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TRANSFORMING EDUCATION, DRIVING INNOVATION AND
ADVANCING LIFELONG LEARNING FOR EMPOWERED WORLD

EVERYONE CAN DRINK

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ABSTRACT

Water is known to be the most important substance on Earth. Without water, we cannot continue to live on Earth. One in eight people worldwide lack access to safe and clean drinking water. Many people have no choice but to drink water they know is contaminated with potentially life-threatening bacteria. The World Health Organization (WHO, 2015) reported that about 159 million people globally fetch untreated surface water from lakes, ponds, rivers and streams. Surface water sources in Africa are sometimes highly polluted. As far as water quality is concerned, water which is consumed or to be consumed by the human must be treated to achieve the desired water quality level according to Bain et al. (2014). “Everyone Can Drink” is a newly invented prototype which benefits all people especially Africans because it can help to filter the water to produce clean and safe water for drinking. This invention contains the Solar panel, water pump, oxidizing agent, filtration tank and UV light. The Solar panel absorbs the light energy from the Sun and converts it to electricity. While UV light is lethal to bacteria and viruses because of its high frequency that scrambles and damages their nuclear material, so that we can drink the water safely. The best feature of “Everyone Can Drink” is that it is portable. We can bring it anytime and anywhere. In the future, we want to make it known to the whole world.

Keywords: *Everyone Can Drink, newly invented prototype, Solar panel, UV light, portable*

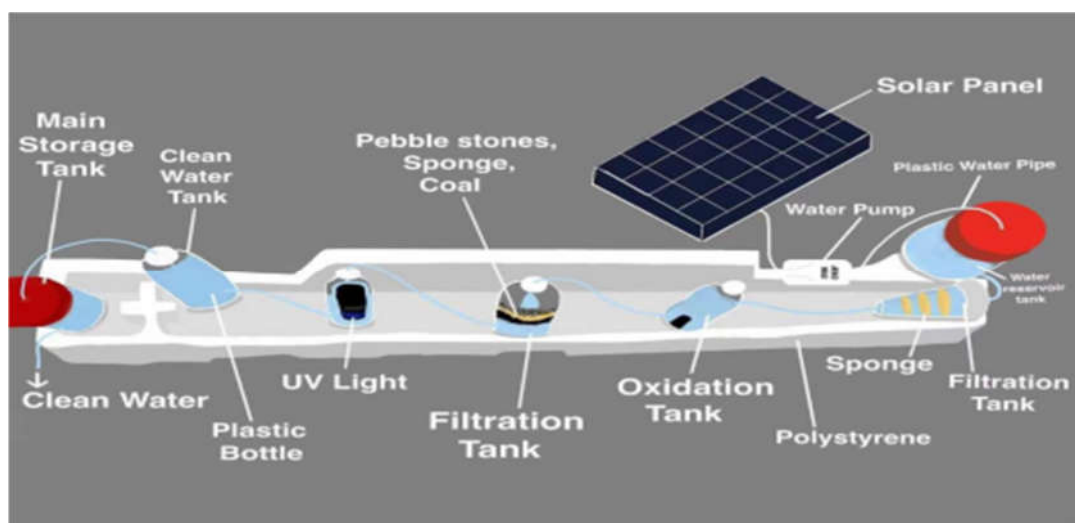
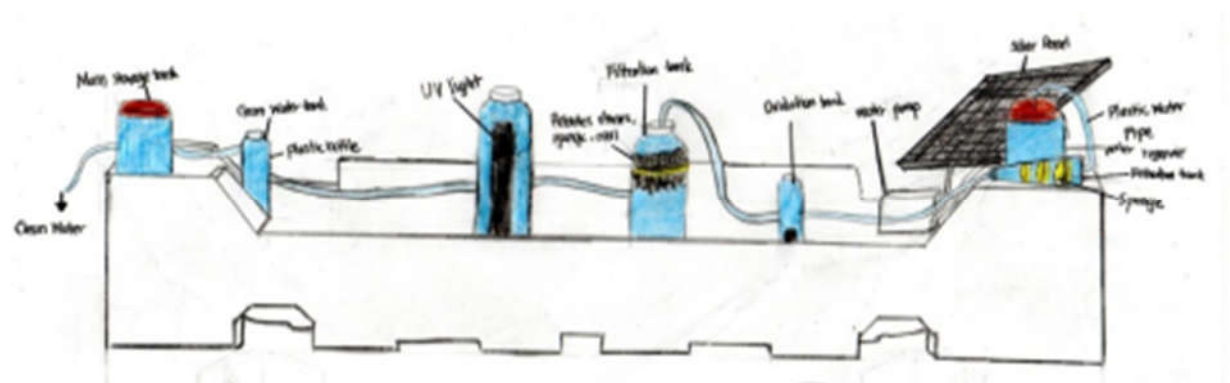
INTRODUCTION

