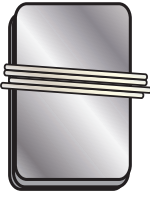


CAUTIONS:

- * **BE CAREFUL!** The foods and cookware inside the oven bag may be **VERY HOT**.
- * **Avoid hot & high pressure steam.** Open oven bag and cookware cautiously.
- * **Never leave the cooker unattended - Risk of overcooking or potential fire.**
- * **The sunlight at the smaller end of the balloon WILL BE INTENSE.** Never look into the smaller end without protective eyewear.
- * **Only use cookware and containers designed for cooking with heat or flame.**
- * **DO NOT fill the balloon with anything other than air.**
- * **DO NOT over inflate the balloon. Fill only to approximately 90% capacity.**
- * **DO NOT use the balloon to increase solar charging power of PV panels under direct sunlight; it may damage the panel.**
- * **Always use adequate sun protection for your eyes and on your skin when in direct sunlight. Never look directly into the sun.**

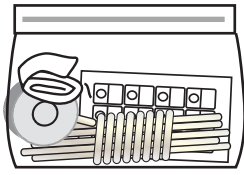
PARTS INCLUDED:

Solar Balloon Energy System



Solar Balloon, "I" Balloon, Mylar Sleeve, and 2 Velcro® Straps

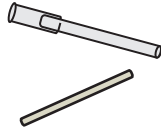
Zip Lock Bag



Inflation System



Air Pump



Straw for inflating & deflating Solar Balloon
Small Straw for deflating "I" Balloon

Cooking Pan and Liner



Black Cooking Pan

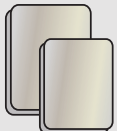


Black Cooking Liner (Heat Transfer Sheet)

Zip Lock Bag Contents:



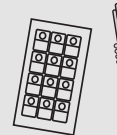
4 Clear Plastic Weight Tubes (rolled)



