

Waste Management

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The Problem

- Pollution is getting worse and worse
- The average American throws away 185 pounds of plastic each year
- The great Pacific garbage Patch, off the coast of California, is twice the size of Texas
- Roughly 50% of produce in the US gets thrown away

Our solution

- Process garbage in a way that reuses everything possible
 - Prevents ocean pollution, landfills, and less materials will have to be produced



The Basic Process

- A. Garbage arrives to plant and is loaded on conveyor belt
- B. Belt carries trash through 3 consecutive tanks contained water and bacteria
- C. Plastics and metals separated for recycling, everything possible reused

Details

- Guide walls funnel trash and workers cut plastic bags to expose trash
- Belt widens, dividers spread trash evenly
- Conveyor gently slopes into tank

The Tanks

- 15' by 90'
- 1st tank- anaerobic bacteria
- 2nd tank- aerobic bacteria, aerated
- 3rd tank- facultative bacteria



The bacteria eat out organic materials, excess becomes fertilizer

Tanks- continued

Screen on top of water moves floating matter forward

Last tank collects floating plastics from surface

Each tank fosters growing environment for bacteria

The Belt

- Starts at 15' wide
- Narrows to 5' for workers to expose garbage
- Widens back to 15 feet, dividers spread garbage
- Gently lowers into and rises out of each tank



Bacteria info:

- bacteria eats the waste matter and multiplies
- works fast and isn't bad for the environment
- oxygen helps the aerobic bacteria work quickly
- enzymes can be added to help break down dead material
- Testing would be done in order to confirm what kinds of bacteria would be used

