GREEN PLASTICS

ECO GEEK

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INTRODUCTION:

- Abundance of plastic use in day to day life is a global issue. Various problems arising because of its non biodegradable and persisting nature is leading to biodiversity loss , increase in global warming , decline of soil fertility, sewage blockage , soil pollution etc. So there is a crucial need for an alternative using practices.One of such solution is being provided through GREEN PLASTIC ,which is a biodegradable and ecofriendly polymer having its application in place of commercially available plastic.

WHAT IS GREEN PLASTIC ?

Greenplastic are biodegradable plastics derived from renewable biomass sources, such as vegetable and oils, corn starch, straw, woodchips, food waste, etc.

BIOPLASTIC VS ORDINARY PLASTIC

BIOPLASTIC

MORE SUSTAINABLE

NON-TOXIC

ECO-FRIENDLY

NO HARM TO ABIOTIC FACTORS

INCREASES SOIL FERTILITY

Ordinary Plastic

UNSUSTAINABLE

ECO-TOXIC

INCREASES GLOBAL WARMING

LEADS TO ABIOTIC DEPLETION

REDUCES SOIL FERTILITY

MATERIALS NEEDED FOR BIOPLASTIC

Starch

Water

Glycerine

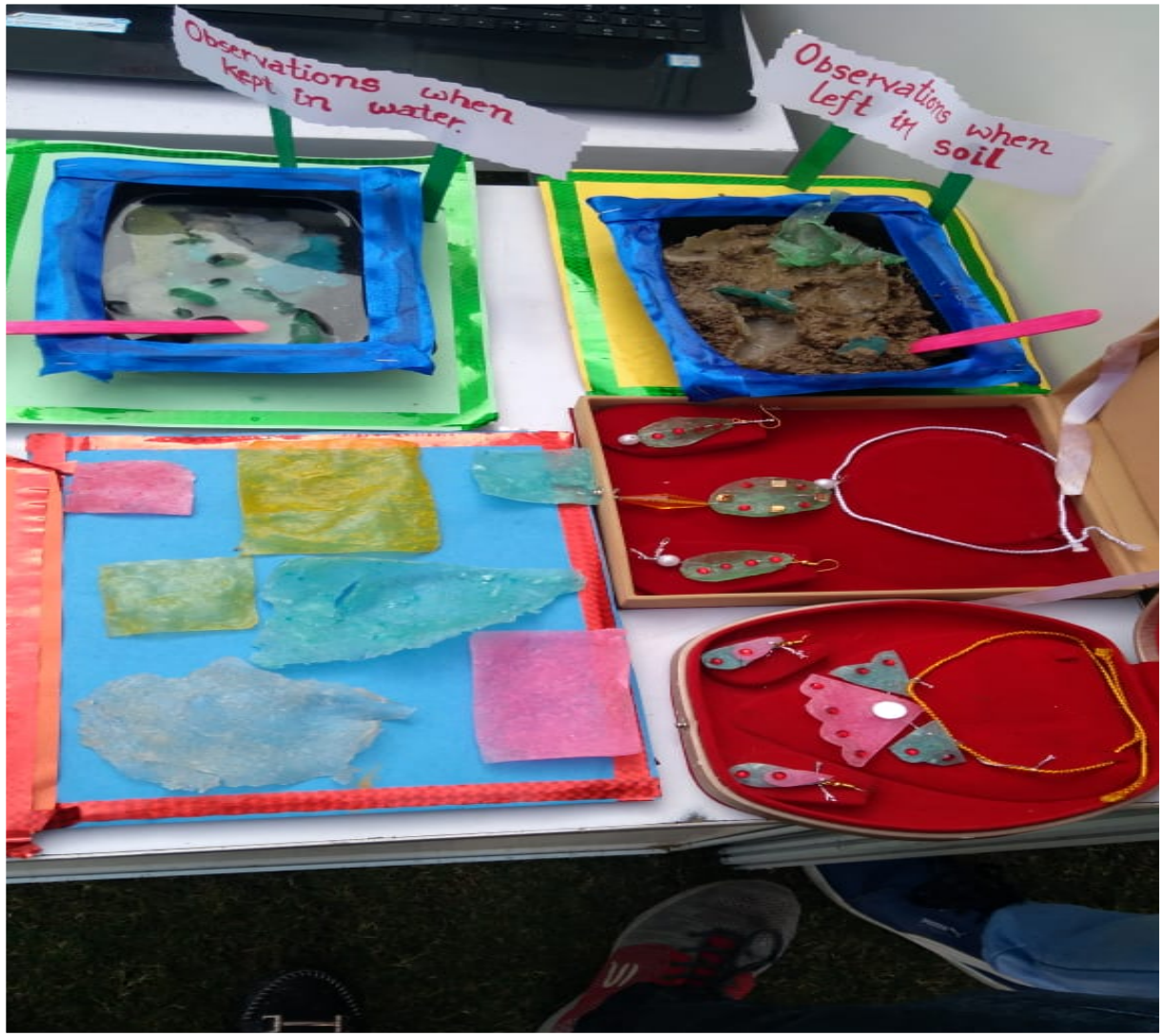
Vinegar

Preparation

- Take **2-3 tablespoon starch**.
- **Add half spoon white vinegar** to it. Mix it well. Then add 1 **tablespoon Glycerine** to it.
- Add **little** amount of **water** just to perfectly dissolve the **starch** in it. Avoid excess water. Continue it by **heating** at a **particular temperature**. Stir it well and continuously until a jelly like **sticky mass** is formed.
- Take a small cut out of **butter paper**. Spread that **mass jelly** like liquid on that butter paper. **Leave it to dry in little sunlight.**

OBJECTIVES

- To create a better and friendly environment with the use of this eco friendly plastic.
- To reduce the cost of plastic .
- To avoid all harms to the animals and other creatures.
- To prevent many diseases which occur due to the use of plastic .
- To have a chemical free environment.



