Final Survival Plan

Step-by-step plans to Survive

DISCLAIMER OF LIABILITY AND WARRANTY

This publication describes the author's opinions regarding the subject matter herein. The author and publisher are not rendering advice or services pertaining to specific individuals or situations. For specific advice, or if expert assistance is required, the services of a qualified professional should be obtained.

The author and publisher assume no responsibility whatsoever for the use of the information in this publication or for decisions made or actions taken based, in whole or in part, on the information in this publication. The author and publisher make no warranties, express or implied, regarding the information. Without limiting the foregoing, the author and publisher specifically disclaim and will not be responsible for any liability, loss, or risk incurred directly, indirectly or incidentally as a consequence of the use or misuse of any advice or information presented herein. Use this publication and information with good judgment and do the best you can in your particular situation.

You agree to indemnify and hold the author and publisher, and their respective officers, directors, agents, employees, contractors and suppliers, harmless from any claim or demand, including reasonable attorneys' fees, related to your use or misuse of this publication or the information contained therein. You further agree that you will cooperate fully in the defense of any such claims.

COPYRIGHT

TERMS AND DISCLAIMER

By using, viewing, and interacting with this guide or the finalsurvivalplan.com website, you agree to all terms of engagement, thus assuming complete responsibility for your own actions.

The authors and publishers will not be held liable or claim accountability for any loss or injuries. Use, view, and interact with these resources at your own risk.

All products from finalsurvivalplan.com and its related companies are strictly for informational purposes only. While all attempts have been made to verify the accuracy of information provided on our website and within the publications, neither the authors nor the publishers are responsible for assuming liability for possible inaccuracies.

The authors and publishers disclaim any responsibility for the inaccuracy of the content, including but not limited to errors or omissions. Loss of property, injury to self or others, and even death could occur as a direct or indirect consequence of the use and application of any content found herein.

INTRODUCTION

Final Survival Plan will allow you to take a look at what you need to do to prepare in the case of an imminent attack.

This book will teach you some step-by step technics that will give you a chance in case of a disaster, will help you understand the importance of making preparations before anything happens, and help you know what to do and how to act, during and after a disaster.

For too long, the term "survivalist" was called mind paranoid separatists or white supremacist who give up the conveniences of modern society, drop out the government's databases and live in one-room backwoods cabins like the Unabomber.

Well, Final Survival Plan will give you some skills and knowledge that will help you to have an advantage when the big blackout will come. You may have many of these knowledge and items already. But after reading this book, you should have a pretty good idea about what you will need to do.

Become familiar with the information contained in this book so that, in the event of an emergency, you can act in a responsible manner to avoid a tragedy.

Finalsurvivalplan.com has made it’s best effort to produce a high quality, informative and helpful book. But they make no representation or warranties of any kind regarding the completeness or accuracy of the contents book.

We recommend that you try to get as much information as you can.

In a real emergency, one hour may not be long enough if you're not prepared.

TABEL OF CONTENTS

IN ANY SURVIVAL SITUATION you're likely to be at your best, both physically and mentally, in that moments before the situation occurs. From that point on, through lack of sleep, food, and water, your situation will deteriorate until your rescue. Being in good physical condition will help you overcome the challenges you'll face in a survival situation.

THE FOUR BASIC PRINCIPLES OF EMP SURVIVAL ARE:

Protection, location, water, food and energy. Also in the most common survival situations, this is the order in which you should prioritize them.

PROTECTION

You must stay in a situation that allows you to be proactive in your continued survival and rescue. Physically, you should protect yourself against injury and wild life elements. Mentally, you should protect yourself against emotions that could rob you from the will to live: fear, guilt, despondency, and depression, for example. The best way to achieve this level of protection is to light and maintain a fire. Not only does it offer physical protection against the elements from the wildlife, but it also provides a sense of security and familiarity that can help normalize even the most dire situation.

LOCATION

Your second priority is to recognize the importance of your location to your chances of survival and rescue. You will usually have two options: stay or go. Your preferred option should be to remain where you are and use anything at your disposal to mark your location to aid rescuers in their efforts to find you. If you can't stay where you are (perhaps because you are in imminent danger) you may have no option but to move to another location that provides either a better chance of survival or rescue, or both. Select a location aid that offers you the best chance of drawing attention on the environment in which you're traveling.

WATER

Water is probably the most necessary element for human life, with the exception of oxygen.

Water is simply the essence of life. While you may be able to survive for a few days without it, your ability to function and carry on even with the most simple mental and physical tasks, will be dramatically reduced in less than 24 hours. However, if you are injured, or if the weather conditions are very hot and your workload is particularly heavy, your survival time without water could be reduced to only a few hours, for example. You should learn how to procure water in a particular environment that you're traveling, and understand the ways in which the lack of water affects you.

For your in-home cache or survival retreat stash, you should count on two gallons of water per-person per-day. Usually this is more water than necessary to survive (except in hot climates or after strenuous exertion),but it ensures water available for hygiene and cooking, as well as drinking. Children, nursing mothers and ill people will need more.

Stocking water reserves and learning how to purify contaminated water should be among your top priorities in preparing for an emergency. You should store at least a two-week supply of water for each member of your family.

You can store your water in thoroughly washed plastic, glass, fiberglass or enamel-lined metal containers. Never use a container that held toxic substances, because tiny amounts may remain in the container's pores. Sound plastic containers, such as soft drink bottles, are best.

During times of serious emergency, the normal water supply to your home may be cut off or become so polluted that it is undrinkable. A supply of stored water could be your most precious survival item!

You and your family may then be on your own to provide a safe and adequate water supply. Remember that typhoid fever, Dysentery, and infectious hepatitis are diseases often associated with unsafe water.

FOOD

You may be able to survive a few weeks or even a month without food, but why would you want to? Without food, you will become weak, susceptible to illnesses, dizzy and unable to perform survival-related tasks. Sure, water may be more critical to short-term survival, but it's much easier for even the unskilled survivalist to find water in the wild.

How Much Food do you Need?

Here's a short answer: You can never have too much food stored away for hard times.

The importance of food is directly related to the length of time you are in a survival situation: the longer the situation lasts, the more important food will become in helping you stay fit and healthy. Even with a moderate workload, going without food for five to seven days will not kill you. You will, of course, feel hungry, you will grow tired, your movements will slow, and your body will lose its ability to repair itself. However, unless you're malnourished before you enter a survival situation, you are unlikely to starve to death within a week. Your body needs water to digest food, so always remember to prioritize water over food.

The following list gives approximate amounts for each type of food for one adult for one year, at approximately 2450 calories per day.

- Grains = 300 pounds
- Beans & Legumes = 75 pounds
- Dairy = 40-50 pounds
- Meat/Meat Substitute = 10 - 20 pounds
- Fruits & Vegetables = 20 - 30 pounds
- Sugars = 60 pounds
- Fats = 20 - 30 pounds

For anyone on an extremely EMP Attack, we recommend the following as a minimum amount to sustain life for one person for one month:

- Wheat = 20 pounds
- Corn = 20 pounds
- Soybeans = 10 pounds
- Ascorbic Acid (vitamin C) = 15 grams
- Salt = 1 pound

BEST EMP SURVIVALTECHNICS

SURVIVAL KIT TECHNICS

Pill Bottle Survival Kit

This is a very simple and mini survival kit that covers the essentials of survival!!!

Step 1: Contents

-Empty pill bottle

- 3 mini straw fire starters

-3 matches

-1 bandage

-1 striker

-1 hook

-1 weight

- tinfoil

-some fishing line

- razor blade

-2 safety pins

- 3 feet of duct tape

- 2 advils

- 1 birthday candle

- whistle made from straw

-Neosporin in a straw

-salt in a straw

Pocket Survival Kit

I show you my new and improved pocket survival kit!

This kit is tailored to my specific needs and environment I believe that the basics of this kit are applicable to everyone!

This pocket survival kit is a convenient and inexpensive way to provide survival essentials!

