

Name: Emma Tuurkkanen

Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

A water bottle

Describe its usual purpose:

To plant flowers, vegetables, ...

What materials is it made of?

Water bottle, rope

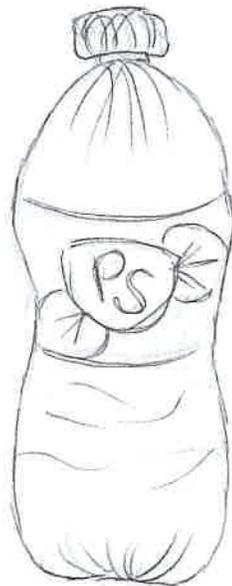
Reminder: Your challenge is to develop a prototype or model that is attractive, marketable, and useful.

Describe your new product below in at least 2 sentences:

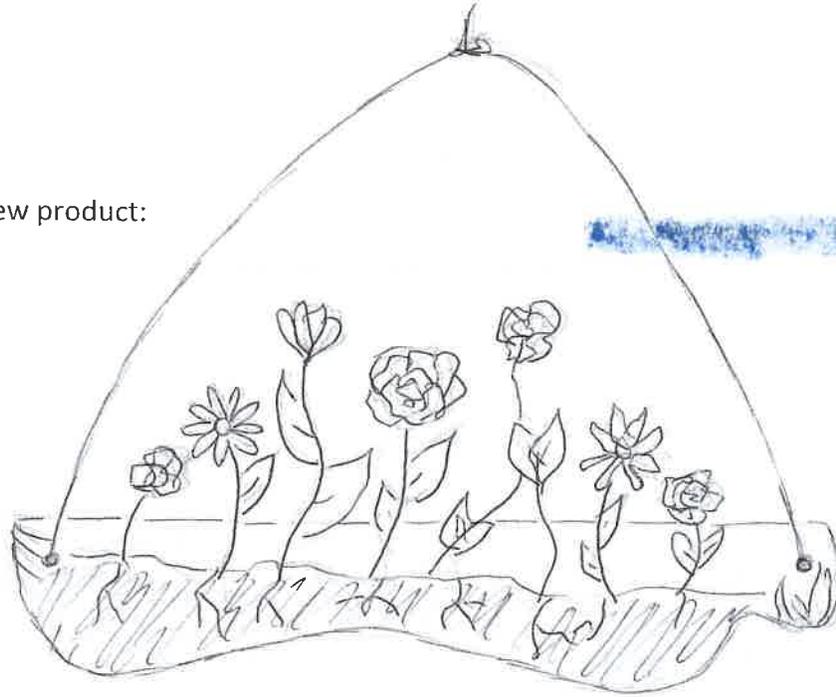
This product is a pot made of a bottle of water, to plant different things like flowers, vegetables, ...

Design portfolio:

Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

Water bottle, rope, scissors, land, seeds.

2. What might be some challenges in creating your product?

Make it look nice. Make ~~the~~ the seeds grow.

3. How would a manufacturer make this product?

I would cut the bottle in two. Then make two holes and put some rope in.

4. Who is the target audience for this product?

Many people. To all those who use water bottles.

5. Why would this product appeal to that target audience?

To recycle and help the environment.

6. How will your engineered design remove one product from the waste stream?

Will prevent bottles from being thrown and damaging the environment.

7. What are some of the benefits of eliminating waste?

You will have new plants in your house in a way that will help the planet.

Name: Katherine Gonzalez

Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

~~Plastic water bottle~~ + egg carton

Describe its usual purpose:

to hold ~~water~~ ^{eggs}

What materials is it made of?

~~plastic~~ → cardboard

Reminder: Your challenge is to develop a prototype or model that is attractive, marketable, and useful.