Reusing

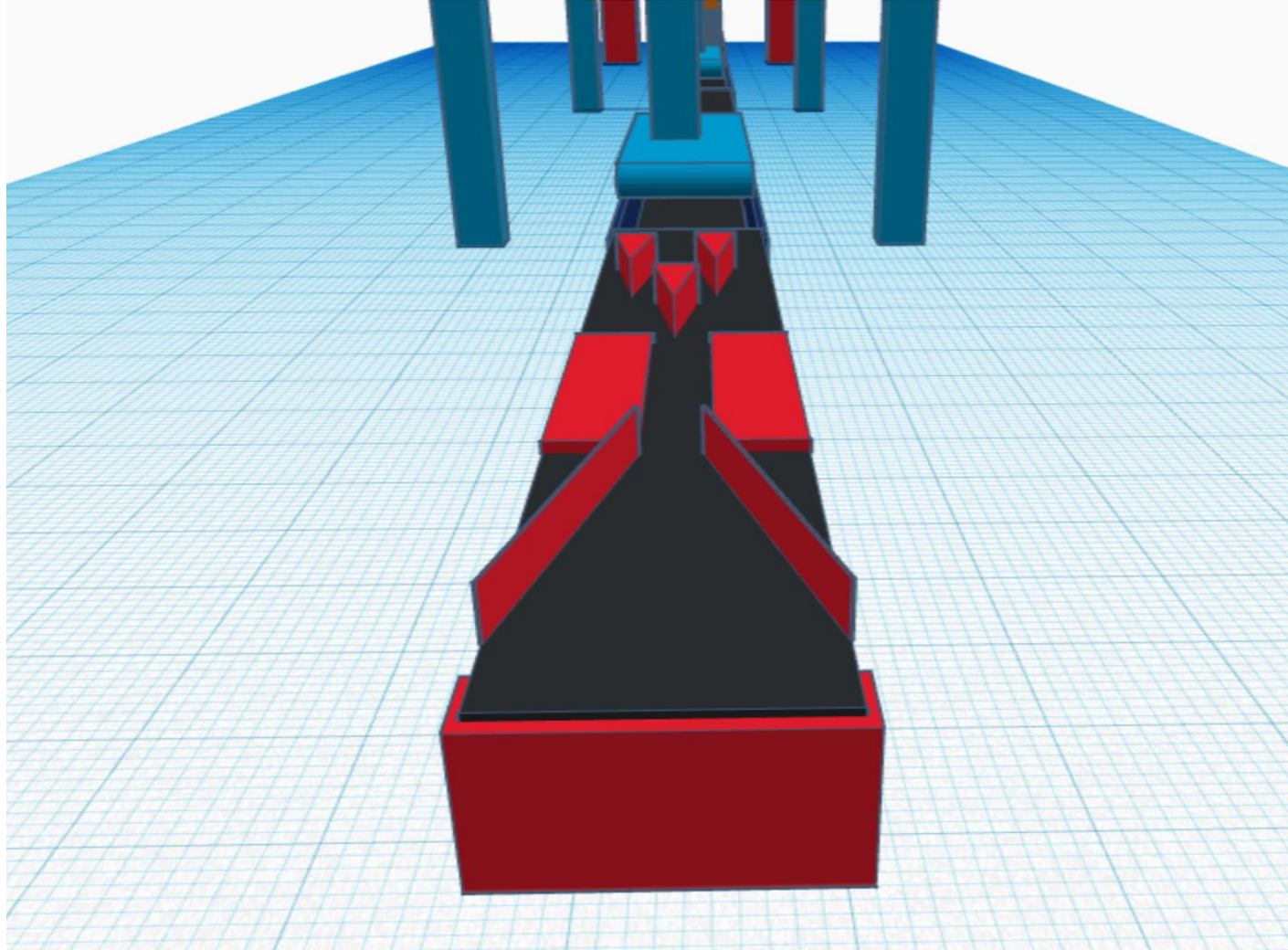
- floating plastics will be collected

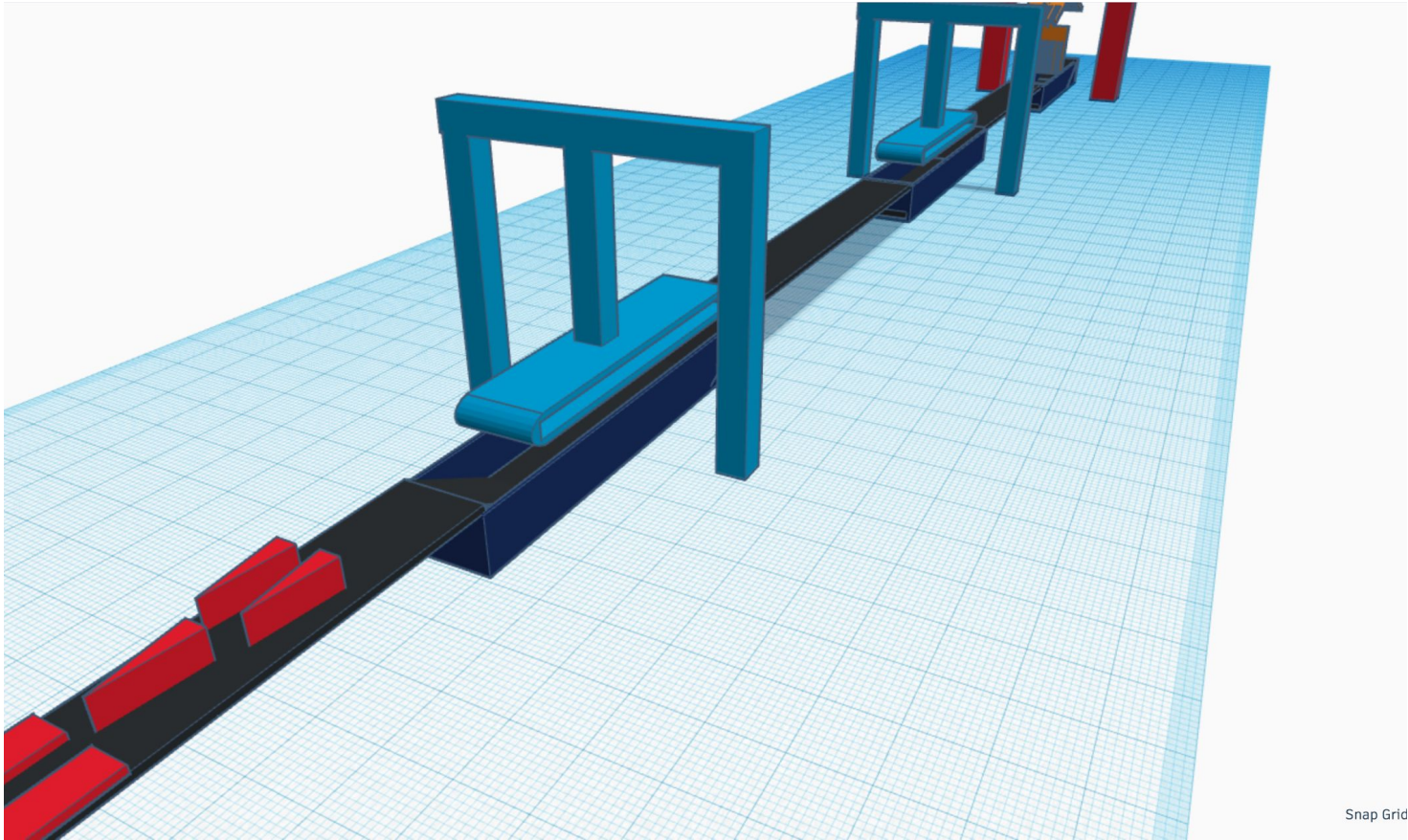
- sinking plastics, metals, and other materials will be sorted and recycled after going through all the tanks