Here are all of the items in my Pocket Survival Kit:

1x CRKT Ritter Mk5 fixed blade knife

1x Stream light Nano flashlight

1x Whistle

8x Water purification tablets

1x Compass

1x Mirror

1x Coffee filter

4x Waterproof matches

1x Mini Bic lighter

4x Strips of Gorilla Tape [1" wide]

1x Razor blade

2x Cotton balls

1x Lint ball

1x Dollar bill

1x Striker for matches

2x Needles

2x Pins

1x Spool of dental floss

2x Fishing hooks

2x Fishing sinkers

1x Crazy Glue

2x Bandaids

1x MRE Beverage bag

2x Alcohol prep pads

1x One foot of tin foil

1x Altoids Tin

1x Tweezers

Step 1: Contents

Here are all the contents laid out! In the subsequent steps I will show you how I build this kit, the capabilities of this tin and the purpose of each item!

Step 2: Collect

Gather all the contents that you would like to be in your Pocket Survival Kit. Be sure to focus on survival, NOT on what you would use every day or even for camping.

When it comes to making survival kits, the EMP Escape Plan Handbook is regarded as a primary source of knowledge by most survivalists.

Step 3: Construction

In order to help with the organization of the kit, I highly recommend that you tape certain content to the top and sides of the tin.

Some items that are helpful for construction are 1" gorilla tape” [electrical or duct tape work fine too], double-sided tape, and a sharp blade.

On the top of the tin I taped a mirror that I got from a lipstick box from Goodwill and a razor blade. I also taped a few extra strips of Gorilla Tape incase I need to make a make shift band aid with a cotton ball.

On the sides of the tin I taped a striker pad from a weather proof matches box, needles, pins and hooks.

Step 4: Cutting

Easily the most important item in an outdoor survival situation is a sturdy knife. I'd even go further to say that any survival kit lacking this essential item is incomplete at best.

Here are 10 ways to use a survival knife published by the world-renowned survivalist Dave Canterbury, co-star of the reality TV show "Dual Survival".

10 Ways to Use a Survival Knife

Survival knives are among the first pieces of equipment that come to mind when most people think of bush craft. The versatility of a survival knife as tool and weapon makes it one of those elite items no woods-wanderer should be without; many authorities consider it the single-most critical item of survival gear. A versatile and quality survival knife in the hand or on the belt alone serves as a critical confidence booster.

While the usefulness of a survival knife as a hunting or fishing spear or survival weapon is popularly known, this tool is invaluable for a staggering spectrum of situations.

(1) Digging Tool: A well-constructed survival knife can serve well as a shovel for all kinds of tasks such as gathering edible tubers, excavating fire pits, disposing of human waste, and carving out distress signals in snow or dirt.

(2) Weapon: In a situation requiring you to procure your own food, a survival knife can be used to harvest small game or even fish. With a little ingenuity the survival knife can be uses as the ultimate emergency weapon.

(3) First Aid: While a clumsy, unpracticed hand can do as much damage as good with a knife in a medical emergency, the tool is as versatile in first-aid as in basic campsite routines. It's useful for cutting improvised bandages, for example, or—with a sterilized tip—draining pernicious blisters.

(4) Splitting Wood or Cutting Saplings: If you're only accustomed to flimsy, cheaply made versions, you may have trouble envisioning a survival knife as a hatchet and axe substitute. However, a large, full-tang model with a flat edge to the blade back can be a formidable wood-splitting or cutting implement. The design allows you to use a piece of wood or mallet to pound the keen edge into a log or sapling.

(5) Hammer: The butt end, or pommel, of the knife handle is its own hammering tool, handy for driving in stakes for shelters or snares.

(6) Gear Adjustments: On an extended foray in the backcountry, you invariably need to make little adjustments to clothing and equipment in the interest of

comfort and safety. A knife is the perfect tool for emergency modification of your gear.

(7) Stake: In the absence of other materials, a survival knife can be driven into the ground to serve as a stake—as when anchoring an emergency shelter or a food bag balanced in the tree canopy out of a bear's reach.

(8) Tool-making: Some may think a knife in a wilderness emergency is simply a tool unto itself, but one of its chief purposes in a wilderness emergency is really the manufacture of other, more specialized survival gear. It’s essential for making a fire bow and drill, which is of utmost importance if you’re lacking other means of alighting tinder.

(9) Fire: Speaking of fire-making, a survival knife allows you to flay out ribbons of inner bark from a branch to produce so-called “tinder”—invaluable when making a “birds nest” and igniting a fire in any condition. A survival knife can also be used to strike your ferrocerium rod (ferro rod) when igniting tinder.

(10) Shelter-making: A knife blade serves handily to trim limbs in the event you must build a shelter. It can also be used to notch the limbs before lashing them together.

From lifting simmering stew off the flames or to make your own tools, a survival knife is more than a whittling tool or a fish spear. Make one a permanent addition to your pack, and head into the woods with that much more peace of mind.

Step 5: Combustion

The ability to start a fire in survival is so important that it's necessary to have redundant fire-starting capabilities in any survival kit.

Although there are easier ways to start a fire [9 volt battery and steel wool] and more compact ways to carry a fire starting capability [magnesium fire starter] you'd be hard pressed to convince me of using anything but a mini “Bic” lighter in a compact survival tin. After seeing firsthand how reliable and capable a mini “Bic” lighter is, I've ensured that it is in each survival kit I own and is on my person everyday when I leave the house [along with a knife of course] - and I don't even smoke!

Having tinder is also an important element in a survival kit, it could make the difference between sustaining a fire or having the wind snatch up your precious embers. I use both dryer lint and cotton balls dipped in petroleum jelly in my survival kit to give the fire resistance against the elements.

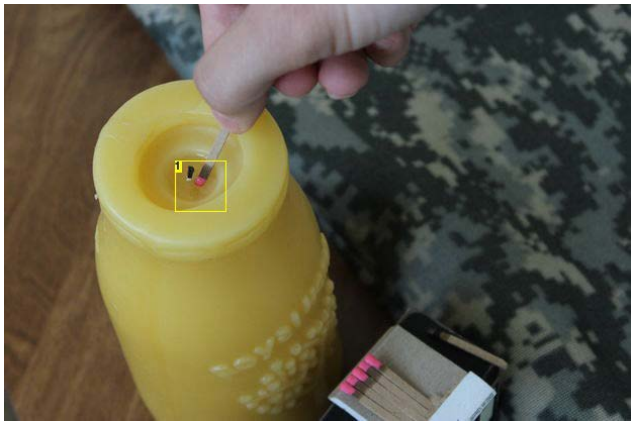
Step 6: Combustion [Continued]

Bonus DIY: How to make weatherproof matches

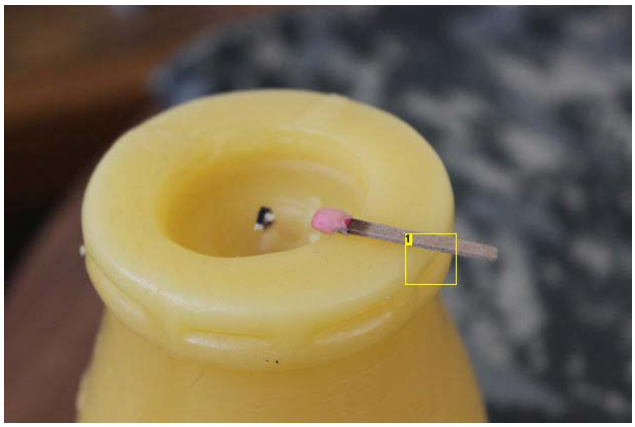
Matches become useless if they get wet. However, "weatherproof" matches are resistant to water and can be made by simply dipping "strike anywhere" matches into hot wax. See pics below.

