Title: Lake Carcinogen

Engineering Challenge

July 20, 2022

Problem Statement: Write the problem statement in your own words and interpretation. What are you trying to achieve? What is being learned through this challenge?

There are carcinogens in the lake, and we use chlorine to make the water drinkable for our massive 10 square acre water reservoir. If the water touches sunlight, it will be undrinkable.

Materials: List the materials given (if any).

Any materials, just a sketch of a plan.

Approach: Write a description of your plan to achieve the goal of the problem statement. Add drawings/sketches/CADs if possible.

We made 3 separate sketches for what could happen on a piece of paper with pictures and potential cost.

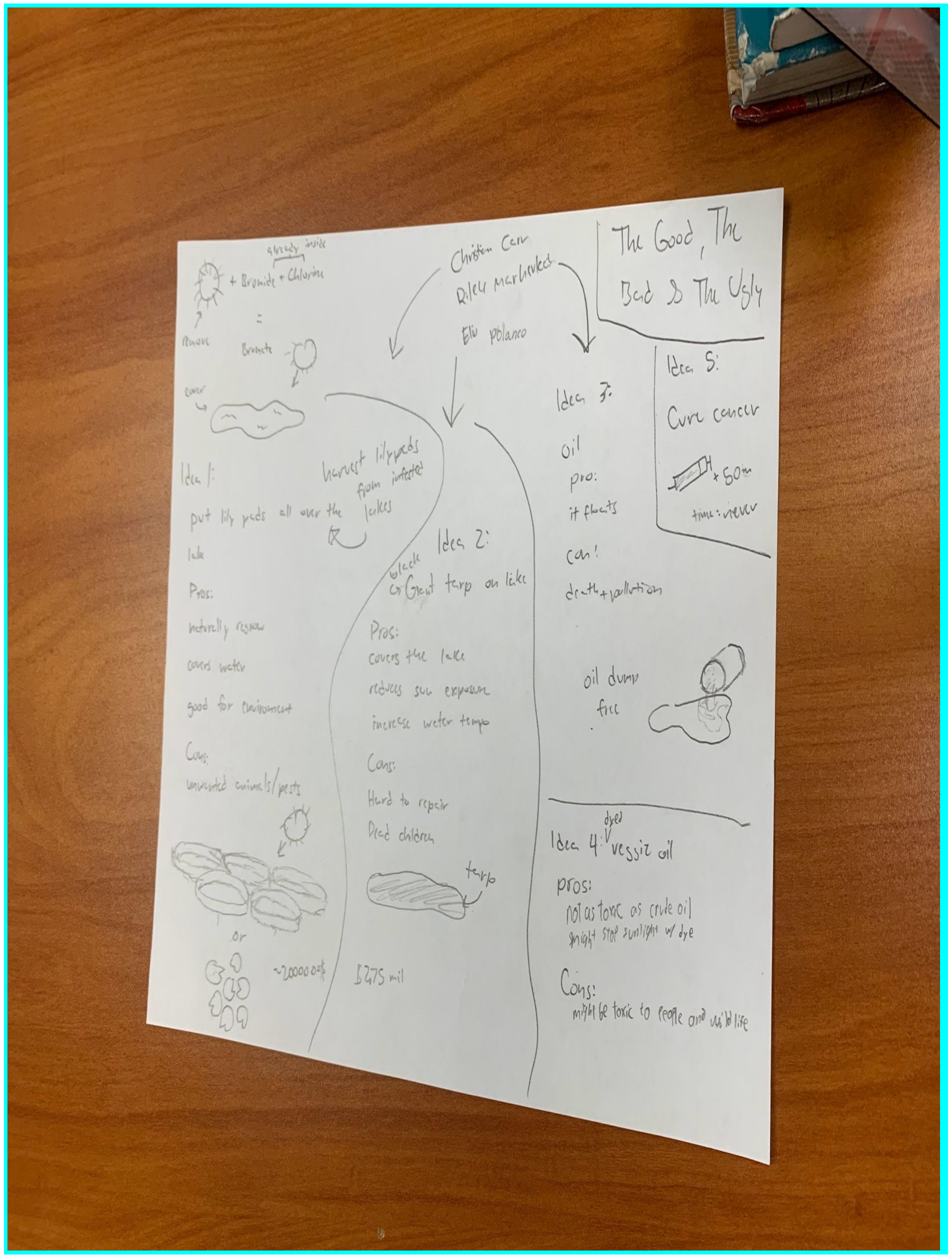
Solution: What is your solution to the given problem?

Our solutions were to either add lots of lily pads to the lake to block sunlight, to add an extremely large tarp to the top of the lake to stop it the sunlight, and my idea, which was to add a layer of vegetable oil to the top of lake, which would potentially stop the sunlight, but might cause unforeseen consequences.

Analysis: After testing, did it achieve your goal? Either way, what could you have done better? If given more time/materials, what would you do differently?

We learned that the fastest most efficient way to solve the problem was to use shade balls, which are small plastic balls that float and stop sunlight.

Images:


The Good, The Bad & The Ugly
Christian Carr
Riley Marlowe
Eli Polanco
already inside
+ Bromide + Chlorine
=
Bromate
Removes
cover
Idea 1:
put lily pads all over the lake
harvest lilypads from infected lakes
Pros:
naturally regrow
covers water
good for environment
Cons:
unwanted animals/pests
or
~20000 acres
Idea 2:
black or Giant tarp on lake
Pros:
covers the lake
reduces sun exposure
increase water temp
Cons:
Hard to repair
Dead children
tarp
$275 mil
Idea 3:
oil
pro:
it floats
con:
death + pollution
oil dump
fire
Idea 4: dyed veggie oil
pros:
not as toxic as crude oil
might stop sunlight w/ dye
Cons:
might be toxic to people and wildlife
Idea 5:
Cure cancer
x 50
time: never