

## EXPERIMENT 5

# DIY WATER FILTER

Let's see how the Earth (and humans) clean water!



# 5 - DIY WATER FILTER



## SUPPLIES NEEDED

- Craft Mat
- Scissors
- Crayons
- Tape
- Water Bottle that's provided
- 1 – 8oz Cup
- 6oz Water
- 1 Stir Stick
- Kitty Litter
- 3 Coffee Filters
- Gravel
- Aquarium Sand
- Activated Charcoal
- Alum



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## STEP 1

With scissors, carefully puncture your water bottle about half of the way from the bottom.

Cut the water bottle in half (hamburger style) starting where you punctured the bottle (use as funnel).



## STEP 2

Put your finger in the middle of ONLY ONE (the rest are extra) coffee filter and wrap it around your finger.

Place coffee filter in the top half of the bottle (see photo).

Open coffee filter to line the bottle (making a cup inside the top of the water bottle).



## STEP 3

Set the top of the bottle (your water filter) inverted into the bottom (where you will catch your filtered water).



## STEP 4

Layer filter materials inside in the following order (choose your amounts):

- Activated charcoal (1/4–1/2 of the bag)
- Sand (1/4–1/2 of the bag)
- Gravel (entire bag)
- Alum (just a little scoop, ~1/2 Tbsp)



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## STEP 5

Mix dirty water using:

- Water + kitty litter + 1-2 drops of blue dye
- Then let the big particles fall and settle down to the bottom



## STEP 6

Remove the cap.



## STEP 7

Pour dirty water through the filter slowly so the clumps of kitty litter do not come out and make sure your dirty water goes inside the coffee filter and not in between the coffee filter and the bottle.



## STEP 8

Observe how water changes.



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Water looks cleaner, but is it fully safe?

The soil and rocks below us do a lot to treat stormwater but sometimes stormwater is diverted to pipes or cannot absorb into the ground. Not all pollution is removed before reaching the ocean.

This connects directly to:

→ runoff → pollutants → ecosystems

Our treatment plants take these processes further when treating our wastewater and treating water for drinking water by using advanced treatment which also removes harmful bacteria from water.

So...Would you drink this water you've filtered? Why or why not?

COLOR AND CLARITY OF DIRTY WATER	NOTES ON HOW YOU DESIGNED YOUR FILTER	COLOR AND CLARITY OF WATER AFTER GOING THROUGH YOUR FILTER