1. Step 1: Light candle

1. Step 2: After candle has burned for a few minutes or so, blow out the flame.



1. Step 3: Immediately dip match into hot wax.

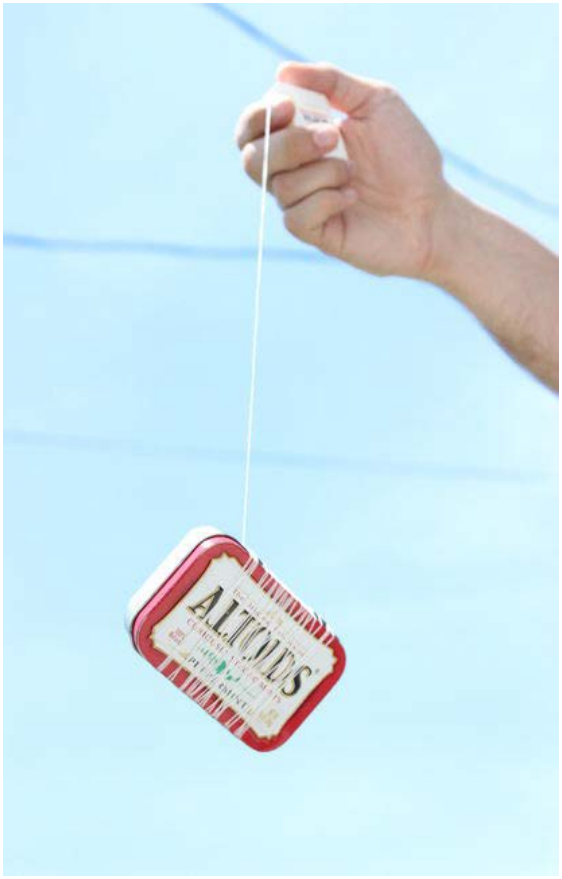


1. Final step: Continue to coat match head as the wax dries and you're done!

Step 7: Cordage

Cordage is another survival item that is difficult to replicate in a survival situation yet invaluable in the wilderness.

Cordage can help build a shelter [essential for survival in extreme weather], snares, medical, clothing repair and fishing line.



Step 8: Container For Water

Water is essential to prolonging one's survival but contaminated water will quickly do the opposite.

In this kit, there are several ways of purifying water and one main way of carrying it. The coffee filter removes large dust and debris, the water purification tablets kills the bacteria and the aluminum foil can be shaped into a cup for boiling.

Step 9: Comfort [First-Aid]

The likelihood of cuts and scrapes increase in a survival situation as does the chance of infection which makes first aid an essential item for a survival kit

In addition to first aid, alcohol prep pads can also be used for fire tinder.

Cotton balls can be used with gorilla tape to make a makeshift bandage.

Tweezers can be used to pull out splinters, slivers, stingers and anything else that could get stuck in your skin.

Krazy Glue works in place of stitches for deep wounds.

Step 10: Communication

The one thing better than being able to survive is being rescued!

Weather day or night, these items [mirror, flashlight and whistle] will strengthen your chances of being seen and heard. The mirror is conveniently located on the top of the tin for quick access and the whistle and flashlight can be attached to a makeshift necklace through the use of the dental floss.

Step 11: Compass, Pins & Needles

These final miscellaneous items can help make navigation possible, food a reality and a few things in between!

Find food and your direction with the help of these fishing accessories and trusty button compass. The needles and pins can be used to repair apparel or help with first aid needs. The needles can also serve as backup hooks.

As you can see, the dental floss works well with the hooks, weights and needles.

Easiest Faraday Phone Pouch

Faraday Cage phone pouch blocks all EMP radiation, radio signals that coming in of your cellphone.

I have seen a lot of faraday cages on Internet but they all are too difficult to make and takes a lot of money so I decided to make the easiest one and here it is this.

The purpose of this pouch is to prevent access to your phone and its data (e.g. location) if and when you so choose. Before placing your phone in the pouch, be sure to put it in airplane mode as the phone will drain its battery trying to find a signal.

If you don't want to spend too much time or money and you want it to look nice in your den or home office then this is the best solution for you. You can use your Faraday cage to store some of your electronic devices when they are not in use and protect them against the effects of EMP Attach or a solar storm.

If you do not have one already, you will need.

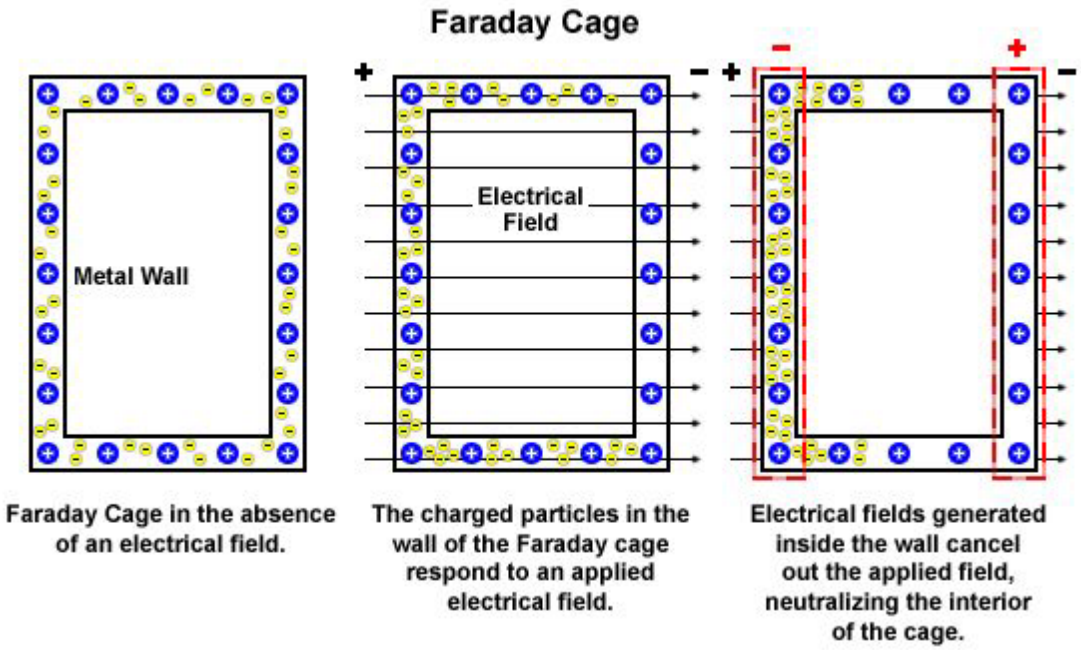
Step 1: HOW IT WORKS

In technical terms, the "FARADAY PHONE POUCH" is a Faraday cage. At its most basic, a Faraday cage is simply a conductive enclosure. The physical structure of the enclosure determines how effective it is at absorbing electric charge or attenuating RF signals. We're interested in the RF blocking aspects of the Faraday cage, so we'll need to figure out what kind of material we can use.

Most modern cell phones and other personal gadgetry contain a variety of radios that operate up to 2.4 gigahertz, the exception being 802.11ac for Wi-Fi which operates at 5 gigahertz. Let's use this higher measurement as our goal to ensure even greater success at attenuating the lower frequencies. In order to properly block a 5 GHz signal, we'll need to figure out the wavelength and how tight our enclosure needs to be, which we can do with the following equations:

? = c / f
x = ? / 10
? = wavelength in meters
c = velocity of light in meters per second
f = frequency in Hertz
x = maximum diameter in meters of any holes in the surface of our Faraday cage
Plugging everything in gives us:
? = 299,792,458 / 5,000,000,000
? = 0.0599584916 m
x = 0.0599584916 / 10
x = 0.00599584916 m (~6 mm)

In order to block a 5 GHz signal from entering or leaving our box, we'll need to make sure there are no holes or gaps greater than 6 mm in diameter.



