



## Project Noah

Billie Nicholson

**Project Noah** is a yearlong food storage and emergency preparedness program designed to help you set and obtain goals in the area of family preparedness. The program is divided into twelve monthly assignments touching on lots of short and long term preparedness subjects including a preparing, a reporting and a sharing segment each month. Our plans include learning specific details and techniques each month, and sharing what we've learned with family members and others in our communities. Each month we will include these in our newsletter. These lessons are designed to be used in church or community groups focused on preparedness. Start your own group and use these newsletters as a reference resource. Many articles will link to previous articles on SunOven.com. Click for additional information.

The first month's lesson focuses on pre-disaster preparation of water storage. In addition to storing food, we will also be reminded to acquire some necessary non-food items. This month's reminder is to acquire toothpaste and extra tooth brushes. Many dentists give out free toothbrushes and dental floss when you go in for a regular check-up. Graciously accept these and prepare a container to store dental needs. If you have children, get soft children's toothbrushes for each child. You will need 4 for each family member per year. Add floss and toothpaste to your stash.

The first short term assignment is to prepare a week's menu for each meal you plan to eat. As you make up this menu, get out a paper to prepare a shopping list. Many of us just punt from day to day deciding to prepare what we feel like eating today. If you will make a menu, you will receive several benefits. First, when you shop, you will know what ingredients to buy based on the recipes you have selected. This will reduce stress when its time to cook. As you make up your shopping list, add duplicates of the ingredients so you can have extra items in storage for the next time you're ready to make this recipe. Also, if you don't use all of the contents of a given package, you'll be able to plan an additional meal to use those before they spoil.

If you make the plans on computer, you will be able to drag and drop ideas from one week to the next and have mac 'n cheese on Tuesday this week and mac 'n cheese Friday the following week, for example, without having to rewrite recipes. Are you ready to start the preparedness trek? Remember, "if you are prepared, you shall not fear."

Thanks to Melissa Wray for the Monthly Outline. **Assignments on Page 8**

### *Ask Billie*

Q. Is there a risk of *Salmonella* or food poisoning when cooking meat in my **Sun Oven®**

A. If you preheat a Sun Oven before putting the food into it there is no difference than putting food into an electric or gas oven. The danger zone for meat is that you do not want it to be between 40 degrees and 150 degrees for 90 consecutive minutes. So if you are going to slow cook meat without preheating the Sun Oven we suggest that you start with a frozen roast.

For example if you put a frozen roast in a Sun Oven at 8 am and set facing south where the sun will be at noon:

From 8 am to 10 am the roast will be deforesting

From 10 am to 2 pm the roast will be cooking

After 2 pm the retained heat in the Sun Oven will allow the temperature to stay well above 150 degrees for several hours and you will have a moist and delicious roast.

What is your Most Burning Question about Food Storage or Emergency Preparedness? Send your questions to [editor@sunoven.com](mailto:editor@sunoven.com)



Billie Nicholson



Order Your **Sun Oven®** Today

## Water Storage - Why, How & Where?



### Water is the most critical of basic needs

About 65% of the human body is water. It flows through the blood, carrying oxygen and nutrients to cells and flushing wastes out of the body. It cushions our joints and soft tissues. Without water intake, we cannot digest or absorb food. In hot conditions, dehydration will set in within an hour. Depending on our physical condition, we can only survive for only 3–5 days without it.

### Water - You can't last long without It

In the United States, water is regulated by the Safe Drinking Water Act and distributed by local water treatment companies. They often deliver water and take away sanitary waste through an underground water/sewer system to homes in a community or city. Homes outside the delivery area need to provide their own water source from a well or spring and dispose of waste water into a septic tank. These systems generally rely on electricity to pump and move the water. In the event of an emergency disrupting the electricity, available water will generally be limited to what you have on hand.

### Water Storage and purification vital to emergency preparedness

Preparedness authorities like FEMA recommend storing at least 14 gallons of water per person. Each person will be allowed one gallon of water a day, so these 14 gallons will last two weeks. A family of 4 would want to store about 56 gallons of water. Some should be stored stationary, like in a large drum and some should be portable, in case you need to move. Three days worth of water should be included in your 72 hour kit. This is just enough for a minimum amount of water - just enough for drinking and light sanitation. To use water for cooking, bathing, or other needs, you'll want to store more.

Water should be stored in plastic, food grade containers such as water and beverage bottles. Glass and cartons should be avoided, as one can break and the other decomposes easily. If you have a water bed, that water should only be used for sanitation purposes. It is also important to remember to NEVER store water in old bottles of chlorine bleach or milk cartons, regardless of how well you cleaned them out.

