

# DON'T BE SALTY

## BACKGROUND

Have you ever tried to catch a raindrop or a snowflake? What does it taste like? Is it salty? What about a mouthful of water when a wave crashes into you? Is it salty? Precipitation, such as snow or rain falls as freshwater, even if it has evaporated from the salty ocean. The Water Cycle naturally provides freshwater.

In some regions of the world there is not enough rainfall or freshwater but if the area is near a coast they can desalinate ocean water. Desalination is the process of removing salt from water to access freshwater. This activity will mimic a desalination process using the sun, following the processes that drive the natural water cycle - evaporation, condensation, precipitation, and collection.

## MATERIALS

- Clear glasses/jars
- Large bowl
- Table Salt
- Beeswax wrap (or plastic cling wrap)
- Waterproof grease like Vaseline (optional)
- Small rock
- Tap Water
- Refractometer/aquarium hydrometer (optional)



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## PROCEDURE

Step 1: Mix roughly 1 tablespoon of salt per cup of water in a shallow bowl to ~½ inch depth

Step 2: Place a small glass or jar in the center of the bowl

Step 3: Cover the bowl top tightly with your wrap. Ensure there are no open spots around the rim using waterproof grease if necessary.

Step 4: Find a safe and clean spot that gets LOTS of sunshine, such as on a window sill or possibly outdoors, and place the bowl where it can get maximum sunlight.

Step 5: Place a rock or weight on top of the plastic wrap, positioned just above the cup. The rock or weight should cause the plastic wrap to sag in the center above the cup so you may need to loosen the wrap and reseal. This step is essential to ensuring water can collect in your glass/jar.

Step 6: After several hours, condensation should form on the underside of the plastic wrap. Where you have your rock / weight, you should observe drops of water formed and flowing downward slowly into the jar/glass.

Step 7: If available, you could compare the salinity of the water using a refractometer or hydrometer to verify results.



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