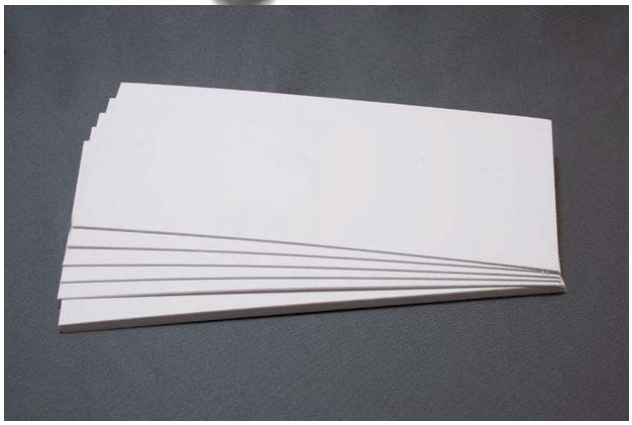
Step 2: What's needed

-ALUMINIUM FOIL

-SCISSORS

-PAPER

-TAPE



Step 3: Take a paper

Take a thick paper and make a pouch of it. Now you need to tape and fix that shape

1. Measure the width, height, and depth of your phone (+ case, if you have one).

2. Add 1" to your phone width measurement and 2" to your phone height measurement.

3. Leave an inch or two above the phone so the top can be folded over like an envelope.

Step 4: THE MAIN THING

Make a pouch of aluminum foil a bit bigger than the first one paper pouch

Step 5: Once again

Make one more paper pouch a bit bigger than the both of them

Step 6: 3 Pouches ready

Make sure that they are taped properly individually

Step 7: Combine em all

Put the blue paper pouch in the foil pouch and then, put the foil pouch in the white paper pouch.

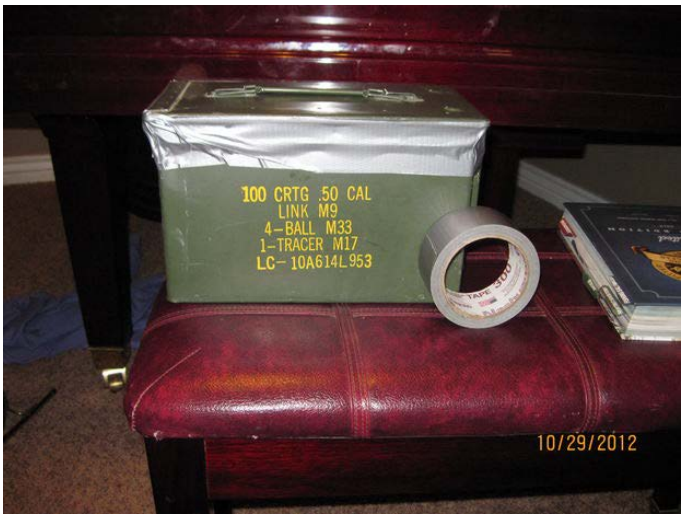
Step 8: MAKE THEM ALL FIX

And add a flap of paper fitted with foil in between two layers and also attach it

Faraday cage/ EMP Proof Box

In the event of a nuclear strike an EMP or Electromagnetic pulse is released frying all circuits near the area. This plan will teach you how to build a Faraday cage.

A Faraday cage is a box that protects all electrical items placed in the box. I'm sure there are better ways to build a Faraday cage but this is a cheap version.



Step 1: What you need

- A metal box

-Duck tape

-Newspaper

-Something that you want protected

Image Notes

1. 50 Cal tin

2. Flashlights

3. Solar powered radio, flashlight and it has inputs to charge USB devices

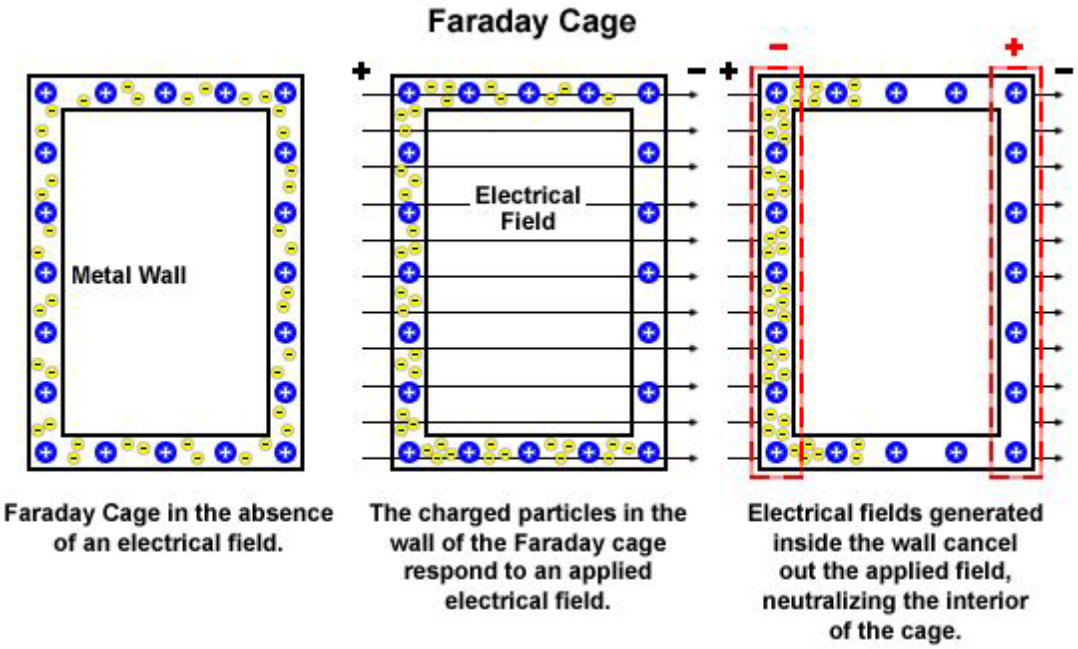
4. Newspaper

5. Duck tape

Step 2: "Building the box"

1st you need to line the inside of the box with newspaper, use lots of it. 2nd wrap the objects in newspaper and place them in the box. 3rd if there is

extra space put more newspaper on top of your items, that have been wrapped already, place in the box .4th Close the lid and tape it shut.



WATER TECHNICS

Extract Clean, Drinkable Water From Plants

Water is the most important thing if you are stuck in the wilderness. Sure, food is important too, but you can live for a while without it; you can't survive more than a few days without water. Unfortunately, in many environments there is either a lack of water, or the water is unsafe to drink. Fortunately, there are often plants. When plants absorb water from the ground they filter out many impurities, and you can extract this clean water from them. Plants transpire water, meaning that water vapor evaporates from the leaves, and this water can be collected. The great thing is, this process doesn't harm the plant and can be repeated over and over again on different branches, and works relatively quickly.

Step 1: What You Need:

- A plastic bag, preferably clear (check the bag beforehand to make sure it is free of holes. If not, seal them with tape.)

- String

- A plant (I will go over what types of plants work best in the next step)

Step 2: Choosing the Plant

- Obviously, you want a non-toxic plant. The best types of plants are those with large, green leaves. Berry bushes also work well. There is a conspicuous lack of trees in my back yard, so I used a blueberry bush.

- Select a plant that receives a good amount of sun. The heat from the sun will speed the transpiration process.

- Choose a branch that has a large number of healthy leaves and place your plastic bag over it. Tie it very tightly; you don't want any water vapor to escape during the process.

- Make sure that part of the bag hangs lower than the point where you tied the bag to the branch. Water will run collect there.

- You will want to have several bags up at once, since one branch doesn't provide enough water.

Step 3: The Process

- It will take about 3-4 hours in sun to get a decent amount of water from the plant.

- After about 30-60 minutes water will begin to condense on the sides of the bag.

- After another hour or so much larger droplets should form. These will start to run down the sides of the bag and collect in the lowest point.

- You should get at least 1/3 a cup of water after 4 hours.

- Before drinking the water pour it through some fabric like a t-shirt to filter out anything that may have fallen into the water.

- Reattach the bag to another branch and restart the process.

How to purify your water

When you find yourself an a survival situation, you do not always have access to chemicals or a filter to purify the water so you can drink it.