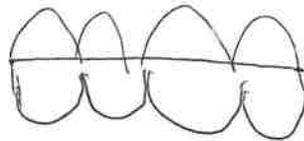
Describe your new product below in at least 2 sentences:

a ~~plastic~~ ~~reusable egg carton~~

Beauty blender holder

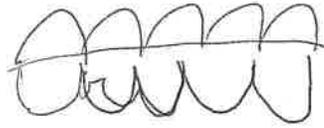
Design portfolio:

Sketch the original object below:



↓
makeup product
used by women

Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

None, maybe paint to make it

2. What might be some challenges in creating your product?

If the beauty blender is very wet
it could cause the cardboard to become weak. look nicer

3. How would a manufacturer make this product?

Just like an egg carton but maybe
with stronger material to hold the beauty blenders

4. Who is the target audience for this product?

makeup users / women / girls

5. Why would this product appeal to that target audience?

When you throw your beauty blender into your bag
it collects dirt which is bad because all that dirt
will go to your face therefore with a product like this

6. How will your engineered design remove one product from the waste stream?

Instead of using a plastic bag or something to
put your beauty blender in this reusable product
it'll stay clean

7. What are some of the benefits of eliminating waste?

It's safer for the planet and saves money.
will be eco friendly.

Name



Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

Trash cans

Describe its usual purpose:

store trash until thrown away

What materials is it made of?

water bottles / thick melted plastic

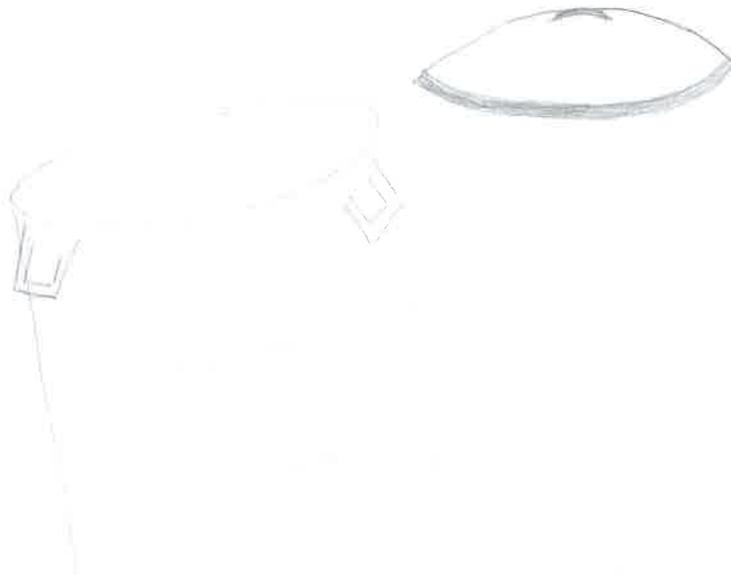
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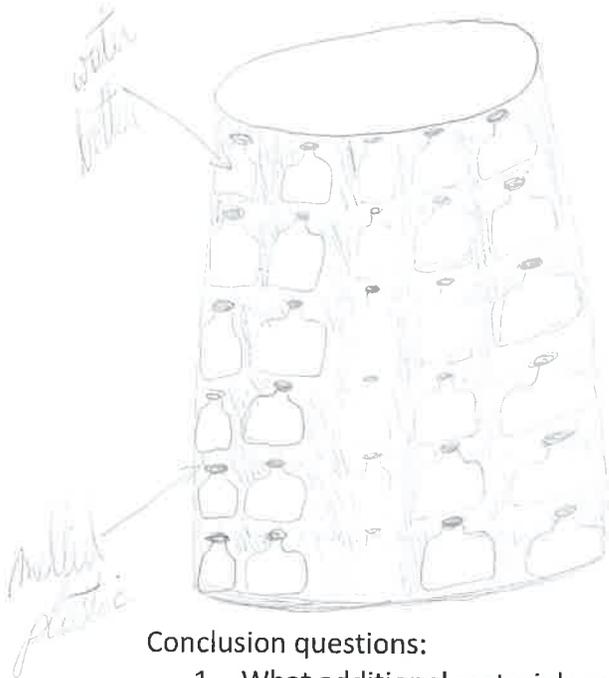
A brand of water bottles attached together with sort of melted plastic adhesive to replace big bulky trash cans

Design portfolio:

Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

extra materials such as glue to hold the milled plastic

2. What might be some challenges in creating your product?

getting it into a proper circle

3. How would a manufacturer make this product?

use a mold to create the water bottles base perfect

4. Who is the target audience for this product?

women

5. Why would this product appeal to that target audience?

visually pleasing

6. How will your engineered design remove one product from the waste stream?

people use millions of plastic bottles a day so this prevents them from being thrown away

7. What are some of the benefits of eliminating waste?

save the environment from pollution

Name: Isabella Brennan

Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

water bottles

Describe its usual purpose:

to hold drinking water

What materials is it made of?

plastic

Reminder: Your challenge is to develop a prototype or model that is attractive, marketable, and useful.

