

“Leave no Trace”

Super Efficient Technique for Philmont Meal Preparation

by Al Geist

Advantages:

- No clean up
- Only utensil needed is a spoon
- Philmont packages used to cook and eat from
- Minimum fuel use and water use
- safer – smaller pots are more stable on backpacking stoves
- Very "Green" - no gray water produced, no extra trash
- Scouts are not required to all eat the same meal (i.e. accommodates crew with special meal needs)
- light weight and small - unlike typical six and eight liter pots used

Items needed: Two identical cook kits per crew, Both are used each meal and each serves as back up for the other should something break or get lost in one kit. (Cook kit contents list attached)



Technique described using Example Dinner S8 -- Fettuccine Primavera (2 person per package)
(see next page for how to do each of the ten 2009 Philmont dinners)

Step 0 Wash hands (There is Purell in cook kit)

Step 1 Determine total amount of water needed (see side of package - 20oz x #packages)

Step 2 Place this amount of water divided between the two pots and place on stoves to boil
Place spoons in pan (handles out) to sterilize

Step 3 While water heats up, open the outer Philmont bags at bottom
(bottom corners have air holes in them. Opening at bottom leaves the outer bags as a leak-proof trash bags. Do all food work over the trash bag so any spills go in it)

Step 4 Open 7" side of both Banana Chip foil pouches and place them in a quart ziplock bags for desert (In other meals the pilot biscuits pouch is good choice)

Step 5 Open 7" side of Fettuccine Primavera and place half in one of the empty Banana foil pouches

Step 6 Open 7" side of corn and place half in other Banana foil pouch.

(optional in Dinner S8 is to mix corn with Primavera, but in general the second item may not go with the entree so these instructions describe how to keep them separate)

Step 7 There are now two Fettuccine foil pouches and two corn foil pouches
Each person places one of each in their cozy and secures with mini-clips

Step 8 When water is at rolling boil remove spoons
measure out (with measuring cup –don't guess)
amount for the corn (2 oz per foil pouch) and pour it in and let it rehydrate
Then measure out the amount for the Fettuccine (8 oz per foil pouch) and pour it in and stir with spoon for 1 minute (especially corners)

Step 9 Let foil pouches sit for 10 minutes to rehydrate food

Step 10 Season to taste and eat directly out of foil pouches in the cozies
Open Honey Mustard Pretzel package and enjoy with meal
Eat Banana Chips for desert and save the ziplocks for next meal

Spoons are licked clean and will be sterilized at the beginning of the next dinner.

All the trash is placed back in the Philmont outer bag for disposal at next trash can
There is no water left in the 2L pan. No fuel was used to boil water that was never used.
No water is needed for clean-up. Minimizes the amount of water used (and carried to dry camps), the amount of fuel carried, and amount of trash generated - only the bags that Philmont gives the crew. I can't think of anything more efficient or more in the spirit of "Leave no Trace".

Super Efficient Technique

Bag Use Details for each Philmont Meal

Note that with this technique the crew members can eat different dinners at each meal. This was important to our Philmont crew because we had two vegetarians. But it works in general if some crew members really like one meal or another they can trade with other crew members. In keeping with the Philmont tradition, we always ate our meals together as a crew after grace.

Meal #

- S1** Buttermilk Pretzel into reusable ziplock, foil bag used for ½ stroganoff
- S2** Pilot Biscuits into reusable ziplock, foil bag used for ½ black beans and rice
One Pineapple chunks into reusable ziplock #2, foil bag used for ½ corn
- S3** Pilot Biscuits into reusable ziplock, foil bag used for ½ chicken and rice
One Apples and spice into reusable ziplock #2, foil bag used for ½ mashed potatoes
- S4** Buffalo Wing Pretzel into reusable ziplock, foil bag used for ½ spaghetti w/ meat sauce
Use up ziplock for ½ mashed potatoes
Use up ziplock #2 for ½ French Mousse
- S5** Pilot Biscuits into reusable ziplock, foil bag used for ½ macaroni and cheese
One Banana chips into reusable ziplock #2, foil bag used for ½ green beans
- S6** Complicated by mash potatoes pouch being inside Homestyle chicken bag
Fold Homestyle Chicken bag in half along 10" side, cut just along top and remove inner pouch
Cut chicken bag in half and place each 7"x5" piece in cozy
Cut open mashed potatoes bag and pour ½ into each chicken bag
Use up ziplock for ½ green beans
Use up ziplock for ½ rice pudding
- S7** One Pineapple chunks into reusable ziplock, foil bag used for ½ stir fry
Second Pineapple chunk into reusable ziplock #2, foil bag used for ½ vegetable soup
- S8** One Banana chips into reusable ziplock, foil bag used for ½ Fettuccine Primavera
Second Banana chips into reusable ziplock #2, foil bag used for ½ corn
- S9** (Haven't seen package – TBD)
- S10** One Apricots into reusable ziplock, foil bag used for ½ vegetarian chili
Second Apricots into reusable ziplock #2, foil bag used for ½ chicken and rice
Use up one ziplock for ½ corn

Note that by choosing S4 or S6 for a last meal of the trek the reusable ziplocks will be consumed and this will minimize the overall trash for the trek by a tiny amount.

