

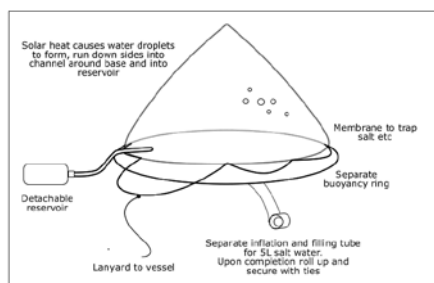
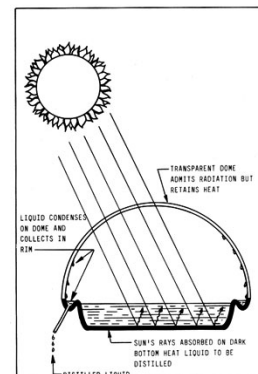
Here is a way the engineering design process might be used to solve the problem on a small scale:

1. Identify the Problem

In an emergency, people on or near the ocean need fresh water to drink, but might only have salt water.

2. Develop Possible Solutions

Engineers might begin designing a solution by drawing a simple model of a solar still. This is a closed container with salt water in the bottom and a transparent top. Heat from the sun causes only the water to evaporate—the salt stays behind. This water vapor condenses on the inside surface as fresh water.



3. Make and Test a Prototype

Engineers develop and test different models called *prototypes* to see what works best. They might try different cone-shaped tops to see which works best to make the fresh water run down into a collecting area.



Credit: Landfall Navigation

4. Optimize or Improve the Design

After testing the prototypes, they refine the design until they have a device that works.

Salt Water to Fresh Water on a HUGE Scale

On a huge scale, engineers have designed and built a system in the United Arab Emirates, a country near Saudi Arabia, which can convert over 500 million gallons of salt water into fresh water every day! Believe it or not, they use evaporation and condensation to make it happen.