### Multiple ways to purify water for drinking:

1. Boil water vigorously for 3-5 minutes. However, a Water Pasteurization Indicator (or WAPI) can help you use less fuel and energy to heat the water to a temperature that will eliminate pathogens and make it safer to drink. If you are using a Sun Oven, the WAPI will indicate when the water has been heated long enough for it to be pasteurized. [See WAPI article on Page 3.](#)
2. Add unscented household bleach (5.25% sodium hypochlorite) as per the chart below. Stir and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand for 15 minutes. Use fresh bleach.
3. Water purification tablets (Halizone or potable agua). Different types of tablets are available at drug stores or sporting goods stores. Follow the manufacturer's directions. Do not use tablets that are yellowish in color and/ or have a strong odor, and don't use products that are past expiration dates.
4. Iodine: Use 2% tincture of iodine to purify small amounts of water. Add three drops per quart of clear water. Let stand for 30 minutes. NOTE: According to the Department of Environmental Quality, Division of Drinking Water, pregnant or nursing women or people with thyroid problems should not drink water with Iodine.

**Continued on page 3**

## Water Storage - Why, How & Where? ctd. from pg. 2



5. Water from swimming pools can be safely treated and used as drinking water. Let the pool water stand for at least 72 hours to reduce the chlorine level. Do not add chemicals to the pool during this time. Use a combination of ceramic and carbon filter purifying pump/filter to extract water from the pool. This type of filtration system is effective in removing organic contaminants and enough chlorine to render the water safe to drink. Most of these filter types can safely convert up to 13,000 gallons of water before the filtration system needs to be replaced.

### Additional tips on water storage and purification

- Stored water goes flat. Aerate the water by pouring it between two containers several times.
- Immediately after a major disaster, prevent contamination of home water supply by shutting off the main incoming water valve. If water from the tap looks cloudy or has an unpleasant odor, don't chance it – PURIFY IT.
- Clearly label and date all storage containers, especially those reused from other products.
- Consider canned soups, juice from canned fruits and vegetables, bottled soft drinks, bottled juice, etc., as sources of liquid.
- Use water stored in the hot water tank, ice cube trays and toilet tank (not bowl)
- Dirty water can be strained through paper towels or clean cloth to remove particulates. Boil and treat with chlorine bleach as directed.
- There is no effective way for home decontamination of water which contains radioactive or chemical contamination

### Where can I purchase water storage containers?

An internet search will provide an abundance of sources from which to order water storage containers including

- [Emergency Essentials](#) Offers several sizes of large storage containers from 5 gallon to 55 gallon barrels. (From time to time, they offer storage containers at special prices)
- [The Ready Store](#) Also has containers from 2.5 gallon portable jugs to one fitting a 65 gallon emergency bathtub
- Local stores like [Wal-Mart](#), [Lowes](#) and [Home Depot](#) contain a variety of water storage devices in assorted sizes.

### Be water smart

Water aquifers around the world are lower than ever. We should all be concentrating on conserving water. Be aware of and follow all water conservation and water shortage rules in effect in your community.

**Every drop counts.**



## Building A Greenhouse - More Than Just Opening a Kit, Part 2

Billie and Robert Nicholson

In our last issue we wrote about the beginnings of a greenhouse. This month we will concentrate on some of the details we included to make the greenhouse more functional. After building the frame, we used pressure treated lumber to build-in work benches. One bench went the entire length and the other bench went half-way. In addition, we built two half-width shelves above them. One quarter of the house was left open. The benches were treated with Olympic wood preservative. The next phase was installing electric conduit for outlets. We spaced them to have outlets available at bench and shelf levels. All 6 quad outlets are water resistant, GFCI protected, 20 amp circuit for any conceivable projects. An exterior LED light fixture was installed. Ventilation was next. We installed 2 solar actuated automatic vent window openers. We ordered a humidity resistant 8-inch greenhouse exhaust fan with a temperature control module. To that we connected a filter box and ductwork to pull hot air out of the greenhouse. A louvered cover was attached to the exterior of the vent to prevent birds from entering. Bird protection is at the top so that birds don't roost and do their business on the windows of the greenhouse.



Built-in benches and shelves



Electric plugs



Exhaust fan and filter box



Louvered duct cover

Irrigation was the next phase. Water in the greenhouse serves several purposes including watering plants, clean-up and temperature reduction. We installed two water lines. One is available for hand watering and clean up. The other is connected to the yard irrigation system to enable us to control the time and duration of watering plants inside the house. We ran two water lines, one on either side of the building. The irrigation nozzles are designed to mist 3 gallons per hour with a 24" misting radius. Each water line has an automatic drain valve at the end to prevent algae or mold growth in the nozzle heads. To make the building more stable in a windy situation, we installed three hurricane straps. One on either end and one in the middle, going up and over the building and fastening into the ground.

