Solar multicooker

Nomade des Mers

https://wiki.lowtechlab.org/wiki/Multicuiseur_solaire/en

Dernière modification le 22/10/2019

Description

Solar oven + Heat saving slow cooker+ dryer.

 Difficulty  Easy

 Duration  8 hour(s)

 Cost  30 EUR (€)
Summary

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Introduction

This model combines different low-tech technologies. The solar oven traps the sun's rays and concentrates them behind a glass window to increase the temperature in the cooking chamber. If the insulation of the oven is thick enough, the cooking will continue even with the panels closed. When the oven is hot, if the door is open, the hot environment is perfect for drying fruit because they are protected from the direct sunlight.

Ps: A »The closed box can be used as a cooler.

Materials

- Polystyrene boards
- Wood boards
- 8mm glass (size: 50cmX50cm)
- Aluminium scotch or survival blanket (silver side outwards)
- Pop-rivets
- Inner tube
- Cords
- Screws

Tools

- Cutter
- Saw
- Screw driver
- Riveting machine

Step 1 - Build the polystyrene structure.

Step 2 - Cover the inside with aluminium or survival blanket (silver side up)
Step 3 - Build the wood structure.

Step 4 - Attach the reflective panels.

The use of the inner tube for the hinges enables a stable position and the right tension. The cords will help to keep the panels to 90° in relation to the sunlight. They also attach the panels to the base when they are closed.
Step 5 - Build the oven door.

The door is also insulated to minimize the thermal bridges.

Step 6 - Cook.

Once hermetically sealed, the oven's temperature can reach up to 90°C. The cooking tray helps by absorbing the sunlight. This oven is designed to store and warm eight normal water bottles of 1.5L.
Step 7 - Build the dryer.

Shielded from the sunlight with a ventilation grill.