You could just boil the water but this wouldn't get sand and other particles out of the water and the chemicals will also remain in the water after cooking it. Which in turn could affect your health.

So the best way to purify your water is to use a filter.

Often you can build a water filter with the resources you have available, this gets the particles, dirt and some of the chemicals out of the water.

It is wise to boil the water after you filtered it so that all bacteria and viruses are killed.

Step 1: The Filter

A water filter can be created by removing the bottom of a bottle. Turn the bottle upside down (with the cap down down).

And put the following materials in the bottle.

- pebbles

- Sand

- a piece of cloth or bandages

- charcoal

- a piece of cloth or bandages

- Sand

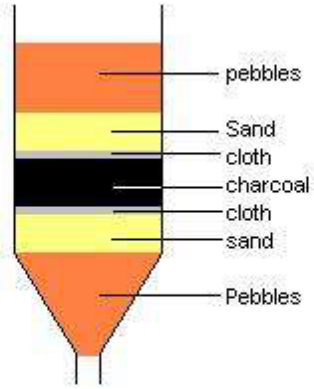
- pebbles

The cloth or bandages are used to ensure that all the different materials do not mix.

The pebbles and sand filter the particles and the dirt out of the water.

The charcoal gets a big portion of the chemicals out of the water, but it won't get it all out. (You can use charcoal from your campfire).

This filter will not remove any viruses and bacteria from the water so you have to boil the water after it is filtered.



Step 2: How to use your filter

Gently scoop some water from a puddle or a pond with your cup, try to get as little dirt as possible into the cup. The more dirt comes along with the water the faster the filter becomes clogged and can no longer be used.

Pour the water from the pool or pond in top of your water filter, catch the water at the bottom of the filter in a clean cup. It is best to throw away the first bit of water that comes out of your filter it often is cloudy and not that clean.

If the water that comes out of your filter is clear it is good and you can use it.

Boil the water at least 1 minute before drinking it, cooking will kill bacteria and viruses that are still present in your water.

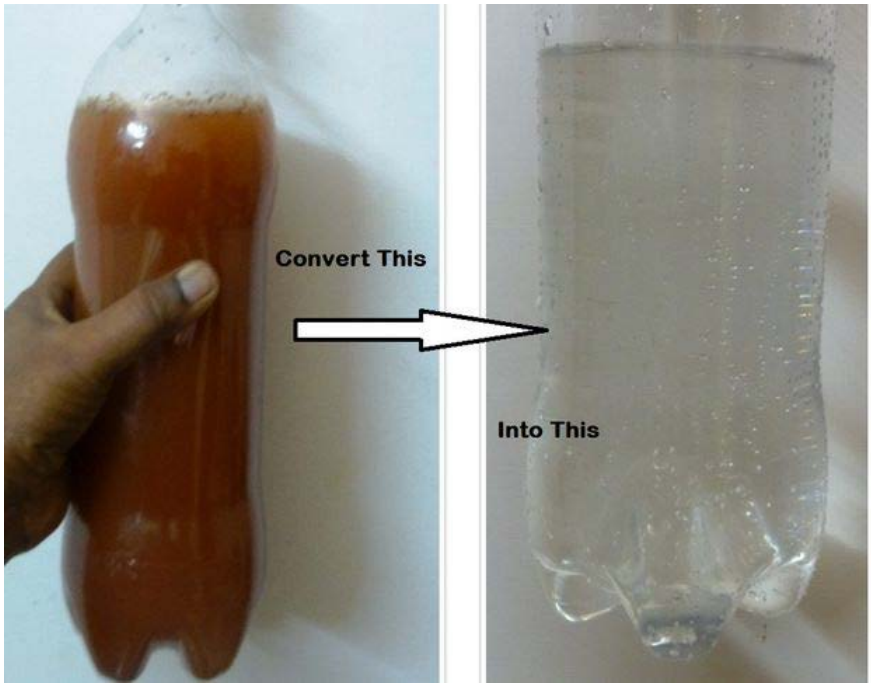
If you put some spruce needles in the boiling water, you'll also have a tasty tea.

How to Purify Muddy Water

One of the major problems we face is finding clean water suitable for drinking and cooking. Even though you site near a water source, one can not be sure that the water is fit for consumption.

Further, what can one do in the event of an unpredictable rain, muddying the entire water source...?

Do not worry. This plan will take you through the steps involved in cleaning and purifying the muddiest of muddy water and make it suitable for drinking and cooking.



Step 1: Chemicals Required

Aluminum Sulfate

Aluminum Sulfate, Shortly known as Alum, when added to raw water reacts with the bicarbonate alkalinities present in water and forms a gelatinous precipitate. This floc attracts other fine particles and suspended material in raw water, and settles down at the bottom of the container. The water over this sediment is almost clean other than some fine particles dissolved in it.

Alum is in a crystallized form which you can powder and store in a clean glass container.

Bleaching Powder Solution

Bleaching powder or chlorinated lime is used to disinfect the water from bacteria. The chlorine present in the bleaching powder solution kills almost 90% of the bacteria present in water.

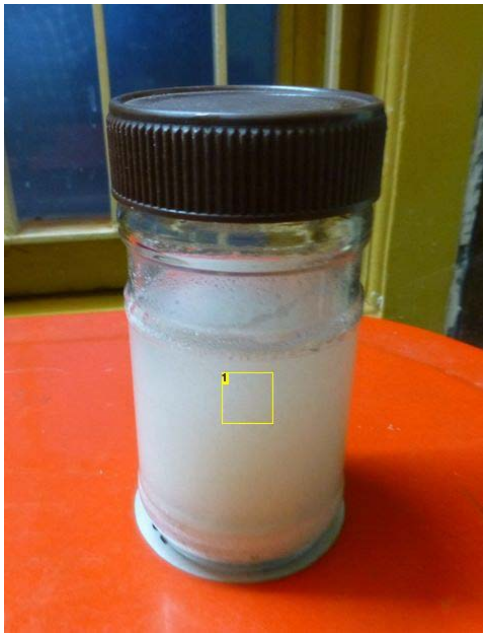
Bleaching powder also known as Calcium hypochlorite is in a powdered form. Add one or two teaspoons of the powder in a glass bottle, add water and mix well. Use a metal cap for the container as it may corrode plastic cap.

Both Alum and Bleaching powder are commonly available in most of the grocery stores.

Image Notes
1. Alum Crystal

Image Notes
1. Powdered Alum

1. Bleaching Powder



1. Bleaching Powder Solution →

Step 2: Water Sample

Look at the water collected from the source after heavy rains. It is muddy and also

contains lots of floating material. Now let us see how we can convert this dirty water in to clean drinkable water.

Step 3: Treatment of Muddy Water with Alum

Coagulation and Sedimentation

- Here, I have collected the muddy water in a bucket, poured more water to overflow and brushed away most of the floating material with hand.
- Using a fine cloth, filtered the muddy water into another vessel. The filtered water contains no floating material and less silt.
- Took about five liters of water in a plastic bucket and added half a teaspoon of powdered Alum (that is about 50 mg which works out to 10 mg per liter of water) and stirred well.
- This bucket of water needs to be kept still for about 6 to 7 hours so that the sediments get coagulated and settles down at the bottom.

Step 4: Draining Clean Water

Drain out Clean Water

After about seven hours, most of the dissolved particles have settled down at the bottom of the bucket. Drained out the clean water into another vessel very slowly without disturbing the sediment.

About half a liter of water is left out in the bucket with the sediments.

The water collected thus may still contain some fine dissolved particles, which can be removed by filtration. If you carry a small water filter during camping, you can fill this water after disinfection (next step) to get more pure water.

Step 5: Disinfection

Disinfection

The clean water we got by sedimentation still contains lots of bacteria, so it needs to be disinfected before being used. Here, I have used home bleach solution, which contains Chlorine.

The prescribed normal rate is about 2 drops of bleach solution per liter of water. So, I have added about nine drops into the water in the vessel and stirred well. This water may smell little bit of chlorine. Either keeping it open to air and intermittent stirring for about 30 minutes or using a portable filter to further purify the water will remove the chlorine smell.