2 Folded Oven Bags*



2 Reusable Ties for Oven Bags



Adhesive Tabs & Nylon Cord

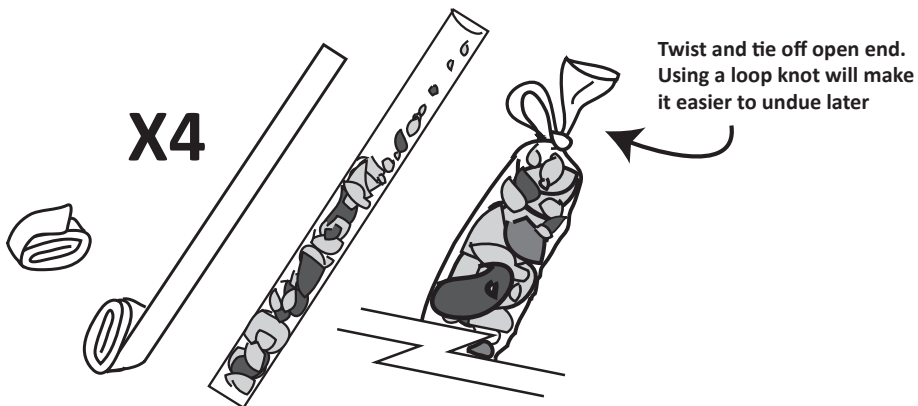


Clear Tape

*We recommend Reynolds® Oven Bags

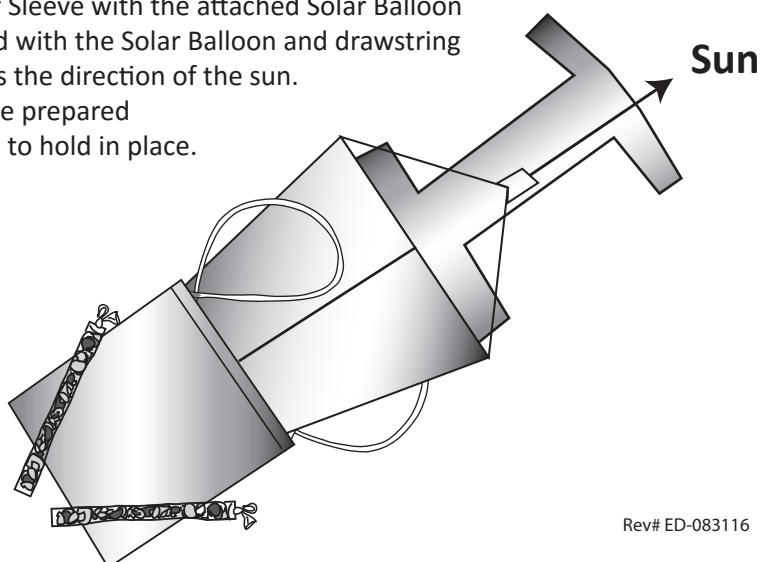
STEP 1 Create the Weights

Fill the four clear plastic Weight Tubes with sand, water or gravel. Leave enough of the tube unfilled in order to twist, tie or tape off.



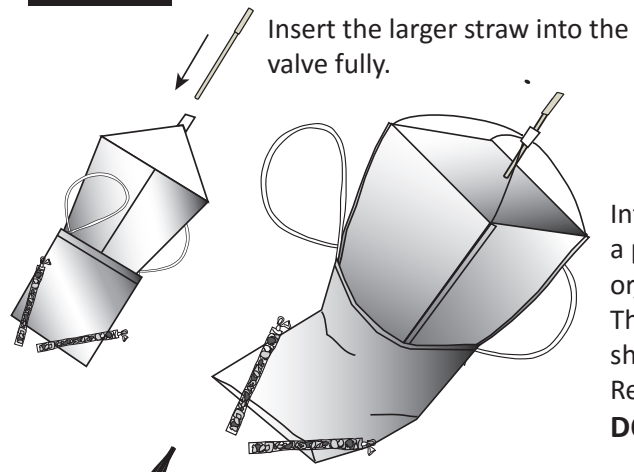
STEP 2 Secure the Mylar Sleeve & Solar Balloon

Lay the Mylar Sleeve with the attached Solar Balloon on the ground with the Solar Balloon and drawstring loops towards the direction of the sun. Use two of the prepared Weight Tubes to hold in place.

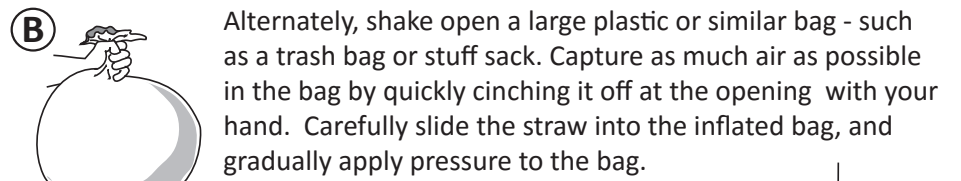
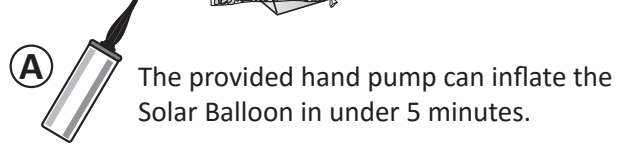


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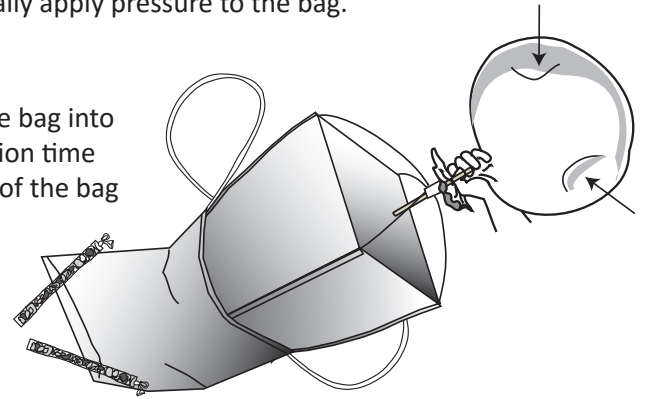
STEP 3 Inflate the Solar Balloon



