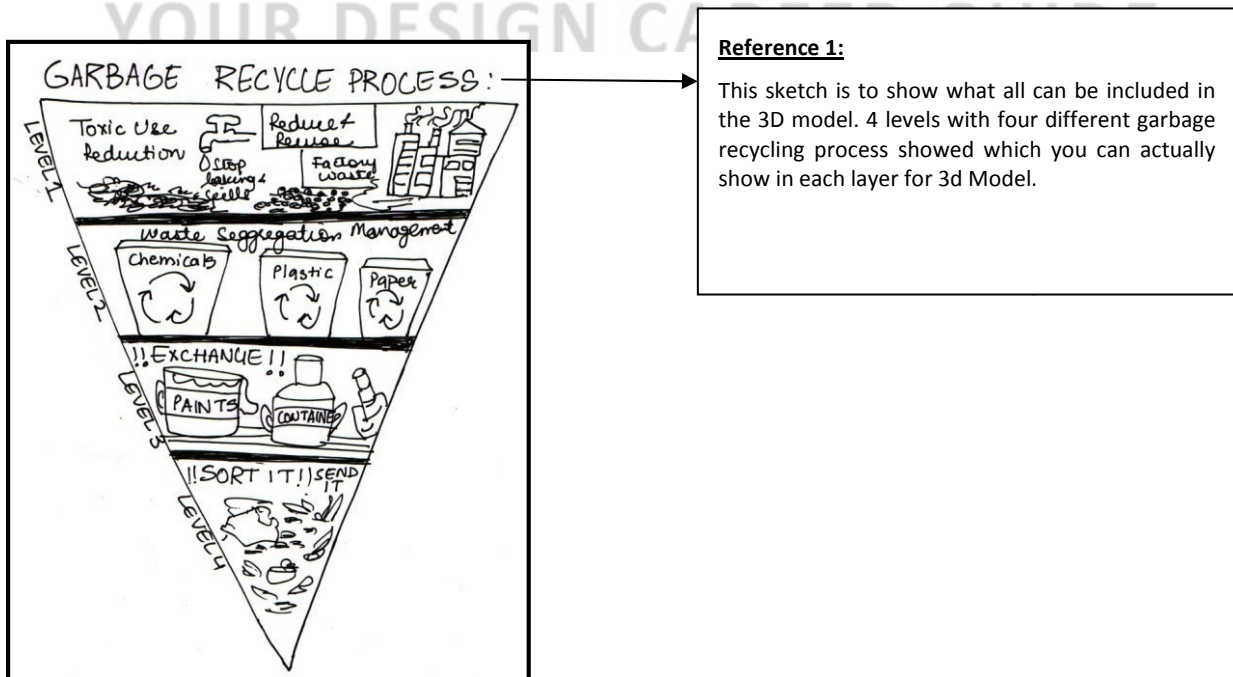
The task is to create a model on Garbage Recycling. Here, the model depicts that the waste can be segregated in 4 different levels. Level 1 depicts the toxic waste, Level 2 shows the recycled waste, Level 3 shows the Exchange and get new products so that people just do not throw them and finally Level 4 shows the sorting of waste which will help you and Municipal corporation to join hands to keep the society clean which will give you rewards for this. Mount board can be used here for base structure / podium and for each section triangular cut outs made by mount board and paper layering can be used. According to waste segregation & usage you can manipulate the size of each tile/ triangular shapes. To show the importance of each level and how the process works use material given and make small models as shown in sketch (Refer view 4 & 5). You can use wire, paper, al pins, U pins etc to make small/ tiny dustbins etc to depict on each level (for more clarity refer to view 4).

