

Clean Water Filter

Clean Water Simulator / Game

(THIS IS NOT A PROPOSAL 2.0 JUST A PLANNER)

ICS3U
Edison Qu
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Materials

<https://www.instructables.com/Homemade-Water-Filter/#:~:text=Homemade%20Water%20Filter%201%20Gather%20Materials%202%20Cut,Add%20Gravel%2010%20Filter%20It%20More%20items...%20>

<https://thebestwaterpurifiers.com/how-does-a-homemade-water-filter-work/#:~:text=On%20a%20homemade%20water%20filter%20actuated%20carbon%20to,layer%20has%20the%20least%20gap%20between%20two%20sides.>

Best Combination

1. Gravel - (To get rid of big chunks of dirt and rocks)
2. Fine/Course Sand - (To hold the dirt that passes through the water)
3. Cotton - (To clean the dirt)
4. Coffee filters (Helps filter dirt)

These 4 materials are the best combination for the water filter. Any combination with these 4 will create a perfect water solution.

Inadequate Combination

5. Paper - (Hold some dirt particles inside the paper)
6. Charcoal- (Trap the dirt particles between the surfaces of the charcoal)
7. Rocks - (Trap some dirt particles between the surfaces of the rock)
8. Grass - (Trap some dirt particles inside the stack of grass)

These 4 materials will create a good filter however, this will not create the best filter solution. Any of these will be proven inadequate, even if the descriptions are saying that it is effective as it might or might not perform the tasks at full efficiency.

Worst Combination

9. Dirt (Hard Mud)
10. Sticks
11. Graphite
12. Broken Glass

Any combination of this would result in a 0% pass for the water filter.

How the game works

Dirty water contaminated with soil/dirt need to be cleaned immediately as there is a shortage of clean drinking water. Players will pick and choose 4 materials from the list of 12 to create a perfect filter. After that, they will be putting it in a cut water bottle where they put all the materials inside and a simulation of the dirty water pouring in. When the water is done pouring, the final result will be put into a water glass and a rating will show up on how well the water was filtered and will decide if they have won or not.

How to win (Logic behind the rating system)

Players will be rated on how well the materials work together to filter the final outcome of the water that has a filter score higher than 75%. The materials are all worth a certain value. With the materials in the “Best Combination” group, each of them is worth 10 points. With the materials in the “Inadequate Combination” group, each of them is worth 5 points. With the materials in the “Worst Combination” group, any combination with one of them is an automatic fail as the water will be deemed not drinkable. Each of the materials in the “Worst Combination” group will have 0 points. Players will need to find the best combinations to filter the water.

How it should be seen

In the order of how it goes, this would be my to-do list (how the game would be played out)

Externally (What the player sees)

1. Players will be picking a list of materials (4 of them)
2. The bottle will be drawn as well as the list of materials inside
3. The water will be running through it
4. The final result will be in a water glass (Color will vary based on percentages)

What I need to learn how to do in order to complete

There are a lot of things that I need to learn how to do in order to complete this game. Here is a simple list of all the things I need to do.

I need to learn:

1. Clicking a certain option in a box
2. Changing screens and scenery if something is pressed
3. Changing scenery after a click
4. Bitmapping

Agenda over the course

March 29th: Learn Bit mapping

March 30th: Finish logic and planning

March 31th: Draw all the needed shapes for the buttons and bottle with background with words

April 1st: Click functions and bit mapping all the materials in the bottle

April 2nd: Continued from yesterday

April 3rd: Doing a new screen where the water is being poured and all the screens

April 4th: Final Scoreboard and clean water rating