The chlorination process kills almost 90% percent of the bacteria present in the water. Now I got about four and half a liters of clean water which I can use for cooking and drinking during my camping trip.

Step 6: Experiment in Plastic Bottles

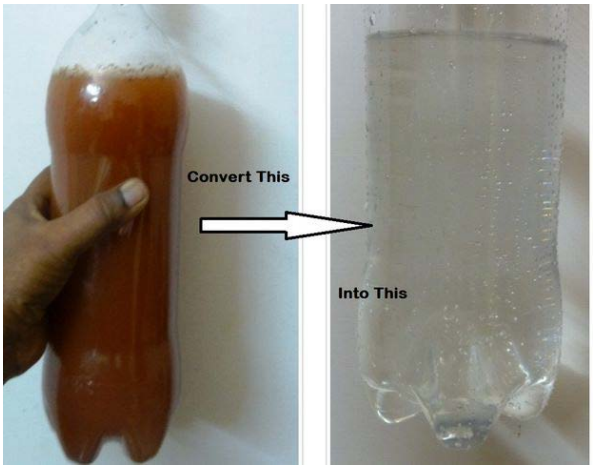
I have carried out the cleaning process in a two liter water bottle. Here I have increased the Alum content to about 15 mg per liter of water. the outcome seems to be better than with 10 mg per liter of water.

Step 7: Foot Note

Some tips on usage of Alum and Bleach solution:

- The prescribed dosage of Alum varies from 5 mg per liter for a relatively clear water to 85 mg for a highly turbid waters like industrial waste. However, the normal dosage for drinking water is about 17 mg per liter.
- The dosage of bleaching solution as 2 drops per liter is suggested considering 60 to 70 percent of chlorine available in the bleaching powder. you can increase or decrease the amount by smelling the chlorinated water. More chlorine smell, add some clean water. Add a few more drops in case of no smell.
- Keeping buckets of water mixed with Alum overnight will give you enough clean water in the morning for use.
- Over-dosage of Alum may cause temporary dizziness, diarrhea and vomiting (but not dangerous). So, take care while adding alum.
- Bleaching solution is corrosive. Take care not to get your skin or cloth in contact with the solution.

So, Campers, do not forget you add a little bit of Alum and Bleaching solution to your camping kit next time. It may come in handy when you are in the middle of nowhere with only mud to drink



FOOD TECHNICS

Grow Seedlings

Starting your own seeds is a satisfying and inexpensive way to get a jump start on your survival garden.

Step 1: Seed Starting Supplies

1. The right seeds for your geographical zone. Proper zoning won't make a difference for seed starting, but it would be a shame to spend energy growing seedlings that might not survive once moved outside into the 'your part of the world' garden. NOTE: seeds that do the best as starters are non-root plants like lettuce, tomatoes, basil, broccoli, peppers, and peas. Root veggie seeds are best planted right in the garden medium at their recommended planting time.

2. Nursery flats or several small containers with holes in the bottom: I recommend investing in flats if you plan on doing a lot of seed starting as they are easier to move than many small containers. It's also important if you're reusing any container that you protect against plant disease by thoroughly cleaning it with hot soapy water and rinsing it with a diluted solution of water and a small amount of household bleach. Let air dry.

3. Sterile Growing medium: Most nurseries or hardware stores will sell pre-mixed seed starter mix. Finding organic medium may take a bit of sleuthing, but due to

the growing popularity of organic gardening, is easier to find than ever. You can also make your own medium by blending equal parts perlite, vermiculite, and peat moss with 1/4 tsp of lime to each gallon of mix. (The lime neutralizes the acidity of the peat)

4. A clear cover for your tray or containers: Again if you are planning on doing much seed starting, I'd recommend investing in the nursery tray covers, available at most nurseries. (see example in step 6) If you'd prefer to hold off on making that purchase, you can also place a piece of clear glass or plastic over the tray.

What you want to do is create a moist and warm environment (think terrarium). This will give the seeds the best chance at survival.

5. A Warm and bright location: A greenhouse is the ideal place to grow your tiny plant babies, as you have all the natural light you need and you don't have to worry about getting medium or water on the floor. (I have a big crush on the one Evan built in his back yard out of windows, reclaimed wood and old skateboard decks! See step 7.) But the seedlings will do just as well if grown indoors with adequate light and heat. More on this in step 6.

6. Water: A hose with a fine mist nozzle or a watering can and spray can.

7. TLC: Your seedlings will need a lot of attention and care for the first 4-6 weeks so make sure you will be home to provide for them and that you have a true interest in helping them thrive!

Step 2: Sowing Your Seeds

Fill your nursery flat or small containers almost all the way to the top with lightly moistened medium. Leave about 3/4" - 1/2" unfilled. (as pictured)

Place your seeds on top of the medium, giving each seed room to grow. In these pictures is planting tomato seeds and because they will grow quite large, is only

putting two seeds per section. If you're growing things with smaller roots like lettuce, you can plant more of the seeds a bit closer together.

Step 3: Top Them Off

Once you've placed your seeds, fill the flats to the rim with medium.

Step 4: Make it Rain

Using your sprinkle nozzle or watering can to thoroughly water your plantings.

Let the water soak in until you see medium above the water and then water it one more time.

You want the medium to be wet all the way through. Water coming out the holes in the bottom of the containers is a good indicator that you've achieved this.

If you're doing this indoors, please make sure that your containers are on a waterproof tray before making it rain.

Step 5: Place & Cover

Put your tray of plantings in a bright sunny (aka warm) spot and cover them with an official tray cover or a piece of glass, plexi, or plastic wrap to trap the heat and moisture, creating a mini greenhouse. Make sure to leave the holes open or a bit of space between the container top and glass as it's best to have fresh air introduced to the environment so it doesn't get stagnant and potentially moldy.

If you don't have good strong light in your house you may also want to consider getting a grow light to suspend above your container.

Step 6: Welcome Seedlings!

The length of the germination process will vary from seed to seed. Keep a daily eye on them and once sprouting occurs, uncover your container and if indoors, increase the amount of light to 12-16 hours a day. Try and keep the light source close to the little guys (2-4") so the seedlings don't have to reach for the light, which can make them weak and spindly.

Once the seedlings get their first true leaves (the leaves that emerge after the original little round cotyledon ones), it's time to start fertilizing the medium every week until they're ready to move outside (about 3-4 weeks or as high like in the second photo). Mix some liquid fish or seaweed fertilizer right into the water you use to feed the plants or add some to a spray can with water and apply it that way.

Step 7: Blowing in the Wind

In a natural outdoor environment seedlings would be subject to much more movement than they are in a greenhouse or indoors. That movement the wind and rain can cause is an important ingredient in helping them grow stocky and strong. In order to replicate that for your seedlings, brush them with the tips of your fingers once or twice a day or set up a small oscillating fan to blow on them gently throughout the day.

Until they are ready to make the move outside, continue watering them enough to keep the medium moist, but not wet (seedlings don't need as much water at germinating seeds do).

Once they are almost 'garden ready' size, take a week to help them get ready for the shock of becoming an outdoor plant. Gardeners call this 'hardening off'. It involves moving the container(s) outside to a shaded and protected area for a few hours a day, gradually increasing the plants exposure to sun and wind. Once you've done this for a week, leave the container out overnight and plant them in the garden the following day.

These organic goods (olive oil and spices) are delicious --and all ingredients are grown by us in California or are sourced from sustainable organic farmers friends.

Make a greenhouse from an old carport

Turn that old portable metal pipe carport into a greenhouse.

Step 1:

I used one section (out of 3) of an old metal pipe portable garage (the plastic cover rotted off) for the starting frame.

Using the carport's shape, cut wood to fit the frame. Most of the wood was from 2x6's cut in half long ways (ripped).