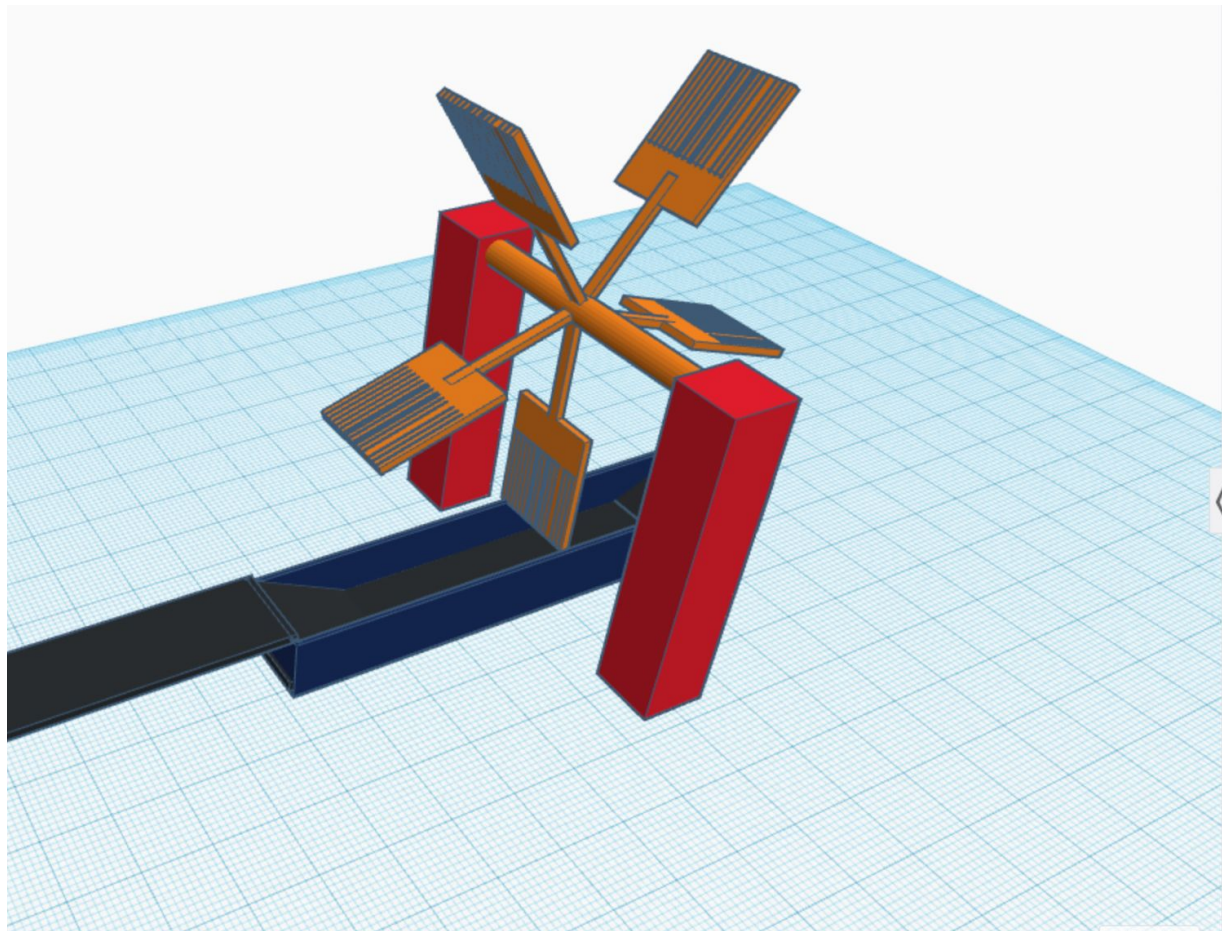
- excess bacteria collected and processed to be used as fertilizer

Why this helps

This program would result in less plastic pollution, less food waste, and less trash in the landfill. This will benefit wildlife because they commonly mistake garbage for food. Getting rid of all of the garbage will make them live in a healthier, clean environment.







Thank you

Citations

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