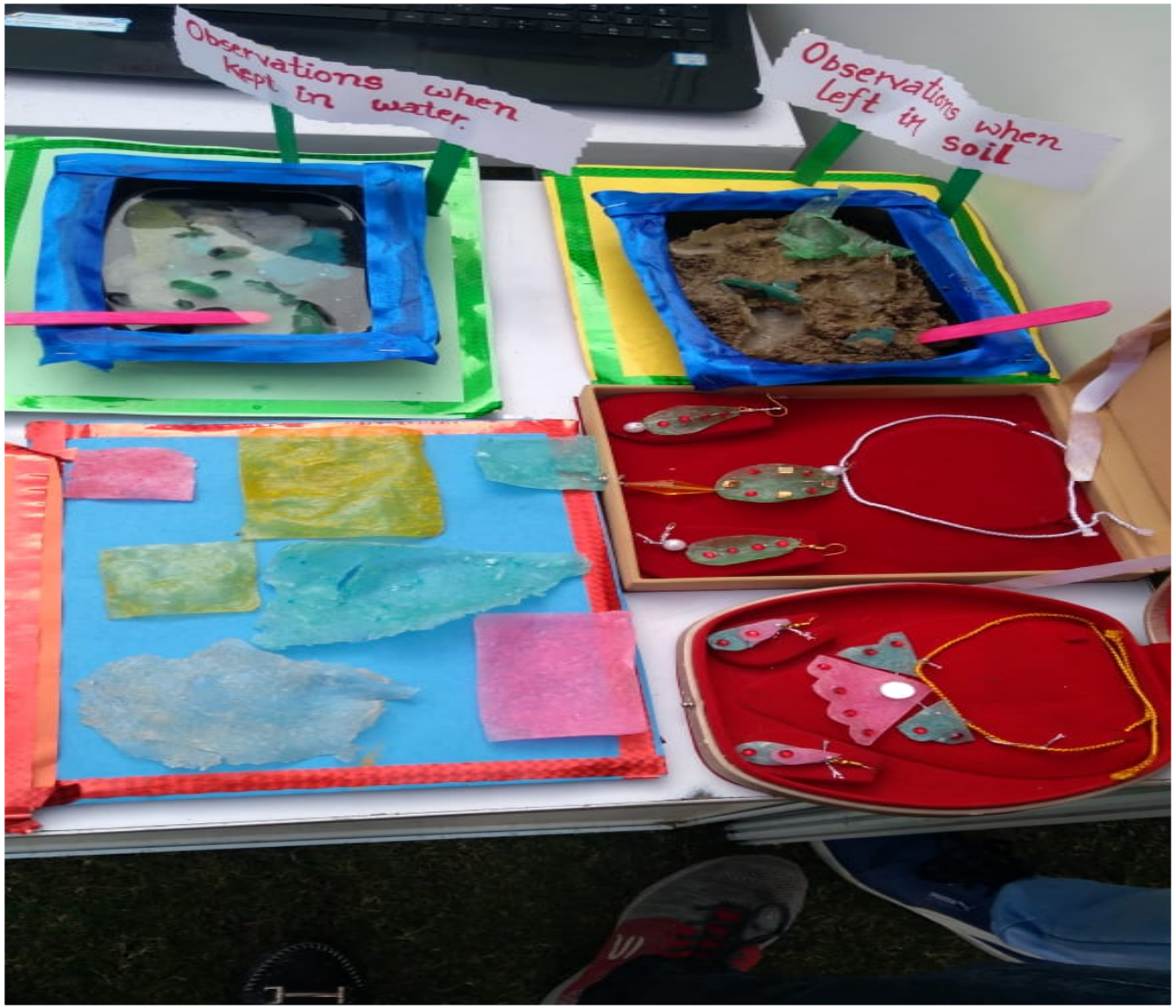
Practical Utility

- Used for disposals items.
- Daily market purposes (plastic bags).
- Food service containers.
- For packaging, crockery, Cutlery.

Commercial Applications:

- **Biodegradable plastics** are commonly used for ***disposable items, such as packaging, crockery, cutlery, and food service containers.***
- In principle they could replace many applications for conventional plastics, however cost and performance remain favourable.
- Their usage is financially favourable only if supported by specific regulations limiting the usage of conventional plastics. For example, ***biodegradable plastic bags and shoppers have been compulsory in Italy since 2011 with the introduction of a specific law***.
- It can be used in our daily purposes and can replace the harmful plastic as well with ease.

PROTOTYPE


Observations when kept in water.
Observations when left in soil


GREEN PLASTIC
Observations when kept in water.
Observations when left in soil
FEEDBACK

Cost chart

S no.	Material used	Quantity	Cost (Rs)
1	Corn Starch	1.5g	0.15
2	White vinegar	1ml	0.14
3.	Glycerol	0.5-1.5g	0.25-0.40
4.	Food color	1ml	0.4
5.	Distilled water	10ml	--

Advantages

- No chemical used
- It can be dissolved in water within 7-10 days
- It can be decomposed in to the soil.
- It inc. The fertility of the soil.
- cost effective
- Eco- friendly
- Flexibility can be adjusted

Disadvantages

- The only disadvantage is that strength can be varied I.e inc. Or dec. Upto a limit.
- Leveling of layers requires perfect machinery.

Bio plastic with nano particles

- **Starch**
- **Nano particle (calcium carbonate)**
- **Plasticizer (Glycerin)**
- **White vinegar**
- **Water**

Clay nano particular are the most Applicable & cost affordable materials.