Although I used 2x6's across the front and back because it is a 9 foot span, since the window frame would support it, you could use smaller lumber instead. I used a 4x4 I had laying around for the side with the door. The ground here is at an angle and I wanted to be able to step on the door sill without it bending too much. The window frame is from 2x2's.

The 10 foot wide plastic fit perfectly with just a little trimming.

Step 2:

First cut each piece of wood to fit the frame and attach to the metal using pipe clamps held on with flat metal plates screwed into the wood - no need to drill any holes in the pipe.

(hint: you have to screw the clamps to the wood with the metal plates before attaching to the pipe - experiment to get the screw on the pipe clamp in the right place.)

Step 3:

The frame had a tendency to wobble a bit front to back so, for the sides, I attached crossing guy wires to eye bolts on each side using tighteners, and now it is very stable.

Step 4:

The bottom sill on the back sides didn't have room for the pipe clamp tightener so I used metal braces.

Step 5:

I used metal plates on most of the joints because I happened to have them. You could use plywood or some other method just as well.

Step 6:

The whole thing is held down with stakes, cinder blocks on the low corners, and railroad ties around the outside (just in case).

Step 7:

Make a frame for windows using 2x2's.

Step 8:

I got automatic window openers so it wouldn't get too hot inside and boxed in a frame for them from 1 inch wood and lapped the ends, attached a hinge to the top of the window, and covered the window with the plastic.

Step 9:

I used 6 mil clear plastic like they use on crawl spaces under houses. I only used half the roll, so if it doesn’t last in the sun I can put the other half up and it's still a lot cheaper than greenhouse film. I stapled it on and then screwed 1/2 thick strips of wood over the staples so they wouldn't pull out in a wind. The door is a simple frame with plywood braces on the corners, hinges, and a gate latch.

Step 10:

The shade cloth on top is attached with snaps to the railroad ties in case it gets really hot. It is easy to pull it out of the way when it's not needed. The black painted 55 gallon drums help hold in heat on cold Oregon nights.

The plants loved it.

How to Grow Vegetable Plants!

This plan shows you how to grow plants, some are easy to and some aren't. This is a good growing guide for beginners who are eagger to learn to how to grow vegetables.

GROWING CLIMATES WILL MY PLANT TOLERATE FROST? IS IT BEST TO GROW MY PLANTS IN HOT WEATHER OR COLD WEATHER?

Well most plants will grow in warm weather and cool weather but will it take hot or cold weather; is it frost tolerant? Plants mostly will like part shade,

WATERING, HOW MUCH WATER TO GIVE? WHERE TO WATER?

Watering is a biggie cause if your plant gets too much water it may cause your vegetables to split, example: carrots or onions can split if they are given too much water.

Lack of water can result in weaker stalks, plants don't grow and die.

Watering under leaves is better because it helps not to spread diseases. So yes,

water is a big biggie! You definitey want to know how much water to give your plants.

HOW DO YOU KNOW WHEN TO PLANT? OR HOW DEEP TO PLANT SPACING YOUR PLANTS?

Yes, it is a good to know how to plant your plants cause you can plant too deep which will cause your seedling to take longer for the plant to emerge which means a shorter harvest time.

Spacing is good question to ask cause plants need their space and the plants that need to be fertilized do not like to share their space, cause they are heavy feeders and they need all the nutrition they can get to produce better fruit.

Or vines like cucumbers, watermelon, squash ..... it's best to space them evenly because you don't want the vines to cross into each others territory.

Yes, some vines can be grown on the ground, or to save more garden space cucumbers can be grown like a vine on a fence or wire.

Some plants may need to be planted on mounds like watermelons, cantelope.....

I hope this encourages you to know more on how to plant your plants and spacing.

SOIL: HOW MUCH MANURE SHOULD I PUT IN MY GARDEN BED? OR IS MY SOIL THE RIGHT TYPE FOR MY VEGTEABLES?

Now the worst soil to have is heavy clay soil. Or manure, chicken manure must be well rotten cause it's so high nutritions that it will burn your plants. and some plants its best to have the soil prepared weeks before planting.

Now all topsoil bags should have numbers on them that are like this

21-15-10 the first number stands for the percentage of nitrogen which gives the plant color and stimulates foliage growth.

The second number is the percentage of phosphorous .

Phosphorous helps give an abundance of flowers and fruit and at last the third number is the percentage of potash which helps make stronger roots.

Is my garden soil the right type for my plants well many different plants like different soil. Carrots like sandy soil or onions like clay soil but plants that grow the food underground like really loose soil and most of the plants in the world like well drained soil.

DO MY PLANTS NEED FERTILIZING? HOW OFTEN DO MY PLANTS NEED TO BE FERTILIZE?

Most plants are heavy feeders and need to be fertilized every two weeks.

There are little feeders and they just need to fertilize only once in there entire growing season or some plants do not need to be fertilize at all. Some plants use liquid fertilizer.

Now I hope I have pursuaded you to dig deeper and find out more on how to grow vegetables.

Step 1: Broccoli, Soil, Climate, Watering, Planting

Broccoli is a member of the cabbage family now broccoli flower stalks can be purplish, white & green in color and it also has tiny yellow flowers. The edible parts are the broccoli heads and the leaflets, stalks.

SOIL

Broccoli likes well drained soil in full sun.

Soil type, broccoli prefers soil with a pH 6.0 to 7.0, prepare your garden bed with rotten manure or compost .

If soil is sandy add extra nitrogen supplement to your garden soil in

3 to 4 months you can harvest your broccoli.

GROWING CLIMATE

Growing broccoli can be succesful in most climates but not extreme hot weather or extreme cold weather although it's best to plant it in cool climates and yes it is frost tolerant.

PLANTING

Sow your broccoli seeds in soil 1/2 deep 3" apart, during late spring.

If you want to plant your seeds earlier plant them indoors in a small pot a month before transplanting.

WATERING

Broccoli watering, water your broccoli every day keep your soil lightly moist by water frequently. As broccoli heads mature cut down on watering.

If you don't provide enough water for your broccoli plants during the growing season your broccoli plants will go to seed with out forming heads.

FERTILIZING

Liquid fertilize your broccoli plants every 2 weeks when the broccoli heads appear.

Step 2: Watermelon, Watering, Feeding, Planting, Growing Climates, Soil

Watermelon is one of summers favrotie fruit its sweet and delicious and easy to grow.

Watermelon is pretty easy to grow, but few gardeners practice growing watermelon. Probably because growing watermelon requires a so much space in the garden (unless you're creative with trellising and supports). Additionally

growing watermelon requires a climate with long, hot summers. In a cooler climates, try growing watermelon varieties that mature faster (and start the seeds inside).

"Baby" varieties that are smaller are better for a shorter growing season. Also, row covers may help.

SOIL

Watermelon grows best in soil that has plenty of manure or compost and soil that drains well so I would add a little sand to it for draining if you don't have a very good drainage system.

Watermelon is a heavy feeder and does not like to be competition so keep your watermelon well weeded.

PLANTING

Make mounds of dirt about 3 ft wide and 1foot high.

Allow 4-5 of space between mounds and plant 1 inch deep.

GROWING CLIMATES

When growing it needs watermelon needs full sun and good air, Watermelon grows best in warm & cool cilmates and it does not tolerate frost.

WATERING

Watermelon does not take drought. So water frequently water under the leaves not on top. Once it starts producing fruit cut down on watering.

FEEDING

Watermelon is a heavy feeder. Fertilize with a liquid fertilizer every 2 weeks.

Step 3: Cauilflower, watering, feeding, planting, growing Climates, soil

Cauilflower is also part of the cabbage family.

Cauliflower is grown as a vegetable garden annual.

Heads can be white, green or purple. Varieties are available for short or long growing seasons.

WATERING

Keep the soil moist but do not water on the cauilflower head.

SOIL

Rich soil compost or manure well dug and moist soil.

FEEDING

Liquid fertilize every 2 weeks when the first cauliflower heads appear.

GROWING CLIMATES

Full sun but can not talk extremly hot heat.

