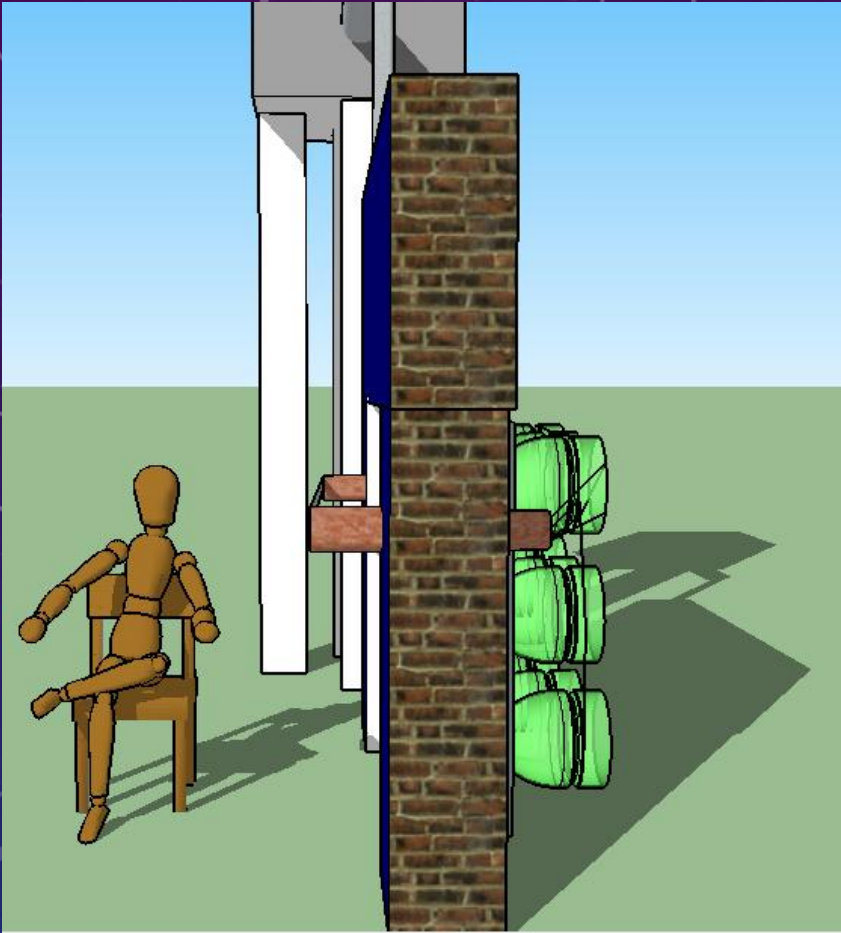




ZERO-ENERGY AIR COOLER



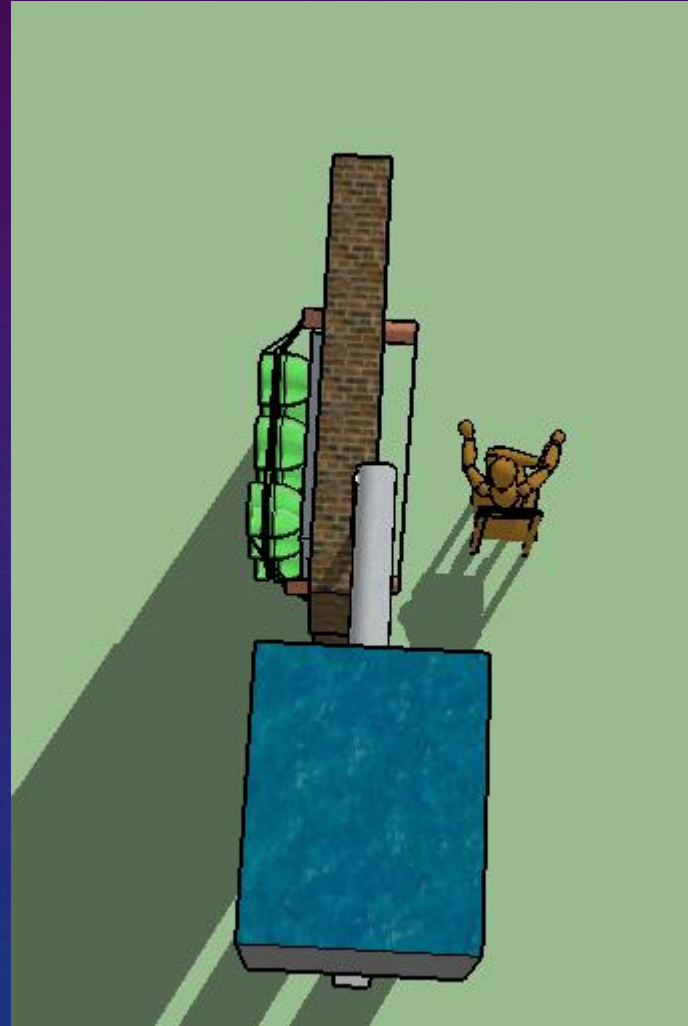
BY:

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STRUCTURAL SET-UP

The Structure includes a board which is cut to fit the window, With bottleneck-sized holes cut out in a grid pattern. The bottoms of empty plastic bottles are cut off, leaving funnel-shaped bottlenecks that are placed on the grid. When mounted, the wider part of the bottles faces outward.