Describe your new product below in at least 2 sentences:

I plan to take my empty water bottles^v and give them together, creating a little colony. Then I plan on planting succulents inside of these bottles.

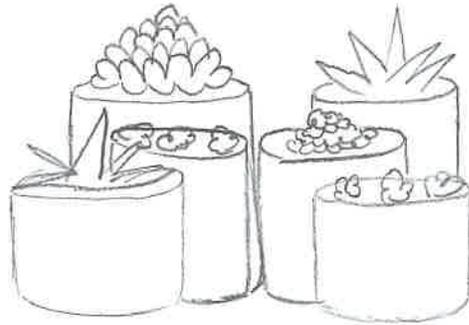
cut them in half, paint them,

Design portfolio:

Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

hot glue, acrylic paint, soil, rocks, and succulents.

2. What might be some challenges in creating your product?

things might break, or not turn out the way I want it to, the bottles could also melt.

3. How would a manufacturer make this product?

they could cut the water bottles and then melt the edges to make them smooth.

4. Who is the target audience for this product?

people of all ages.

5. Why would this product appeal to that target audience?

because it is a cute product that acquires little responsibility, and it minimizes plastic waste.

6. How will your engineered design remove one product from the waste stream?

it will minimize the plastic waste water bottles cause, and its a way of reusing the products.

7. What are some of the benefits of eliminating waste?

it will help keep our oceans and lands clean.

Name: [Redacted]

Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

Plastic Wraes / Packagings

Describe its usual purpose:

Sealing foods or products / plastic packaging

What materials is it made of?

Plastic

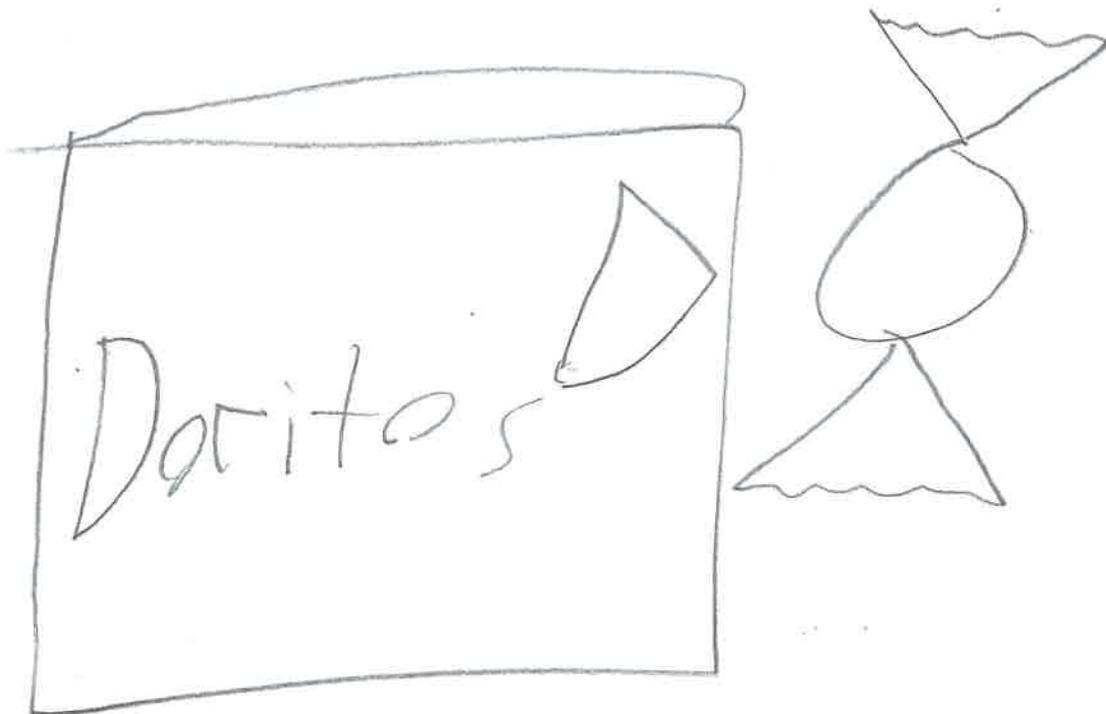
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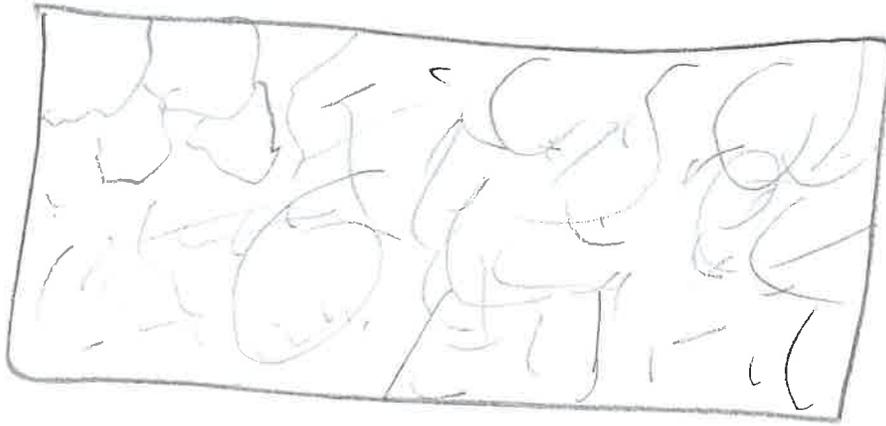
Melting and cooling plastic into a ~~new~~ soft cushiony mat.