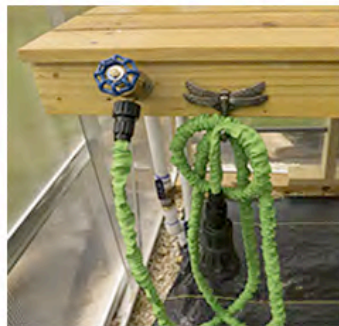
Building a greenhouse can be as simple or as complicated as you choose and as temporary or permanent, too. We are thrilled with our completed project and have already begun to move in supplies and tools. We have visions of pineapples, bananas and tomatoes in December dancing through our heads.



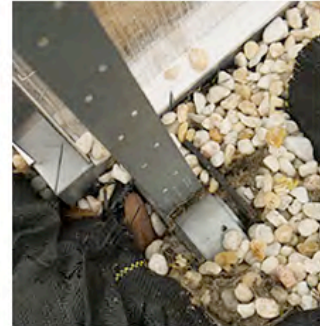
LED fixture, and airflow ductwork



Dual water lines



Water access



Hurricane strap installed

## Meal Planning Made Easy

Week of:							
Meal	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Break							
AM Snack							
Lunch							
PM Snack							
Dinner							

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Meal planning is exactly as it sounds - it's planning your meals in advance. Meal planning has so many advantages and will save you both time and money as well as altering your eating habits. When you focus on what you're eating, you will have more control over your diet.<sup>1</sup>

Each person's eating situations can vary from week to week depending on work schedule, school activities, evening commitments, and travel plans. The first step to meal planning is to determine how many meals you need to plan for each day and each week. When you have time to prepare meals, it is a good idea to

make what we refer to as "planned overs." This means making meals that can be served more than once. This idea works great for times when you have to eat and run or come home dog tired and ready to eat whatever you can grab. As you prepare your meal plan, keep in mind those fruits and vegetables that are currently in season.<sup>2</sup>

Meal planning lays the ground work for savings. If you plan well, you are likely to spend less time grocery shopping and save money. Shopping with a specific list in mind means you will cook what you buy. The meal plan image on this page can be downloaded and used as a template.

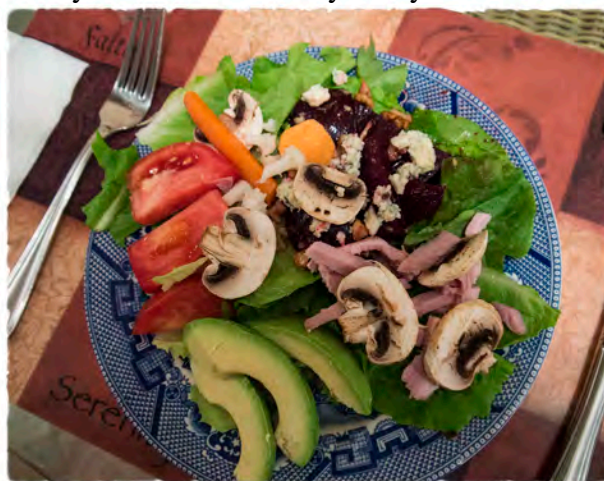
(Thanks, [ThisMommyCooksDinner.com](http://ThisMommyCooksDinner.com)) Each week include meals that you've made before as well as trying new recipes. If you use recipes that you know are well received in your family there is less likelihood that you will get ingredients that just sit forever in your pantry. Be sure to plan meals around items you already have. 40% of food bought spoils while sitting in the refrigerator. If you have food storage, be sure to inventory what you have and use the oldest items first. If you build your meal plans around what you already have, you will have less to buy at the grocery store. Pay attention to how much of an item you'll need for a recipe and pick another recipe for the next day that might include the remainder of those ingredients. Use an app to store all your recipes. The Cookin' software that comes with a **Sun Oven®** purchase can do just that. When you make your meal plan with those recipes, you can easily generate a grocery list.

Plan for leftovers. Having an additional meal from the same amount of fuel energy expended to produce the first one is a savings in time and energy. If you don't want to eat the same meal twice right away, freeze the second part for later. Post your weekly menu where all the family can see it. Not only will you become accountable for preparing them, other family members can pitch in to help get things going.<sup>3</sup>

Plan your meals a week at a time, ending on your regular shopping day. Keep the meal plans you make either in a notebook or in your computer. This way you will be able to refer back to them, select menus that were successful and mix and match different meals for different days.