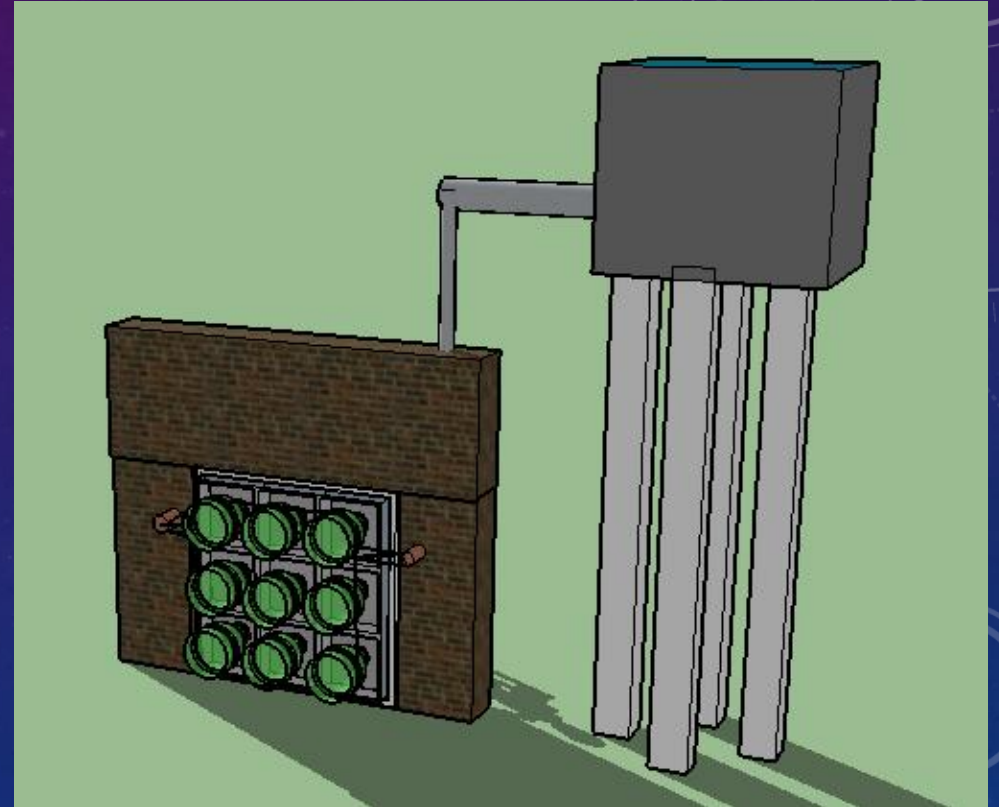


CONCEPT BEHIND THE COOLER

The Cooler works on the basis of the formula
 $\text{Pressure} = \frac{\text{Thrust}}{\text{Area}}$

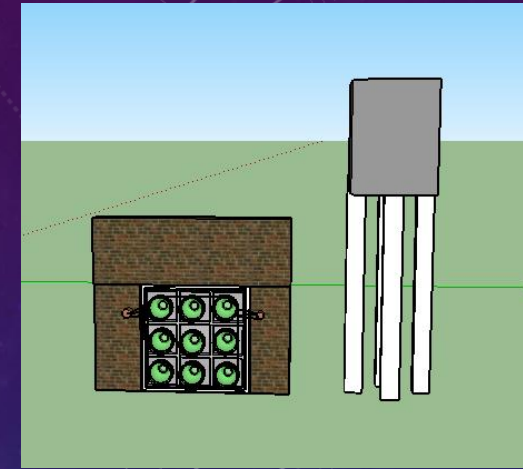
The wide cylindrical openings on the outside bring air in and through the small neck and cork region and as the area decreases the pressure increases and this cools the air down and funnels it into your home.

The bottles would be hydrated by a series of tubes filled with water under high pressure fitted to ensure more cooling effect.



