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تجربة تلميذ مبدع

GREEN PLASTIC

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ملخص المشروع :

يسبب البلاستيك مشكلة تلوث ضخمة لأنه يستغرق من ٢٠ إلى ٥٠٠ عام ليتحلل. وبالتالي يتخلص الناس من البلاستيك عن طريق حرقه الذي يطلق غازات سامة مثل الديوكسين والفيوران والزئبق التي تسبب تلوث الهواء وتؤثر على صحة الإنسان. بالإضافة إلى ذلك ، يتم إلقاء العديد من الأكياس البلاستيكية في المحيط ، مما يتسبب في الاختناق وموت الكائنات البحرية ، حيث يمكن أن تتسبب الاكياس الصغيرة جدا (اللدائن الدقيقة) في تلف الكبد والجهاز الهضمي في الحيوانات البحرية. البشر أيضًا معرضون للخطر لأن تناول الأسماك الغنية باللدائن الدقيقة يسبب العديد من الأمراض مثل السرطان و التهابات الامعاء. تنتج مصر ٥.٤ مليون طن مكعب من البلاستيك سنويًا ، مما يجعلها أكبر ملوث للبلاستيك في العالم العربي. وبالتالي ، فإن البحث عن بدائل للبلاستيك هو هدف مهم و ضروري بالنظر إلى أن الأكياس البلاستيكية لها أكبر جزء من إنتاج البلاستيك في مصر ، فقد صنعنا بديلا للأكياس البلاستيكية بكل بساطة. بالإضافة إلى ذلك ، فهو قابل للتحلل البيولوجي وغير ضار بالحياة البحرية.

Abstract:

Plastic makes a huge pollution problem as it takes from 20 to 500 years to decompose. Thus, there is a huge amount of plastic burned, and burning plastic releases toxic gases like dioxins, furans, and mercury which cause air pollution and affect human health. In addition, many plastic bags are thrown in the ocean, causing choking and starve for marine life, as smaller fragments (microplastics) can cause liver, reproductive, and gastrointestinal damage in marine animals. Humans are also vulnerable because eating fish rich in microplastics may cause many diseases like cancer. Egypt considers being the biggest plastic polluter in the Arab world as it produces 5.4 million metric tons of plastic annually. Thus, searching for alternatives for plastic is a vital aim. Considering plastic bags have the biggest portion of plastic production in Egypt. So, we made alternative

plastic bags in a simple way. In addition, it is biodegradable and not harmful to marine life and human.

Keywords: GREEN PLASTIC

INTRODUCTION

The growing rate of plastic production raises problems in many areas of our society. It's contributing to waste and pollution issues, it's impacting our health, and it's threatening our oceans and wildlife. Plastics pollution has a direct and deadly effect on wildlife. Thousands of seabirds and sea turtles, seals, and other marine mammals are killed each year after ingesting plastic or getting entangled in it. many ways can be used to overcome plastic problems for instance using alternatives for plastic bags. The most common alternative is paper bags, they are paper bags, which are made of biodegradable materials, on the other hand, paper bags have many cons as they are not water-resistant and they are made from tree core so by increasing their production, it will affect our environment. On the other hand, there is a biodegradable potato bag that isn't commonly used because it consists of many steps like extracting fiber from potatoes, then mixing them with glycerin, water, and vinegar.in addition, plastic products are not flexible. This solution which is Using biodegradable material to make an alternative for plastic inspires us to use biodegradable material in our solution as our new plastic bag is biodegradable, so flexible, and considered to be light as a stander plastic bag.

Hints about our plastic:

Our plastic is made from biodegradable materials which are glycerin, gelatin, and Vaseline. The stander plastic bags are not resistant–fire, take from 20 to 500 year to decay, is harmful to air and the environment, recycle once then release harmful substance. On the other hand, our biodegradable plastic is fire resistant, takes nearest to 3 months to decay, is not harmful to the environment, can be recycled 5 times then get rid of it in an eco-friendly way. The solution that we chose to overcome plastic pollution can be applied easily in real life, for instance, every day each market uses a huge number of stander plastic bags which cause an increase in plastic pollution problem by replacing this with our new biodegradable plastic the plastic pollution problems will be solved. In addition, by

changing the ratio between glycerin and gelatin. We can make the different thicknesses of plastic as shown in Figures 1 and 2 as plastic files and other production of plastic.

Fig (1)

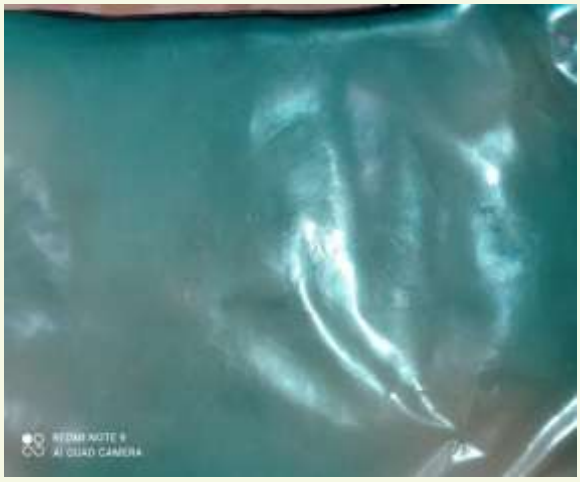

Fig (2)

This project achieved many medals in the ISEF competition which is an international competition this project takes three medals and takes the third category place in Republic Qualifiers .

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