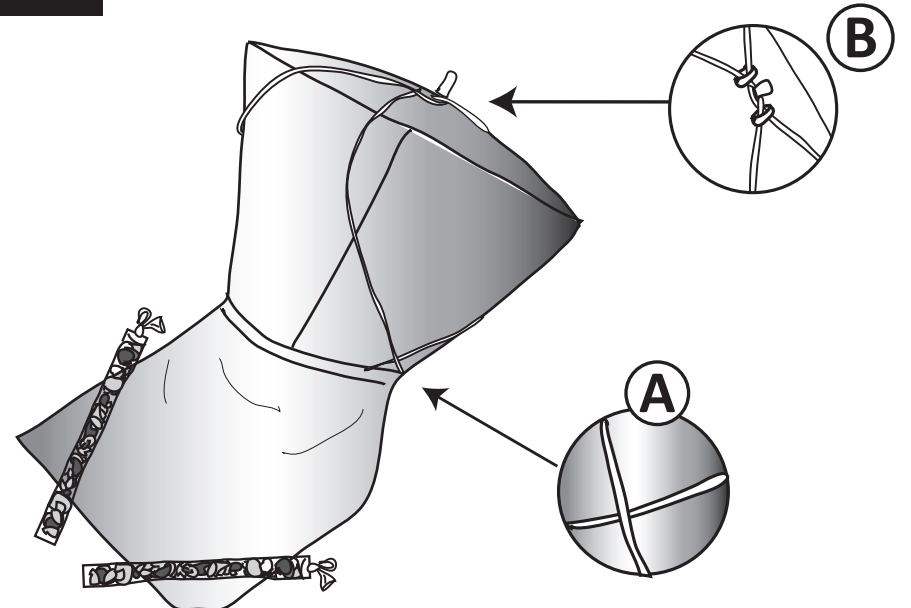
Inflate the Solar Balloon using a pump (A), a large plastic bag (B) or, as a last option, by mouth. The corners of the Solar Balloon should remain soft. Remove the straw. **DO NOT over inflate!**



Air will transfer from the bag into the Solar Balloon. Inflation time will depend on the size of the bag used. You may need to repeat.



STEP 4 Secure the Solar Balloon

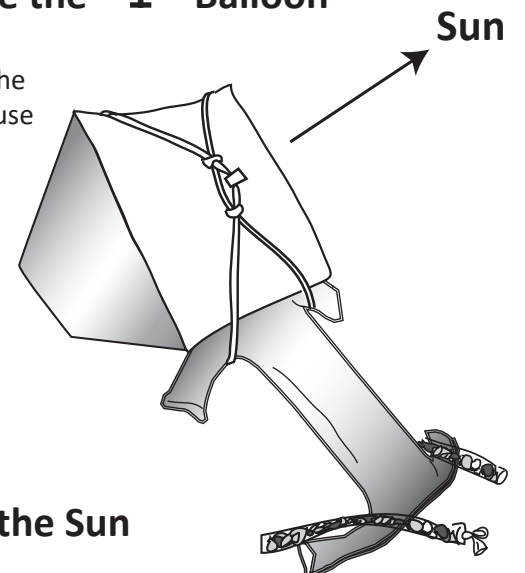


Cross hang the Mylar Sleeve drawstring loops over the Solar Balloon

Take care to crossover the cords where they exit the Mylar Sleeve (A). Bring each drawstring loop across the large end of the Solar Balloon. Pull each cord loop over and around the inflation valve as shown, and secure the two cord loops together using the provided Velcro® straps as indicated in inset (B).

STEP 5 Inflate & Secure the "I" Balloon

Inflate the "I" Balloon by putting the pump tip directly into the valve, or use the small straw and a plastic bag. Make sure to slide two arms of the "I" Balloon through the cords of the Mylar Sleeve as shown. Use the two remaining Weight Tubes at the base. The "I" Balloon is used to both stabilize the Solar Balloon and to position it properly to face the sun.

