Building and Launching Hot Air Balloons

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A Montgolfi....What? (Hot Air Balloon)

1. Use posterboard or other stiff material to make a gore template as shown in figure 1.

2. Put template on top of 10 sheets of tissue each at least nine (9) feet long. Cut around the template to make the ten gores needed.

3. Decorate the balloon using felt tip pens and/or designs cut from colored tissue. WARNING. Do not use pens with water soluble ink, it dissolves the tissue. The rule is, if the ink stinks, it is OK.

4. Slide the top gore #1 about a half inch to the side of gore #2 as pictured in figure 2.

5. Carefully, I repeat CAREFULLY fold the margin of gore #2 OVER gore #1. Now glue that fold of #2 to #1. A glue stick works best. ROSS Pritt works well.

6. You have one edge of gore #1 bonded to one edge of gore #2. Now slide the 1-2 combination about a half inch to the side of gore #3, moving in the opposite direction as before to alternate glued edges. As before, fold the open edge of #3 over #2 and glue. Be careful here to NOT glue the free edge of #1 to #3. BE CAREFUL TO KEEP THE FREE EDGE OF #1 FREE. (figure 3)

7. Continue alternating and gluing 4 over 3, 5 over 4, etc. until the only free edges are one on #1 and one one #10. Glue these together. Congratulations you have made a paper bag.

8. Grab about six inches of the ragged looking top, the small end, and tie it with string. Also tie a loop in the string.

9. Use two all wire coat hangers to make a loop that will fit inside the base and glue it in by overlapping the tissue about one inch.

10. Using the loop in the string hang the balloon and inflate it with a hair dryer or small fan. Check for unglued seams, holes, and tears and reglue or repair with small bits of tissue.

11. Inflate the balloon using a propane cook stove with a piece of six inch diameter stove pipe over the burner. Two or more people are required for this step. Indoors, three good hair dryers will fly the balloon in a gym. Four is better, and three heat guns is even better.

12. When the balloon inflates and begins to be buoyant, you are holding it DOWN, not up, do the most important thing of all......let it go.

NOTES:

Tissue can be found most anywhere in packs of 10 sheets 20" by 28". These come in many colors but must be joined to form the 9' gores. It is easier to buy a roll of jewelers tissue 20" wide by a hundred or more feet long. You can have any color you want as long as it is white.

Order from:
The hoop is made by cutting away the really bent parts bending circular and taping together to fit. Size varies with glue joint overlap.

After the first three gores are bonded the others are easy. The learning curve drops rapidly.
Hot Air Balloon Supplies

Things you may need -

- Glue Sticks
- Scissors, pens, sharpies
- Gore Pattern
- Wire Hoop to use as a pattern
- Wire for Hoops (limited)
- Wire cutters
- Electrical tape
- 4 Heat Guns
- 2 short extension cords
- Kite string for tying off balloon or for balloon retrieval
- Chalk for marking on the balloons
- Vent Pipe

- Duct tape
- gloves
- 2 pvc sticks for unrolling the tissue paper
- 2 sticks for lifting balloon during inflation
- Rolls of tissue paper if you don’t already have enough, (I bought my ‘jewelers paper’ at Sears.com it is also available at other suppliers)
- Burner (fish cooker or turkey fryer type)
- Propane
- Lighter
- Extra Gloves for handling the HOT stove pipe
- Have a Fire Extinguisher just in case!
Glue stick the Gores together in a Z pattern that can be unfolded. Don’t forget to glue the top Gore to the bottom Gore to complete the circle.
Have plenty of glue sticks and use them generously. Balloon can be decorated with colored chalk or crayons. Be careful not to tear any holes in the tissue paper.
Pre-inflate the balloon indoors for a pre-flight test. Glue stick any gaps or holes together to seal the balloon. The balloon will fly inside, you can heat it with a paint gun/dryer or even hair dryer.
Tie off the top with string, leave a small loop for the lifting stick. Use the wire hoop on the bottom to hold the proper shape for inflation.
Use a stick or pole to lift balloon while heating, balloon will fill with hot air, the longer you inflate it the better and higher it will fly. Even the slightest breeze will wreak havoc on inflation.
Use a stick or pole to lift balloon while heating, balloon will fill with hot air, the longer you inflate it the better and higher it will fly. Careful not to burn it or the kids! Safety First; gloves, fire extinguisher, first aid kit, use caution.
Remember it is only tissue paper and can easily ignite. If it does catch fire, let it go, it will burn quickly.

Again, Safety First; gloves, fire extinguisher, first aid kit, use caution.
Let it fly!!
Some use a kite string for retrieval
others don’t depending on location
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