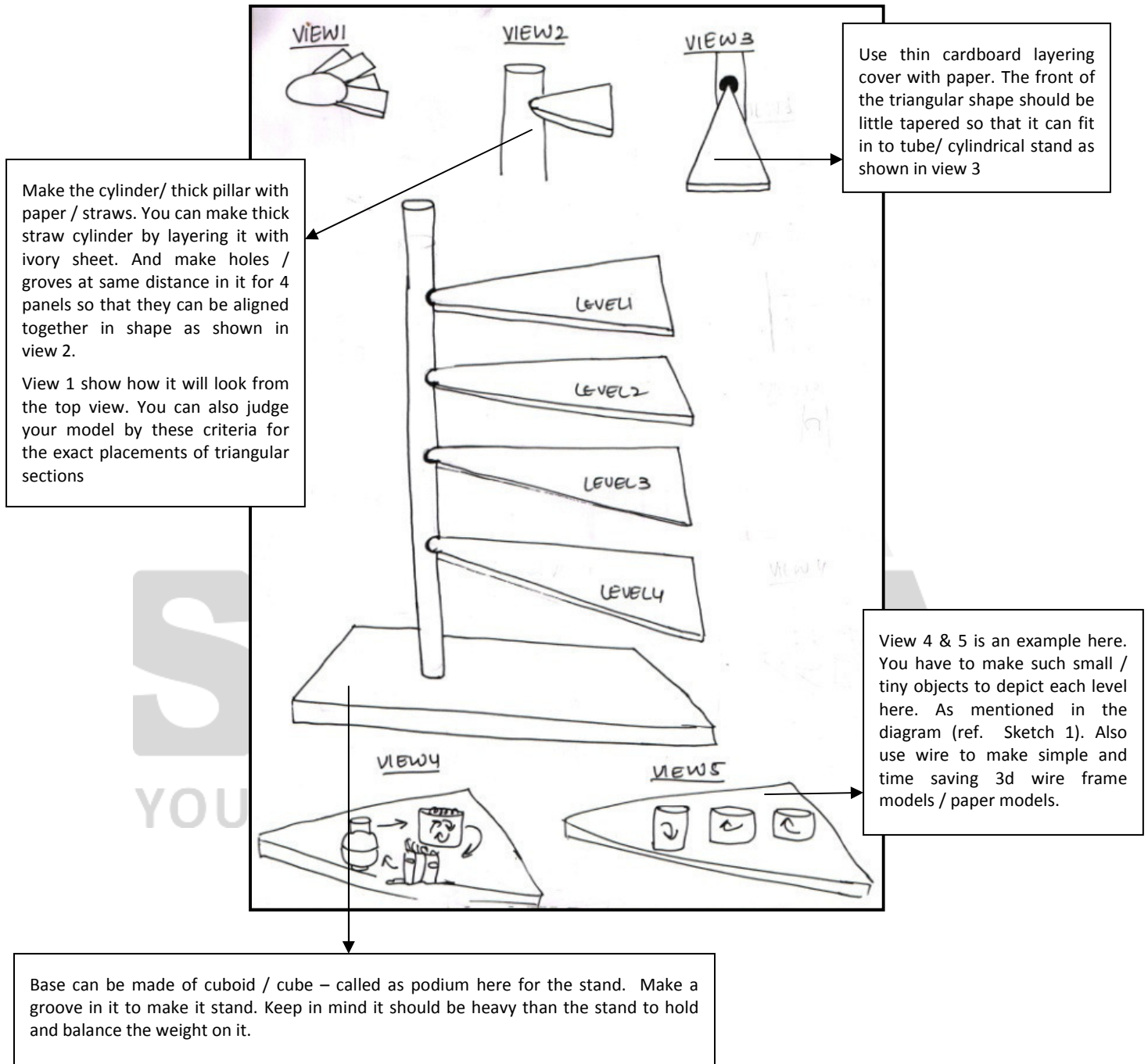


Image Credits : <http://climatekids.nasa.gov/recycle-this/>

Image Credits : <https://www.pinterest.com/explore/reduce-reuse-recycle/>

Image Credits : <http://homeschooljabber.blogspot.in/2012/04/teaching-your-kids-to-recycle.html>





**SOLUTION 2 (A):**

Designing equipment for newspaper boy. The idea was to remove the burden of bag so it can help him to carry lot of newspapers in one go. Here we designed a trolley for him which can be carried by him on his shoulders and can have different sections to store newspapers and magazines etc. The base should be hard enough to handle / bear the weight so Mount board is preferred here. This can be used while walking and even can be carried on cycles / bikes. Inspiration has been taken from a coolie boy how he carries the burden and so designed a unique trolley for them as well. The best part of trolley is that it is detachable, so according to height / size and dimension it can be changed.

