SCIENCE EXPERIMENT

BUILDING A SIMPLE WATER FILTER

Using Gravel, Sand, and Charcoal

Name: _____

Date: _____

Grade: _____

QUESTION: Can we clean dirty water using layers of gravel, sand, and charcoal?

GOAL

To build a simple water filter and test how well it removes dirt from water.

MATERIALS

- 1 clear plastic bottle (cut off the bottom)
- Small gravel
- Sand (play sand or clean sand)
- Activated charcoal (aquarium or briquette charcoal, crushed)
- Coffee filter or clean cloth
- Rubber band or tape
- Dirty water (mix water with a little dirt)
- Clear cup or jar

HYPOTHESIS

If I filter dirty water through layers of gravel, sand, and charcoal, then the water will become cleaner.

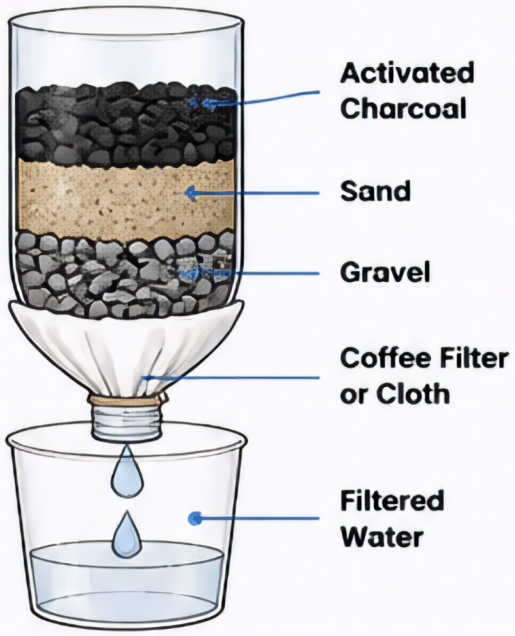
_____

_____

PROCEDURE

1. Cut off the bottom of the plastic bottle.
2. Place a coffee filter or clean cloth over the bottle opening. Secure with a rubber band.
3. In the bottle (top part), add the filter layers in this order from bottom to top:
   Gravel → Sand → Charcoal
4. Place the bottle in a clear cup or jar.
5. Slowly pour dirty water into the top of the filter.
6. Collect the filtered water in the cup below.
7. Observe and record your results.

FILTER SETUP DIAGRAM



OBSERVATIONS / RESULTS

What I Observed	Notes / Description
Dirty water (before filtering)	
Water after filtering	
What changed?	

CONCLUSION

Did the filter clean the water? Why or why not?

_____

_____

What did you learn from this experiment?

_____

_____

THINK FURTHER: How could you make the filter work even better? What other materials could you try?