



SCIENCE EXPERIMENT



Name: _____

Date: _____

Scientist: _____

Testing the Effectiveness of Different Water Filtration Methods



QUESTION

How effective are different water filtration methods at removing visible dirt and improving the clarity of water?



HYPOTHESIS

I think _____
will be the most effective because



MATERIALS

- Dirty water (see procedure)
- 4 clear plastic cups or bottles
- Coffee filter
- Paper towel
- Sand
- Gravel
- Activated charcoal (aquarium or water filter charcoal)
- Cotton balls
- Measuring cup
- Funnel
- Spoon
- Turbidity tube or clear measuring cylinder (or any clear container with mL markings)
- Optional: pH strips



PROCEDURE

1. Make dirty water: Mix 4 cups of water with 2 tablespoons of dirt (soil) in a container. Stir well.
2. Set up four filtration methods as shown below.
3. Pour the same amount of dirty water (1 cup) through each filter into a clean cup.
4. Measure the clarity of each filtered water sample using a turbidity tube (or clear measuring cylinder).
 - Record the highest number (in mL) you can see the black dot or line through the water.
5. Observe the filtered water and record any other changes (color, particles, smell).

Method 1 (No Filter)



- Pour dirty water directly into the cup.

Method 2 (Coffee Filter)



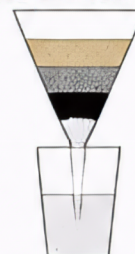
- Place a coffee filter in the funnel.

Method 3 (Sand + Gravel)



- Add 2 tbsp sand on top.
- Add 2 tbsp gravel below the sand.

Method 4 (Sand + Gravel + Activated Charcoal + Cotton)



- Add 2 tbsp sand on top.
- Add 2 tbsp gravel.
- Add 1 tbsp activated charcoal.
- Add cotton balls on the bottom.

DATA TABLE

Method	Description	Turbidity (mL) Higher is clearer	Water Appearance (Color/Particles)	Other Observations (Smell, etc.)
1	No Filter			
2	Coffee Filter			
3	Sand + Gravel			
4	Sand + Gravel + Activated Charcoal + Cotton			



ANALYSIS

1. Which filtration method was the most effective?

2. Which was the least effective?

3. Why do you think this method worked best?



CONCLUSION

Write a conclusion summarizing what you learned from your experiment.