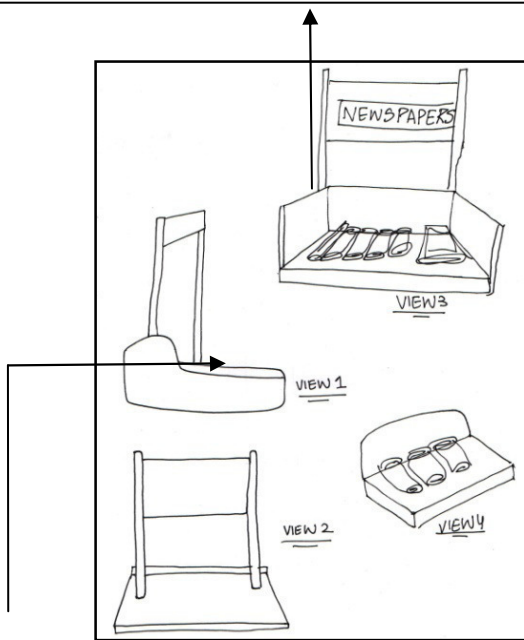




Image Credits: <http://www.theswedishtiger.com/1015-scotts.html>

Image Credits: <http://www.thebetterindia.com/11171/newspaper-boy-invisible-heroes/>

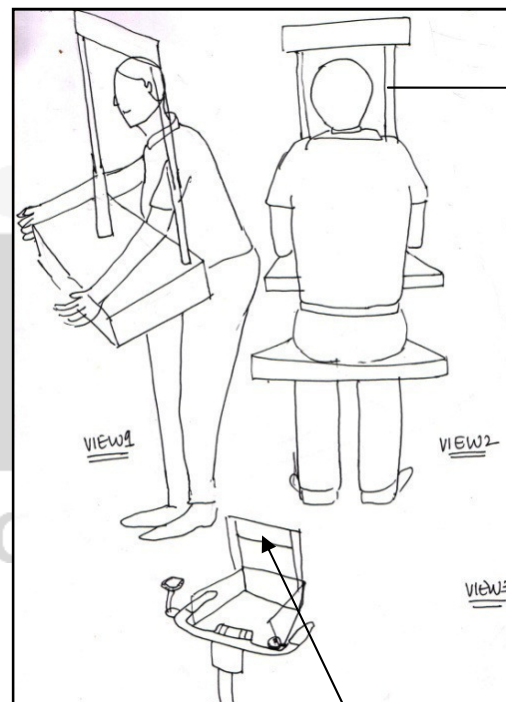
Make pillars of paper and use straws from inside to give it strength. Use at the back to give strength to trolley so as to attach the base



Use cardboard for outer structure and base of thick papers to make open cube / cuboids. This should actually look like the open box where they can keep stuff.

**SOLUTION 2 (B):**

Designing equipment for the porter to help them to carry heavy luggage. There are three different sections / panels in the trolley where porter can adjust according to fragile luggage, heavy luggage and hangers (coats / blazers) etc. As shown in sketch it is easy for the porter to divide the burden and easy to handle and balance. Base & Top can be of hardboard / cardboard so that the cylinders (pillars attaching the two panels) are stable and can also balance the weight.



Can be detached if using for a shop, holding on shoulders while walking is one option. The above panel then can be attached at the below panel of cube

Can be used for / on cycle / bikes / rickshaw handles. Easy to attach and detach. Show the joinery in each step