### References

1. <http://mealplanning.co.uk/what-is-meal-planning/>
2. <http://blog.myfitnesspal.com/meal-planning-for-beginners/>
3. <http://www.cooksmarts.com/articles/planning-for-savings/>



*Lean 'n Green*

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## Solar Carnitas for a Crowd from Our Solar Chef



*Here's an easy way to feed a crowd. Assemble the additional taco ingredients - tortillas, salsa, shredded cabbage, guacamole, etc. - while the meat is cooking. Then set up an assembly line and let everyone build their own tacos.*

### INGREDIENTS

5- to 6-pound shoulder roast, cut into 4 pieces and trimmed of excess fat

Salt and pepper to taste

2 to 3 tablespoons vegetable oil

1/2 teaspoon red pepper flakes

2 tablespoons ground cumin

2 teaspoons ground all spice

1 teaspoon ground cinnamon

4 sprigs fresh oregano

6 cloves garlic, peeled and cut in half lengthwise

Juice and zest of 1 orange

Juice and zest of 1 lemon

1/2 cup dry white wine

### PREPARATIONS

Set *Sun Oven*® out to preheat.

Pat the pork dry and season lightly with salt and pepper. Heat 1 tablespoon of the oil in a large pot or Dutch oven over medium-high heat. One at a time, brown the pork pieces on all sides, adding oil as needed. Return the browned pork to the pot. Sprinkle with the red pepper, cumin, allspice, and cinnamon. Tuck the oregano sprigs between the meat. Sprinkle with the orange and lemon zests. Pour the juices and wine over the meat. Cover and transfer to the Sun Oven. Cook until very tender, 2 1/2 to 3 hours. Remove the pot from the Sun Oven and let the pork rest, still covered, for 20 minutes. Shred the meat with two forks. Use the meat to make tacos.

Makes 8 to 10 servings.

(adapted for the Sun Oven from *Not Your Mother's Casseroles* by F. Durand)

## Food Foraging

Billie Nicholson



Photos by Billie Nicholson

Spring is a great time to take food foraging hikes. I grew up in a rural area and learned to recognize some edible foods as we ranged on our 200 acre farm. I love the idea of food foraging, because that is exactly what happens -- you find food growing in unusual places and definitely not planted by the land owner and not necessarily cultivated either, but they come back year after year. A classic example are wild berries. Our tiny yard (in comparison to a rural farm) has acquired some berries and we did not plant them. But we are enjoying their harvest because I recognize them as an edible fruit and have made the effort to search them out.

When hunting for berries, I do several things: first I wear gloves that are flexible enough to feel the berries so I don't squash them. A long sleeve shirt will minimize briar scratches on your arms and exposure to mosquitoes or other biting insects. I also wear knee-high boots to minimize bug or other animal bites while standing in unknown ground and I carry a container with a lid to hold the berries without spilling before I get back home.

We gathered enough berries from our yard to which we added some frozen blueberries and cherries to cook up two cobblers. The flavor of such a treat motivated me to look beyond my yard. Not far from our home is a cemetery with a chain-link fence. We drove by it the other day and realized that it was another unusual place for berries. They were large enough that we spotted them from the car. Yesterday's walk took me and my basket (with a plastic container so as not to stain the inside of our basket) back to the fence-line. I walked the fence-line three times each time finding more berries. I know they didn't hide from me the first time and then sneak out for me to catch them on a second or third pass, but somehow it felt like that because I thought I had searched diligently the first time by. This food foraging trip acquired 2 pints of dew/blackberries. We will be able to make at least one more berry cobbler or freeze them for later. [Recipe](#)



*Berry Cobbler*

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## Preparedness Group Classes



Photo by Billie Nicholson

Do you lead or belong to a group that would benefit from preparedness lessons? Feel free to use our newsletter articles to teach from. In addition, Sun Ovens International, Inc. offers lessons in using solar energy to prepare food. We feature information on the benefits of using solar energy and directions on using the *Sun Oven®*.

These lessons are interactive/online presentations that group members can watch together or at home individually. You arrange the time with us and serve as a host. Guests login at a specific time for the presentation. They may submit questions and have them answered live. The lesson with 2 breaks for questions usually takes an hour. For those signed up but unable to attend, the lesson will be available on demand. We look forward to working with your group to expand their preparedness experiences. Call us at **800-408-7919** to schedule your group lesson.

## Project Noah - First Month Assignments



[Project Noah](#)

1. Pre-Disaster Preparation: Water Storage - Goals
  - a. Begin by storing some water this month
  - b. If you have some already stored, review & refresh; add more
2. Non-Food Items: toothbrushes and toothpaste - Goal
  - a. Determine how many your family will need for a year
  - b. Shop for the best prices and buy what you can afford
  - c. Make a "dental supply" stash
3. Short Term: Three Month Food Supply and Menus
  - a. How much food do you use on an everyday basis?
  - b. How much is enough for 3 months?
  - c. Goal - Make a weekly menu and use these meal plans
  - d. Shop for meals for two weeks using your plan and selected menus

Next Month's topics will be finding water in unusual places & more techniques for purifying water  
 Non-food item: toilet paper; keep a record of how many rolls your family uses in a month.  
 Menu planning for dinner and breakfast menus and recipes