

SOLAR STILL

INTRODUCTION

During World War II, moving across huge distances to different lands brought on great challenges. Water, which was in short supply for troops as they advanced in battle, was difficult to transport. Also, the places the troops moved through were either remote and primitive or badly damaged by battle. These conditions provided little infrastructure.

In this activity, students will make a DIY solar still. It can be as simple as a big bowl or bucket, with a smaller bowl that fits inside and with plastic wrap or a plastic bag covering the large bowl. Ice or a cooler pack might make condensation faster.

STANDARDS

NGSS 5 ESS2-1

Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

NGSS 5 ESS2-2

Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

NGSS MS ESS2-4

Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

NGSS MS ESS3-1

Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

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A solar still is a small model of the water cycle. In helping students apply all the concepts related to the water cycle, including phases of matter and changes in addition to Defining Problems, Developing and Using Models, and Designing Solutions—all important Science and Engineering Practices—they also gain experience with Crosscutting Concepts of Systems, System Models, and Energy and Matter.

NAME:

DATE:

SOLAR STILL

Your teacher will give you the materials to make a device to purify water, called a solar still.

What might be in the sample of water before purification?

Draw a diagram of your solar still and label the parts of it:

Use your still as a model of the water cycle. On the diagram you made above show which parts of your still correspond to the water cycle.

What might be dissolved in the water you collected from your solar still?

**How long do you think it would take for you to collect enough water to drink using your solar still?
How could you make it better or collect clean water faster?**