



MAKING A SOLAR STILL TO PURIFY WATER

A solar still uses the sun's energy to evaporate water and then condense the vapor back into clean water. This process leaves salts, dirt, and other impurities behind.

QUESTION



Can a solar still turn dirty or salty water into clean, drinkable water?

MATERIALS



- 1 clear bowl (glass or plastic)
- 1 small cup or jar (collecting cup)
- Plastic wrap
- Rubber band or tape
- Small rock or weight
- Dirty water or salt water (do NOT use water for drinking)
- (Optional) Food coloring or dirt to show impurities

SAFETY

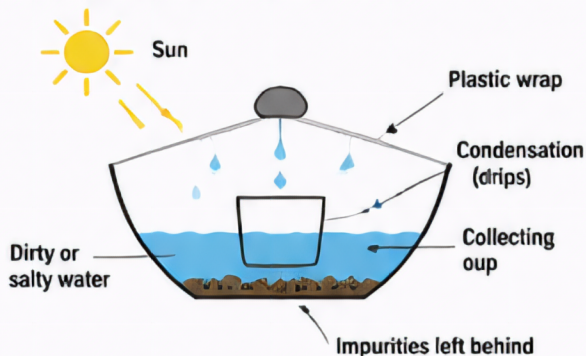


- Use only sunlight—do not use heat lamps or stovetops.
- Do not drink the water you start with.
- Handle materials carefully.
- Wash your hands after the experiment.

HOW IT WORKS



The sun heats the water in the bowl, causing it to evaporate. The water vapor rises and touches the cool plastic wrap. It condenses (turns back into liquid) and drips down into the collecting cup. The impurities are left behind in the bowl.



PROCEDURE



1. Place the collecting cup in the center of the bowl.
2. Add dirty or salt water to the bowl. Do not fill above the level of the collecting cup.
3. (Optional) Add a few drops of food coloring or a pinch of dirt to the water.
4. Cover the bowl tightly with plastic wrap.
5. Place a small rock or weight in the center of the plastic wrap, directly over the collecting cup. This creates a low spot so water droplets will drip down.
6. Secure the plastic wrap with a rubber band or tape.
7. Place the solar still in a sunny spot where it will not be disturbed.
8. Leave it for several hours (or all day). Check it carefully and collect the purified water from the cup.



OBSERVATIONS



- What did you notice happening to the plastic wrap?

- What collected in the cup?

- Was the water in the cup clear? Yes ☐ No ☐
- What did the leftover water in the bowl look like?

CONCLUSION

- Did the solar still work? Why or why not?

- How could you improve your solar still?

★ TIPS

- More sunlight = better results.
- Let it run longer for more clean water.
- Keep the plastic wrap tight and the bowl level.