

How to make your own solar updraft tower

Materials Required:

- Two tin cans
- Sellotape or glue
- Two paper clips
- 1 push pin
- A4 Paper
- Pom pom balls (optional)

Step by Step Instructions for the solar updraft tower:

1. Prepare two empty tin cans. Carefully wash the tin can and open the other side of the can as well.

2. Stick the two empty tin cans by using sellotape.

3. Unfold the two paper clips.



4. Using sellotape, stick the unfolded paper clips. Once it is done, stick the edges of the unfolded paper clips to each side of the emptied tin can.



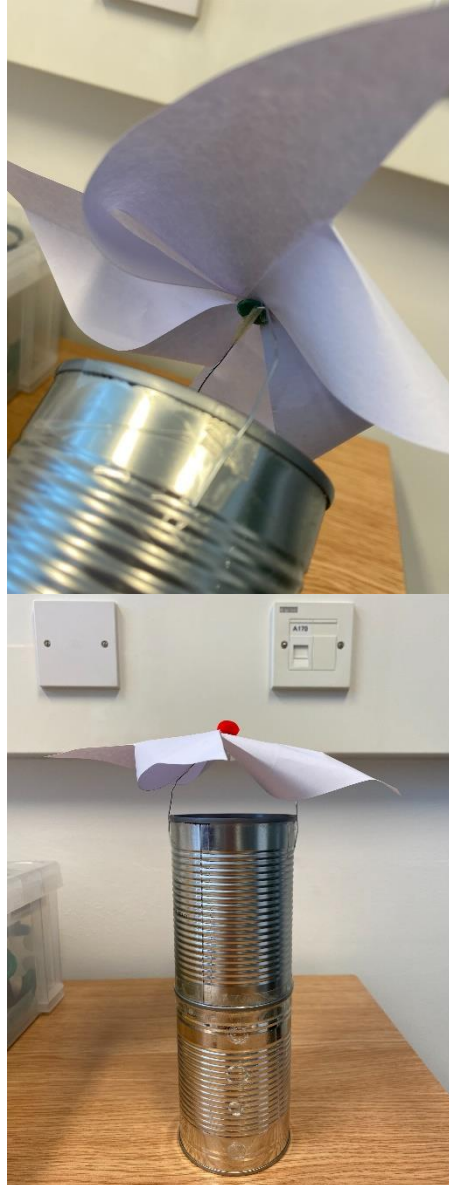
5. Use sellotape to stick the push pin with the unfolded paper clip. Make sure that the push pin is taped in the center of the unfolded paper clip.

6. Fold the paper windmill. More detailed instructions below



7. Carefully attach the paper windmill in the center, taped side down.

8. For safety reasons and to make your own solar updraft tower more attractive, add the pom pom ball or something similar to the top of the push pin.



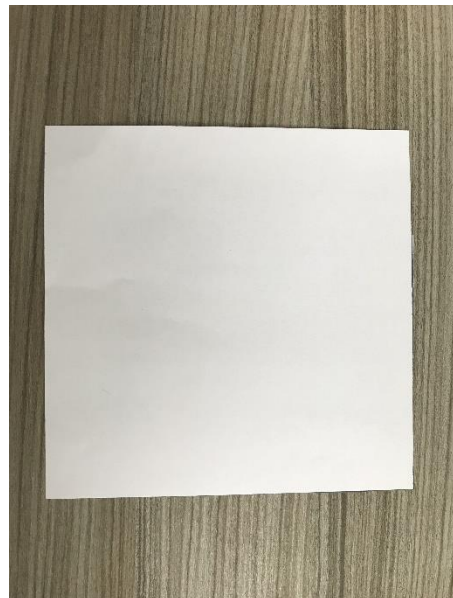
9. Prepare two books or boxes that have a similar height and place them under the solar updraft tower. It is to allow the air to flow.



10. Place the tower under sunlight. Once the tin can is heated sufficiently by the sunlight, the pinwheel will spin. As the sunlight heats the air inside the cans causing a convective updraft.

Step by Step Instructions for the paper windmills:

1. Prepare 15 x15cm size (equal to 6" x6") of paper or cut the A4 size of the paper to this size.



2. Draw a line from the corners of the squares diagonally. Cut along these 4 lines nearly to the center of the square. Leave about 0.5 cm uncut.



3. Bring a corner of each of the 4 triangles to the center and use glue or sellotape to hold them in place.



To explore this concept further:

- Would a paper tower work instead of tin cans?
- What if the tower was painted black?
- What would happen if the pinwheel was bigger or smaller or made of a different material?
- What would happen if you used more cans?