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Re:Mask

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Abstract

In the year of 2020, there are two main events that are very disruptive towards Earth's ecosystem and human activities. The first event being Australian wildfires, declared as one of the "worst wildfire disasters in modern history", scorched more than 46 million acres of land, destroyed homes to 1.25 billion animals and created massive air pollution around the world. The second event being the Coronavirus outbreak which devastated the whole world by halting normal activity and forcing in a "new normal" in which humans have to adapt to. In addition to these disasters, the world still has millions of tons of waste, especially plastics and recently, disposable masks, which have yet to be taken care of. Therefore, this research is made to propose the solution of reducing waste and improving air purity by recycling disposable masks and plastics to create Poly Bags and gardening tools in the movement of "Re;Mask, Re:Plant" for one human to plant one plant.

Key-word: *forest fire, coronavirus outbreak, waste, disposable mask, poly bags*

1. Introduction

The unfortunate disasters, wildfires and corona virus outbreak, as well as untreated waste has and still is a concern to society as it negatively affects Earth's ecosystem and human activities. This research is made in hope to reduce waste, by recycling disposable masks and plastics to create Poly Bags and gardening tools in the movement of "Re;Mask, Re:Plant" in which we hope to encourage society to plant a plant for each person to help restore our air purity. Disposable masks have been a huge waste problem as it is not recyclable in the normal way like how, for example, paper would. Quoting from a journal published by www.ncbi.nlm.nih.gov, "It is concluded that human coronaviruses remain on inanimate surfaces such as metal, wood, paper, glass or plastic for up to 9 days, but they can be efficiently inactivated through disinfection with 62–71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite within 1 min of exposure.". Therefore, by sterilizing and reusing the disposable masks as Poly Bags and plastic waste as gardening tools, we hope to lessen the waste produce each day.

2. Methodology

The method of creating Poly Bags from used disposable masks are as follows: Tools and Materials:

- Disposable masks
- 62–71% ethanol
- Soil
- Plant
- A container
- Protective gloves
- Scissors
- Stapler

There are 2 simple ways to create a Poly Bag from a disposable mask

1st way

Steps:

1. Isolate the disposable masks for 10 days after usage in a container
2. Sterilize the masks by soaking in ethanol for 10 minutes
3. Dry the masks
4. Cut the strings and left side of the mask to create an opening
5. Roll the bottom inside and the top to create an opening of the bag
6. Pour soil in and plant a plant

2nd way

Steps:

1. Isolate the disposable masks for 10 days after usage in a container
2. Sterilize the masks by soaking in ethanol for 10 minutes
3. Dry the masks
4. Cut the strings and stapler the top and bottom of the masks on each side
5. Roll the bottom of the masks to stabilize the bag
6. Pour soil in and plant a plant

In complement of the Poly Bag, we also modify plastic bottles to become watering can. The materials to make Plastic Bottle Watering Can are as follows:

Tools and Materials:

- Empty plastic bottles
- Permanent marker
- Cutter knife
- Scissors
- Protective gloves

Steps:

1. Remove the label of the plastic bottle and rinse bottle to clean it.
2. Figure out the placement for the holes on the side of the bottle. Use a permanent marker to draw a square on the side of the bottle, just below where it starts to Curve upward into a dome shape.
3. Use scissor or cutter knife to create five rows of five holes each for a total of 25 holes in the square. Space the holes as evenly as you can.
4. Cut a pouring hole on the opposite side of the bottle. Rotate the bottle so that the holes are facing away from you. Draw a 1-inch (2.54-centimeter) U-shape on the side of the bottle. Have the top of the U touch the bottom of the bottle's dome. Cut the U shape out with a razor blade.
5. Close the bottle tightly and fill it through the U-shaped hole. Fill the bottle until the water level reaches

½ to 1 inch *(*1.27 to 2.54 centimetres) below the bottom row of holes.

3. **Benefits**

Despite the pandemic we faced this time, we must not forget to what happen with our sea that has plastic pollution and our land that are now filled with improperly discarded disposable masks. Plastic pollution has become one of the most pressing environmental issues, as rapidly increasing production of disposable plastic products overwhelms the world's ability to deal with them. Plastic trash has become so ubiquitous it has prompted efforts to write a global treaty negotiated by the United Nations. Millions of animals are killed by plastics every year, from birds to fish to other marine organisms. Nearly every species of seabird eats plastics. Most of the deaths to animals are caused by entanglement or starvation. Microplastics have been found in more than 100 aquatic species, including fish, shrimp, and mussels destined for our dinner plates. In rare cases, these tiny bits pass through the digestive system and has been found to have blocked digestive tracts or pierced organs, causing death. Whereas disposable masks are labeled as "menace" trash as they contain layer of plastic that cause them to be difficult to recycle. A study by University College, London calculated that, in the UK alone, if every person wore one disposable mask a day for a year, it would create 66,000 tons of contaminated plastic waste. This poses a threat to the environment in which it will affect the marine life such as turtle who might chocked due to the masks entangling or stuck in their digestive systems.