Cozy Design Notes:

Here are three photos of the cozy that hopefully will help you see how it is made. If folks can come up with even better, easier, cheaper cozies, that would be wonderful. I started out with a simple envelope design, but after watching the boys try out a couple Philmont practice meals, the design evolved.

The key cozy design parameters are:

1. Dimensions of the Philmont supplied foil food pouches.

An example is shown in the figure. I bought 6 different Philmont practice meals. The six meals contained 23 foil pouches which varied from 7"x10" to 4"x6". (Note this is how many meals a crew of 12 will open up EVERY night. The super efficient method takes these 23 pieces of trash and turns them into both the cooking bags and sterile bowls) One pouch edge was always between 6-7" so I made the cozy 7" wide and the sides 3" tall. I made the cozy short enough so the pouch would always stick out the top to make pouring in the boiling water easier. I added clips as an accessory when I saw the boys let the top edge of a 4"x6" pouch of corn slip down into the cozy while practicing pouring in boiling water. Now clips hold the short pouches so their top doesn't slip down inside the cozy where their contents may spill.



2. Volume of the cozy needs to be large enough to hold the maximum volume of water in a single serving of any Philmont meal. That turns out to be 12oz (1.5 cups) plus the volume of the freeze dried food already in the bag. To address this I made the cozy 3" wide at the bottom, giving it the volume of a triangular prism 7" long.



3. Very desirable to have the cozy stand up by itself. The food needs to rehydrate for 10-15 minutes after stirring. I saw the boys trying to sit the cozies down during this time. Envelopes don't work very well for this feature. The triangular shape allows the cozy to hold the pouch upright and being widest at the bottom the water weight and hence the center of gravity is low on this design making the cozy harder to knock over while rehydrating.

4. While not a required feature, I wanted the cozy to be as light as possible so I used 7"x9" piece of 2mm art foam - folded and stapled as shown in the photo so that it would pack flat. The cozy weighed 5 grams. It worked great holding the pouch. It was plenty big to hold the volume of water. But I found that when BOILING water was poured in, and allowed to sit for a few minutes, the foam properties changed. And sometimes didn't hold its triangular shape, increasing the chance that the cozy would fall over and spill the food while rehydrating. My quick fix, one week before we left for Philmont, was to slip in a thin sheet of plastic on the two sides of the cozy. I cut 2 3/4" x 7" strips out of a plastic sheet sold at WalMart for a few dollars called a "flexible cutting board". This worked very well at holding the cozy shape when hot. It also pretty much eliminated the need for the clips, but we carried and used the clips at Philmont to just be EXTRA safe not to spill any food using this new cooking method.

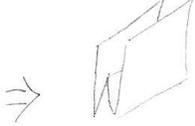
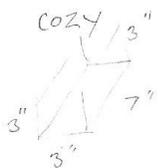


Below is a page scanned from Al's notebook showing his notes for how he made the meal cozy. Feel free to improve upon the design.

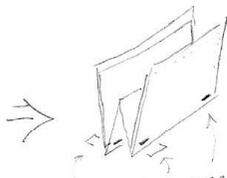
How To make Meal cozy

materials

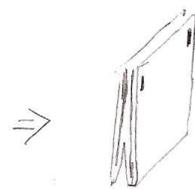
- flexible cutting board cut to $7" \times 2\frac{3}{4}"$ (any stiff - not rigid - plastic)
- $9" \times 12"$ Act foam cut to $7" \times 9"$



fold in the bottom

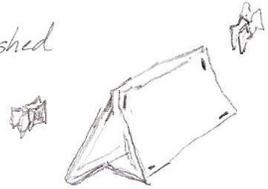


staple stiffener all the way thru bottom and side of foam



staple Top Corners thru both stiffeners all the way thru.

finished



add Two minibinders as assesoray To help hold meal bag To cozy

Philmont Cook Kit

Each crew carries two cook kits and both are used for each dinner
7 in crew plus ranger makes 8

Item	Qty	Detail
cook kit bag	1	2 gallon ziplock
cooking		
Canister stove	1	Snow Peak Giga w/ piezo lighter (or equivalent)
2Qt Aluminum Pot	1	w/ pot lid and holder (12 person crews need 3Qt pots)
Windscreen	1	18"x36" folded sheet of Heavy Duty Aluminum foil (helps fuel efficiency)
plastic measuring cup	1	clear marked in 1 oz increment (size 8oz or 12oz)
eating		
set of lexan spoons	4	half the number in crew (other half in second kit)
set of cozies	4	made from 9"x7" art foam including 2 mini binder clips each
stack of bowls	4	12oz tupperware bowls and lids for Gatorade and chuckwagon dinner
cleaning		
paint strainer bag	1	to strain gray water at sump
Camp Suds	1 oz	clean pots, cloths, showers
Purell hand cleaner	2 oz	crew to wash hands before meals
scruber pad	1	in case we do get pots dirty (we never did)
handi-wipes	2	to help clean and dry (many uses)

Total kit weight = 24 oz

Both kits are sealed in their ziplock and placed in bear bag each night

Fuel	Qty	
8oz Canister	7	Every crew member carried one 8oz canister Our actual use was two canisters per week

Notes:

Bowls can be used as Gatorade or coffee cups during regular meals
or in a pinch, meals can be prepared in the bowls
boiling water measured into bowls stirred and capped
(Requires bowl sterilization before and washing after meal)
Also needed in kit because
Crew must have own bowls for Chuckwagon meals