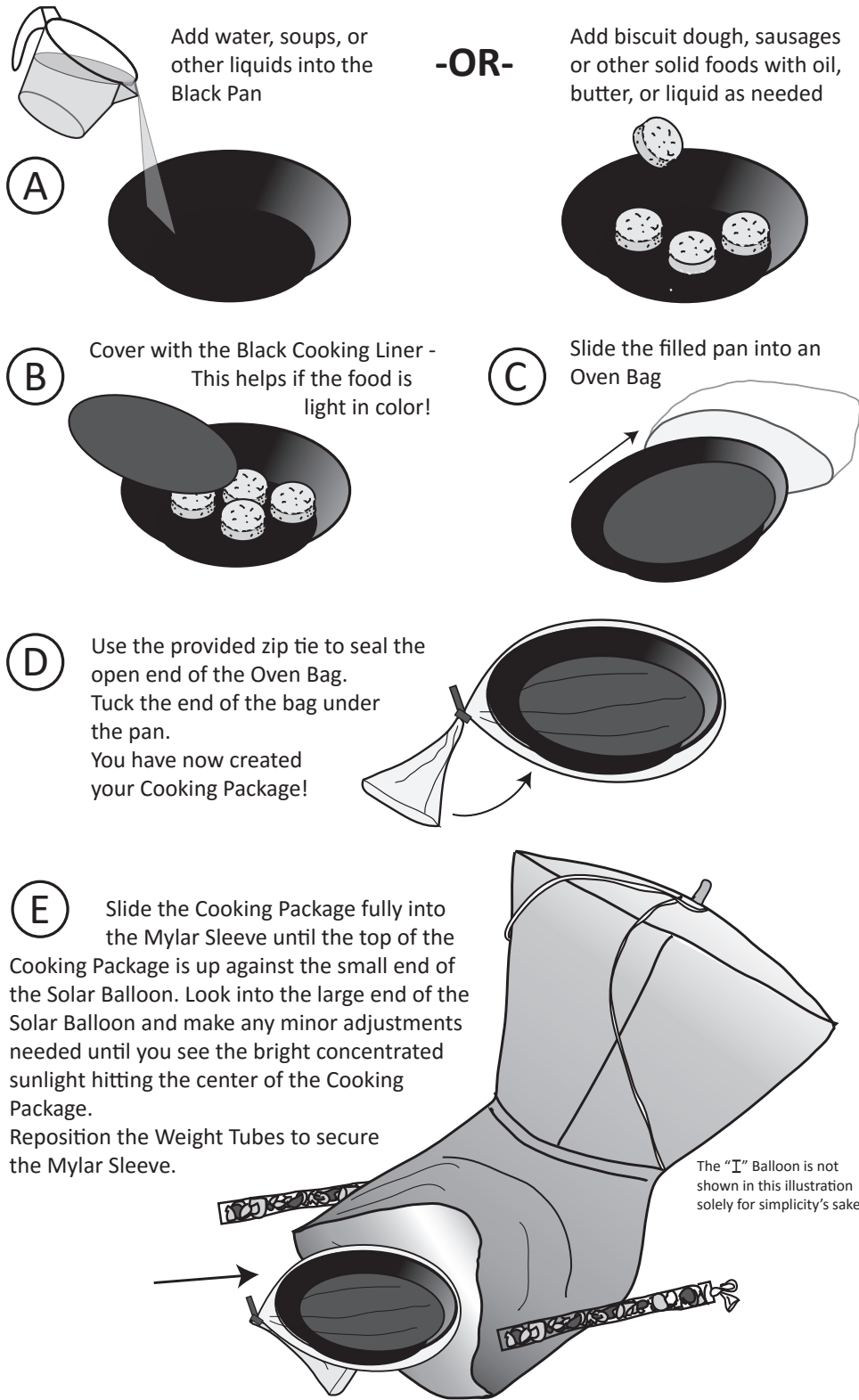


STEP 6 Adjust to Face the Sun

Position the large end of the Solar Balloon to face the sun, and adjust the "I" Balloon to maintain the orientation. You should see a bright spot of concentrated sunlight at the small end of the Solar Balloon. The design of the Solar Balloon allows for tolerance, so positioning does not need to be exact.

STEP 7 Prepare and Start Cooking!

Your Solar Balloon Cooker is very effective in cooking a variety of foods in small quantities. The volume of food is ideal if the black cooking liner can cover all the food in the black pan without a gap between the edge of the liner and the inside surface of the pan. It is OK to use a larger black pan to cook more food, but it will take longer to get it done. Cooking times may vary depending on altitude and strength of the sun.