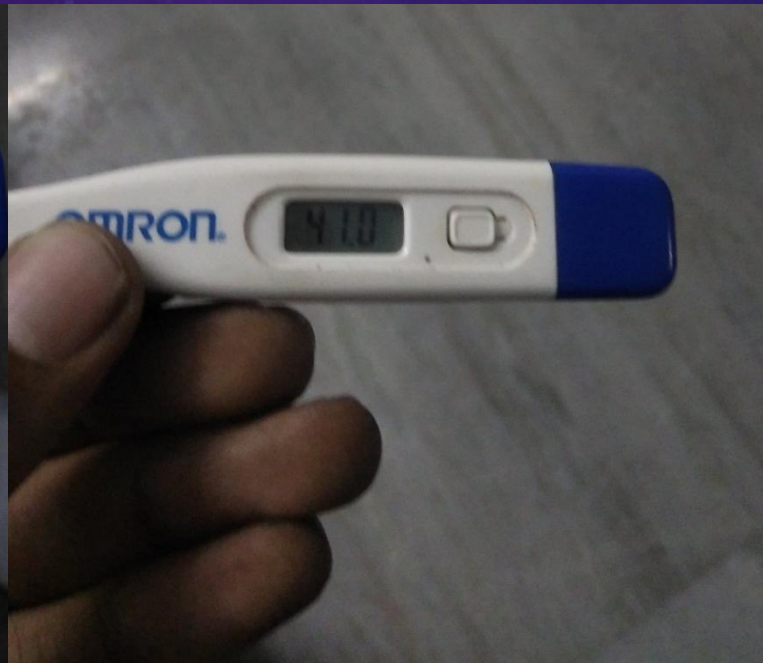
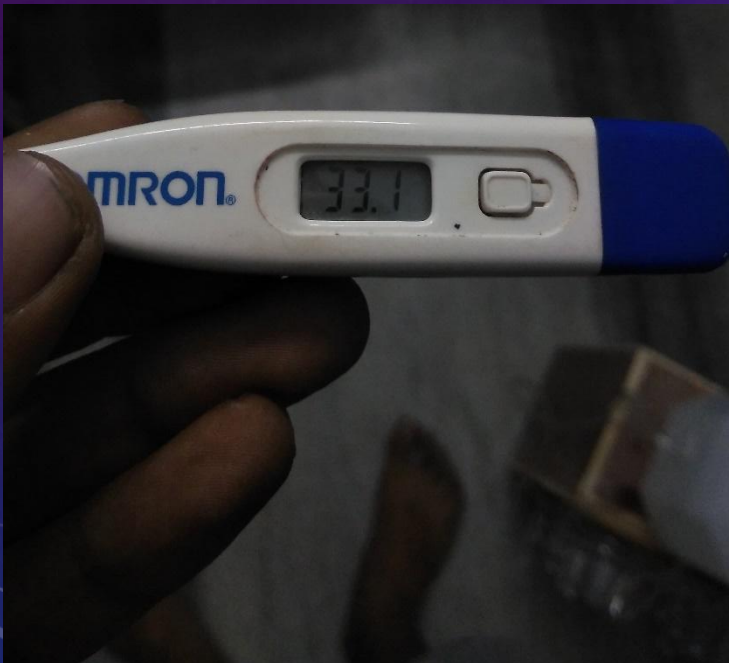
WATER CIRCULATION

- It works with the help of gravity. The water flows from the overhead tank of the building and therefore through the pipe also.
- The pipe has minute holes present in it which will help in cooling of the air therefore helping it to work under any condition.
- Controlling the flow of the water is taken care by the air pressure inside the water bottle.
- The volume leaked out is to be replaced by air so if we restrict air flow with the help of the lid eventually the flow would stop.



RESULTS

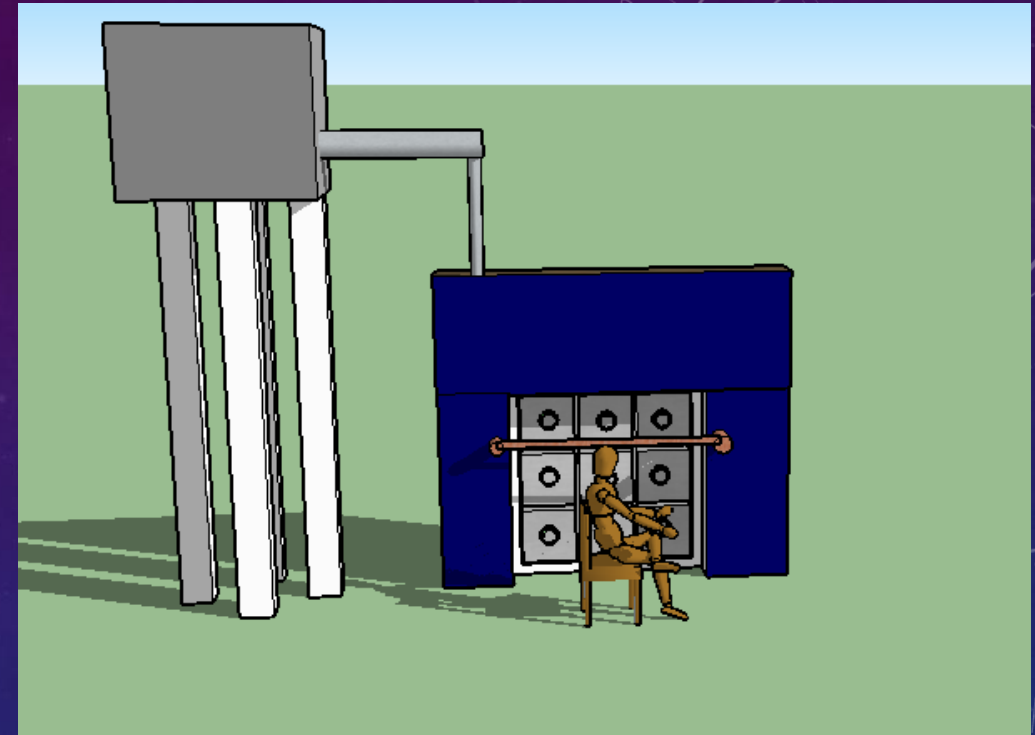
S.NO	Wind Temperature	System Temperature
1	41°C	33.9°C
2	41°C	33.1°C
3	41°C	33.7°C



