Smart STEM Challenge

BATTERY OPERATED AIR CONDITIONER

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Category: Public Health & Social Science

Age Group: Senior (Grade 10-12)

We always like to feel comfortable in each level of our lives and we buy many things for us to experience it such as air conditioners. As we are living in such a humid environment, we need cool air so we can enjoy doing work and motivate us throughout our day.

ABSTRACT

Introduction:

Our objective is to increase the efficiency and efficacy of an ordinary fan, to satisfy maximum thermal comfort condition in minimum investment of energy and to decrease the room temperature. It will benefit the local people who can't afford the expensive air conditioners at home. Its simplistic construction ensures that it will always remain economically viable and easy to construct. This project does not require a lot of electricity and resources. Rural areas can save electricity which makes it environment friendly than the industrial A/Cs and allows for less consumption of energy.

Since electricity comes from consumption of mostly non-renewable resources, this project helps us to reduce excess consumption of electricity thus making it eco-friendly. We are re-using household materials in this project. This project has given us as students, a way to contribute to the betterment of our society and environment at large.

Procedure:

Attach 12V motor to the upper part of the container through the hole. Connect the electric circuit to the fan. Stick the flexible plastic pipe to the upper part of the container. It will serve as an outlet for the cool air.

Results:

As we attach the battery clip to the battery, cool air is given out till the time the ice melts. Now, we are able to enjoy the cool air and do our work easily.

Conclusion:

The results have matched our hypothesis and we have been successful in getting cold air from the pipe out of the ice box. Our STEM Project has served its purpose in an excellent manner by being economical, easy to assemble, ecologically viable raw materials and satisfactory output of cold air. Our work will have a great impact in the future for CAMBODIA with its voltage fluctuation issues and electricity shortage. It will reduce people's costs and there will be less consumption of resources making it eco-friendly.

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