“Everyone Can Drink” is a newly invented prototype which benefits all people especially Africans because it can help to filter the water and produce clean and safe water for drinking. This invention contains UV light which can kill the microorganisms and bacteria in the water. This invention also contains solar panels to generate electricity in order to operate the water pump. After the filtration process by our “Everyone Can Drink”, the water is safe to use. “Everyone Can Drink” is

environmentally friendly and it will not cause pollution. This invention can save energy because it uses renewable energy from sunlight. It will help the people in Africa to obtain clean water easily so that they can avoid waterborne diseases which will cause death.

METHODS

This new prototype contains the Solar panel, water pump, oxidizing agent, filtration tank and UV light. Firstly, the Solar panel absorbs the light energy from the Sun and converts it to electricity. It helps the water pump to pump the water in the water reservoir tank to every part of the water filter tank to carry out the process. The oxidizing agent in the oxidation tank helps to get rid of unpleasant smell and taste of the water. After that, water flows to the filtration tank containing coals, pebble stones and filter sponge which can remove the large suspended particles. According to Bolton and Cotton (2008), the filtered water flows to UV light partitions which helps to kill the bacteria and microorganisms in the water. The clean water with no bacteria and microorganisms is stored in the storage tank and prepared to be used. The portable design of “Everyone Can Drink” is friendly to be used by everyone and everywhere.



RESULTS AND DISCUSSION

Conventional water filter	“Everyone Can Drink”
It needs to connect to a plug in order to generate electricity to operate the filter system.	A solar panel is used to absorb the sunlight in order to generate electricity.
Does not consist of oxidizing agents which cannot get rid of unpleasant smell and taste.	Consists of oxidizing agents which can get rid of the unpleasant smell and taste.
Does not consist of UV light which the water filter cannot kill the microorganisms effectively.	Consist of UV light which can kill the microorganisms and bacteria in the water.
The conventional water filter system is bulky and difficult to bring along.	The portable design of “Everyone Can Drink” is easy to bring along and use everywhere.

Why we use UV light:

According to Berezow (2020), a microbiologist who has written on the topic, “*UV light is lethal to bacteria and viruses because of its high frequency that scrambles and damages their nuclear material*”, although 100% destruction of microorganisms cannot be guaranteed, it is possible to achieve 99.9% reduction in certain applications and with proper maintenance, in order for a UV unit to successfully disinfect water.

Why we use Solar panel:

Solar power is a great sustainable, green energy choice. Eastern Sahara/ Northeastern Africa is often considered and referred to as the "Sun continent" or the continent where the Sun's influence is the greatest. According to the World Sunshine Map (2019), those countries receive many more hours of bright sunshine during the course of the year than any other continent of the Earth.

CONCLUSION

“Everyone Can Drink” is a newly invented prototype which benefits all the people as it can help to filter the water effectively and produce clean water. Everyone deserves to enjoy the privilege of having clean water for their daily activity.

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