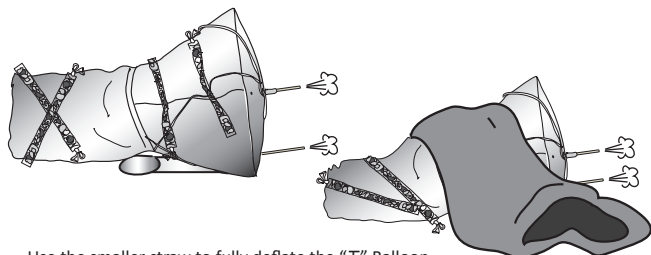


Basic Cooking Processes:

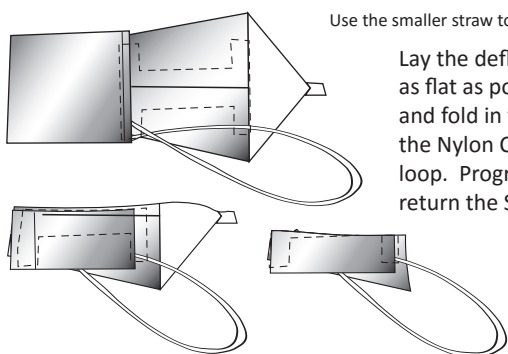
- 1 Boiling Water (For coffee, tea, etc.)**
Add one cup of water to the Black Pan and prepare Cooking Package as described above. Insert under small end of the Solar Balloon. It typically takes one cup of water at 70°F about 15-20 minutes to reach 200°F+ or boiling on a sunny day.
- 2 Making Rice, Pasta, Rehydrating Meals, MREs, Hardboiled Eggs, etc.**
Bring 1.5-2 cups of water to 200°F as described above. Remove and open the Cooking Package. Add rice, pasta, etc. to the hot water. Cover with the Black Cooking Liner, enclose in the Oven Bag, and cook until ready.
- 3 Cooking Biscuits, Bread, Cookies, etc.**
The provided Black Pan is non-stick, but you may want to lightly grease the bottom. Add dough to the bottom of the pan, cover with the Black Cooking Liner, prepare Cooking Package. Put Cooking Package under the small end of the Solar Balloon. Monitor progress after 15-20 minutes. They can cook quickly!

How to deflate and refold the Solar Balloon:

Tuck the "I" Balloon back under the Solar Balloon and lay the Weight Tubes, a blanket, jacket or other soft article on the Solar Balloon and "I" Balloon to push out the air.



Lay the deflated Solar Balloon over the "I" Balloon out as flat as possible. Tug on the corners of the Solar Balloon and fold in the sides to return to its original shape. Pull the Nylon Cord on one end only to create a long single loop. Progressively fold along the original fold lines to return the Solar Balloon to a tight package.



California Sunlight

Solar Balloon Energy Kit



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IMPORTANT DETAILS!

Air inside the balloon will expand when it warms. **DO NOT** fill to capacity or there is danger of rupturing the balloon.

Reinsert the valve indicator to prevent the risk



Or, insert the straw to reduce the air pressure at any time during cooking.

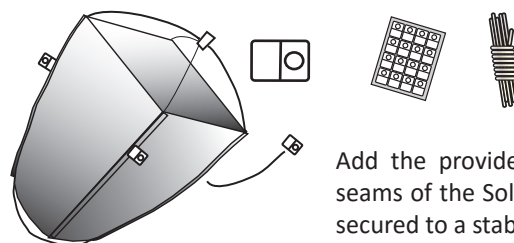
Achieving the highest temperatures is a matter of making sure the large end of the balloon is pointed **directly** towards the sun, and that **bright concentrated light can be seen targeted on the cooking package.**

Make certain that the Cooking Package is up against the small transparent end of the Solar Balloon, and that it is **unobstructed** by the Mylar Sleeve.

Repositioning the Solar Balloon approximately every 15-20 minutes to keep the concentrated sunlight on the Cooking Package will greatly improve the efficiency of the cooking process.

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Alternative Way to Secure the Solar Balloon



Add the provided Adhesive Tabs as needed to the seams of the Solar Balloon to allow the balloon to be secured to a stable object with the Nylon Cord.

STEM Lesson Plans

Email us at: info@california-sunlight.com -or- Call us at: 1-866-675-3548 -or- Mail us at: California Sunlight 3791 Power Inn Road Sacramento, CA 95826 Please provide your name, your school's name, your class level(s), and give us the best email to send your STEM Lesson Plan PDF file.

For educators that have creative ideas for additional lesson plans, send us your thoughts! **If your idea is selected to be added to the available plans, you will receive a FREE Solar Balloon Energy Kit!**