In the fields of plastic clay nano partials are use to fluctuate the tensile strength of a material
Nano particle are considered as bio-degradable materials.
Flexibility can be varied according to the requirement..

Result :

The jelly mass formed is a perfect blend of natural resources . It's the biodegradable plastic we wanted to prepare . To give it a definite shape , different sized moulds and stencils can be used.

The advantage we can have it is that , it is eco-friendly and cost effective.

It also increases the fertility of soil.

As all the substance used is natural , therefore no harm to animals .

Strength can be made flexible according to our need.

Conclusion :

Various problems arising because of the non biodegradable and persisting nature of plastic and is leading to biodiversity loss, increase in global warming , decline of soil fertility, sewage blockage, soil pollution etc. So there is a crucial need for an alternative using practices .One of such solution is being provided through GREEN PLASTIC ,which is a green and ecofriendly polymer having its application in place of commercially available plastic. Green plastic which is low cost, is made up of four substances which are used in our house and is chemical free. Ingredients used are starch, vinegar, water, glycerine . To make the plastic more strong and durable we can also add other amendments like vegetable peels. This green plastic will be dissolve in water within 7-10 days and also it is biodegraded within 7-10 days in soil. It makes the soil more fertile, harmless to animal if ingested by mistake. So there is a significant impact for bringing sustainable development.

Your Suggestions Will be Appreciated

THANK YOU!!!