## IV. 4. Solving Past Situation Tests

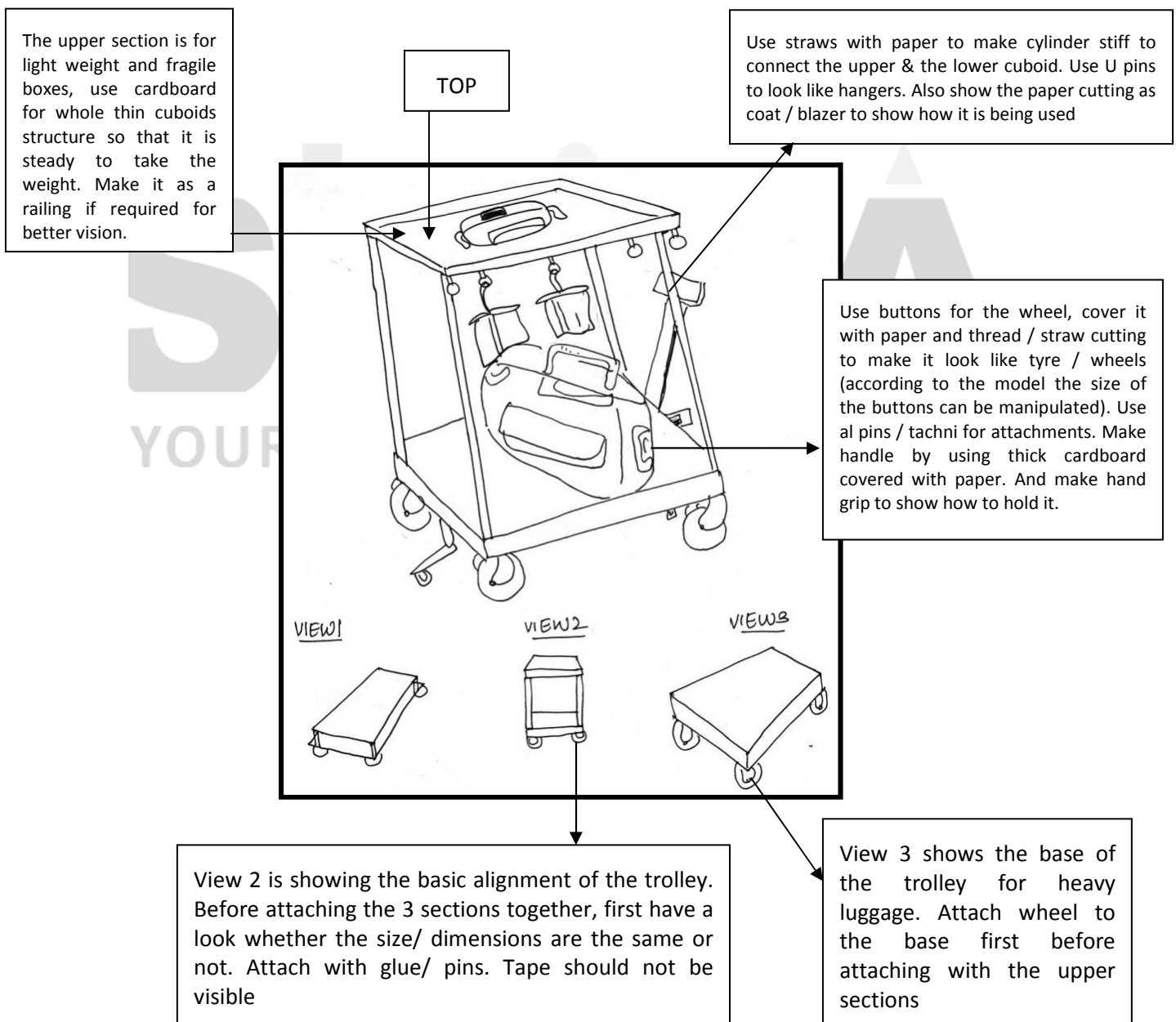
## Situation Test Workbook

You can also make it like open box or railing where the base is also visible so that they can have a look at the base / top simultaneously. Also try to show the posture of the human body as it is convenient to show how it is being used by the porter. It has 4 wheels and a handle for porter to move it. At the bottom a break is added for emergency.



Image Credits : <https://sujoysen.wordpress.com/category/new-delhi-railway-station/>

Image Credits : <http://www.rediff.com/money/slide-show/slide-show-1-budget-2010-railway-this-is-what-mamatas-rail-has-in-store-for-you/20100224.htm>



Reference sketch 2:  
Showing in the  
visuals how they  
can carry the  
trolley. Which is  
light weight and  
easy to balance



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