CONCLUSIONS

S.NO	Difference in Temperature
1	7.1° C
2	7.9° C
3	7.3° C

Approximately the temperature fall is about 7.4° C.



APPLICATIONS

This Zero-Energy Cooler would be very useful in all regions, and would also be useful for the poor living in the metal sheet homes and huts. This Cooler would also be of use to every global citizen as our carbon foot prints are ever rising and we need to find new and eco friendly alternatives.

It requires absolutely no energy at all.

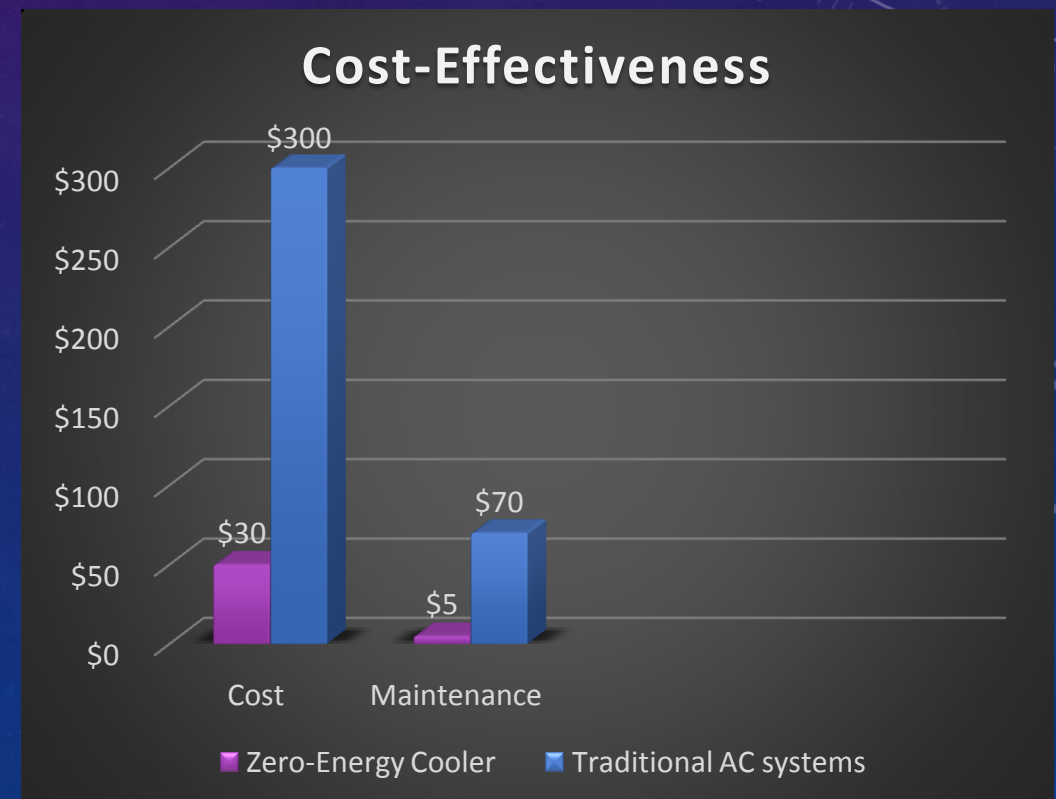
The amount of the water used through the experiment will be very less.



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ADVANTAGES

- It has the ability to reduce indoor temperatures as much as 10°C, which is at par with what an electric centrally installed air conditioning system can do.
- No Energy Requirement
- Easy Set-Up And Mounting
- Cost Effective And Affordable
- Eco-friendly
- Reuses Waste Products



THANK YOU FOR LISTENING