Design portfolio:

Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

Heat and plastic

2. What might be some challenges in creating your product?

Finding factories to help.

3. How would a manufacturer make this product?

Heating plastic.

4. Who is the target audience for this product?

The homeless.

5. Why would this product appeal to that target audience?

They have nothing.

6. How will your engineered design remove one product from the waste stream?

It recycles plastic.

7. What are some of the benefits of eliminating waste?

Landfills destroy the environment.

Name:

Jatze Gutirry

Senior Biology

STEM Challenge: Waste Repurposing

CHALLENGE: Using one piece of repurposed "waste", develop a prototype or model that is attractive, marketable, and useful.

Pre-design questions:

What product/package did you decide to repurpose?

plastic bag and a tissue box.

Describe its usual purpose:

Storing food on trip home from store, tissue box used to hold tissues.

What materials is it made of?

Plastic and Cardboard.

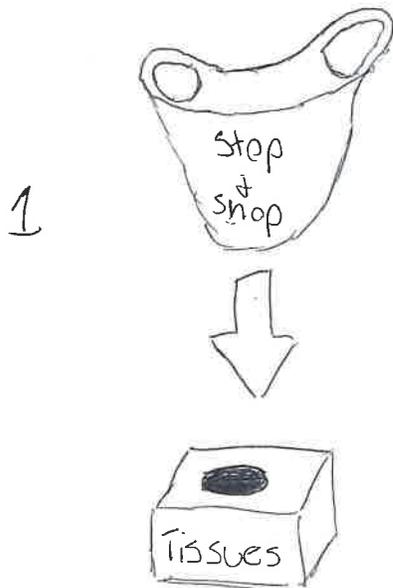
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Describe your new product below in at least 2 sentences:

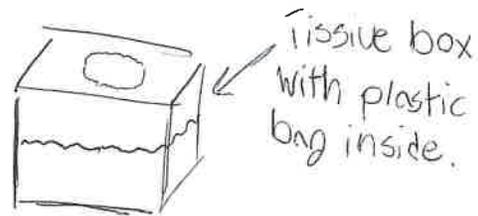
By placing the plastic bag in the tissue box, you create a mini-trash can.

Design portfolio:

Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?

Strong will & determination

2. What might be some challenges in creating your product?

Positioning plastic bag correctly.

3. How would a manufacturer make this product?

4. Who is the target audience for this product?

People who would like to put a small trash can in their car?

5. Why would this product appeal to that target audience?

Because it would keep their car clean very easily.

6. How will your engineered design remove one product from the waste stream?

Both the plastic bag and the tissue box will be reused and kept from landfills.

7. What are some of the benefits of eliminating waste?

- Waste build up will be ~~slow~~ slowed.
- Littering will go down.

Name: _____

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Pre-design questions:

What product/package did you decide to repurpose?

I chose plastic waterbottles

Describe its usual purpose:

Its usual purpose is to hold drinkable water.

What materials is it made of?

Plastic

Reminder: Your challenge is to develop a prototype or model that is attractive, marketable, and useful.

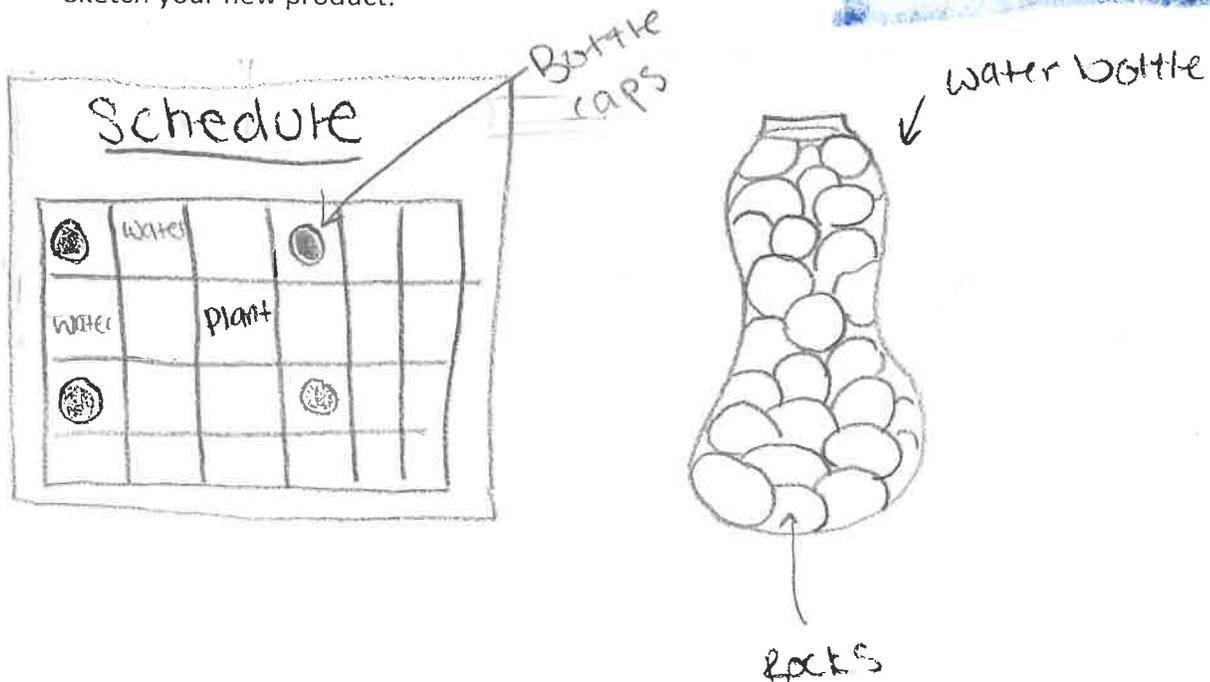
Describe your new product below in at least 2 sentences:

My new product is as simple as can be. It is taking plastic water bottles and turning them into decorations/ projects using the base and the caps to use in your garden ect

Design portfolio: Sketch the original object below:



Sketch your new product:



Conclusion questions:

1. What additional materials would be needed to make your product?
You will need a schedule board, push pins, Rocks, maybe paint.
2. What might be some challenges in creating your product?
Being nonartistic may create challenges. Also filling the rocks in the bottle may be hard.
3. How would a manufacturer make this product?
Maybe attach pushpins to the bottle caps and package it all together in a Dry Kit
4. Who is the target audience for this product?

Anyone who loves being creative

5. Why would this product appeal to that target audience?
Its not only pleasing to the eye but is fun to make
6. How will your engineered design remove one product from the waste stream?
more peoples waterbottles and caps would be reused for art rather than thrown away
7. What are some of the benefits of eliminating waste?
By eliminating waste we save the world one step at a time by not polluting.