Grows best in warm & cool weathers and does tolerate frost.

PLANTING

Sow indoors in early spring, transplant while the soil is still cool plant 1/4 deep and space 2 feet apart.

Step 4: Cabbage, watering, feeding, Planting, growing Climates, soil

Cabbage is one of the oldest recorded vegetables, dating back to 2000 years B.C. It is a very hearty annual garden vegetable (you can often grow it year round!). The leaves and head are either green or purple, depending upon the variety grown.

WATERING

Keep soil moist and if you have dry weather water every week.

SOIL

It's best to have Rich soil with well dug compost or manure mix deeply into soil.

FEEDING

Dreach your cabbage plants every 2 weeks with organic liquid fertilizer.

GROWING CLIMATES

Plant in a Full sun location grows best in cool & warm weather.

But can’t take extremly hot & cold weather and does not tolerate frost.

PLANTING

Space the cabbage about 12 inches apart and plant 1/4 deep, space 3" apart. Plant outdoors when the first ture 4 leaves are showing.

Step 5: Carrots, watering, planting, growing Climates, soil

Carrots are hardy biennials. You can grow round and short varieties of carrots in cotainer gardens, but if growing the longer variety, you will need to grow them in an open garden.

The underground root is part harvest crop, and they come in a variety of colors and sizes.

GROWING CLIMATES

Carrots grow best in cooler weather but do fine in most weathers and tops tolerate light frost; roots survive hard freezes.

SOIL

Mix sand, compost and a little peat mose deeply dug. If you are using manure make sure it is well rotten and keep your soil lose. Keeping soil well drain is important to carrots because your carrots will crack.

PLANTING

Carrots can not be planted indoors or transpanted cause It will grow crooked roots.

Plant 1/4 deep and 10 inches apart.

WATERING

Water lightly, daily until seeds emerge. Water heavily on dry days.

Step 6: Cucumbers, watering, feeding, planting, growing Climates,soil

Cucumbers are popular to grow, but can have some challenges (namely from plant diseases and pests).

There are many varieties of cucumber plants available, but if container gardening, select a bush variety.

GROWING CLIMATES

If you are going to be Growing cucumbers it would be best to grow them in warm weather but they can grow in most weather they do not tolerate frost .

(Growing cucumbers in colder weather means shorter harvest time)

SOIL

It would be best to prepare your garden a week before planting.

Add compost or manure mix well in the soil. Note: if your climate has a lot of rain I would add lime to your soil in the fall or if you have acidic soil.

PLANTING

When tempures hit in the 60s sow cucumbers in the garden bed plant 2/3 deep sow 20 in apart.

Sowing in mounds 8 in tall and 30 in apart or to save space cucumbers if you grow cucumbers as a vine, plant 10 in apart.

WATERING

Don’t let the soil dry out. Water regularly but under the leaves not on top. (Less diseases of spreading.)

FEEDING

Give your plant or vine a liquid fertlilzeing once the vines or plant begins to grow aggressively.

Step 7: Peas, watering, feeding, planting, growing Climates, soil

Peas are grown for their sprouts, pods, and seeds.

Garden peas are grown for the seed. Snow peas and sugar snap peas are grown for their pods.

Tender leaflets and sprouts can be used in salads.

Most peas are climbing plants, but there are also dwarf bush varieties available. Dwarf peas do not need a trellis to grow, do need some support.

GROWING CLIMATES

Any climate should support peas but it is best to grow in cooler weather. Also frost will damage the pods, if you know the frost is coming, cover up the plants with a garbage bag or old sheets, direct sunlight or partial shade is best for growing peas.

PLANTING

Plant your peas in the early spring, outdoors plant 2 in deep and 2 in apart. Keep the soil moist cause the seeds can rot.

SOIL

Add plenty of compost or manure.

Rotate your pea crops around the garden from year to year.

Pea crops fix nitrogen in the soil, which can cause problems for future pea (or legume) crops in the same location.

After harvesting, dig the whole plant back into the soil for green manure fertilizer.

WATERING

When you are growing your peas keep the soil moist not wet or soggy.

Water under the leaves not on top.

TIP peas need something to support them.

Step 8: Onions, watering, feeding, planting, growing Climates, soil

Onions make good companions for several garden vegetables which they awared off pest like bugs and rabbits.

However, DO NOT plant onions near peas or beans.

SOIL

Onions do well in clay soil.

Add rotten compost or manure make sure the soil is lose and deeply dug with manure or compost.

GROWING CLIMATES

Onions can grow in almost any weather.

However onions are temperature sensitive and do not like garden beds that get too hot. When you are growing onions, they do tolerate frost.

Select a day and place that match your growing season and storage.

PLANTING

Plant your onion bulbs in your garden space 6 in apart plant 1 to 2 in deep,

grow in a row and in raisd mounds.

WATERING

Water regularly every day.

Not watering enough will cause the plants to grow slowly and will cause the onion bullbs to split.

FEEDING

Fertilize mid-season use manure or compost tea, bone meal, or a complete fertilizer.

Step 9: Lettuce,watering,feeding,planting,growing Climates,soil

Growing lettuce crops are most effective during your area's cool seasons (this vegetable tends to go to seed and get bitter in hot temperatures). However, there are varieties out now that can tolerate warmer temperatures, and a few tricks to help too.

Lettuce is a good vegetable for container gardening, particularly if using smaller leaf-lettuce type varieties

GROWING CLIMATES

Lettuce can be grown in nearly all gardening climates, year round depending on the variety you select.

Lettuce will grow in l sun or partial shade. Although it does not grow very well in hot locations, lettuce grows best in cool weather in early spring or fall is a good start out for growing. Tolerates light frost, but needs protection from hard freezes.

SOIL

Lettuce doesn't grow well in alkaline soils.

Mix compost and well-rotted manure in soil several weeks before planting.

PLANTING

Plant in part shade. Lettuce seems happiest at under 75 degrees (and can tolerate temperatures into the 40's).

Plant your lettuce and cover the seed with a very thin (1/4") layer of light garden (or seed starting) soil. Keep the soil moist.

When the plants have reached 3” tall, thin them.

Overcrowding stunts this vegetable's growth.

Use the thinned plants as tender and tasty accents to your salad!

WATERING

Keep your soil moist not wet. During the hot days extra watering may be needed. Lettuce will not do well in dry soils.

Do not let the soil dry out when growing.

FEEDING

Fertilize every two weeks with liquid fertilizer.

(This also helps ward off many of the fungal disesases that can occur when growing lettuce.)

Step 10: Celery,Watering,Feeding,Planting,Growing Climates,Soil

Celery is a biennial and a member of the carrot family.

This vegetable is a tight collection of green stalks reaching up to 10” tall. Stalks, leaves, and seeds are edible. Note: Celery is not one of the easier vegetables to grow though, as it requires a fair amount of attention and space.

SOIL

You should have Alkaline or neutral soil this is needed for growing celery.

Mix lime in your garden bed this will reduce the soil's acidity.

For best growing results use compost or manure well rotten.

GROWING CLIMATES

Celery grows best in mild or cool weather, it does not grow well in cold weather.

Celery tolerates light shade ,wet weather and Light frost only, damaged by hard freezes.

PLANTING

Plant your celery seeds into garden bed temperatures are consistently over 55 degrees (F).

(the seed won't germinate well below this temperature).

Sow your celery seeds very shallow (about 1/10” deep) cover with light soil, it is very importanten to keep the soil moist while its in 3 weeks of germination. Keep the roots moist by mounding soil around the young plants.

For an earlyer start plant the celery seeds 12 weeks berfore planting outside.

WATERING

When you are growing your celery keep the soil moist not wet.

During the dry days water daily, Lack of water causes celery to grow slowly and makes the stalks stringy.

FEEDING

Celery is a shallow root plant which means it can not dig its roots deeper for more nuritions.

Fertilize every three weeks with liquid fertilizer after the celery seedlings are well and established.

TIP
For faster germination, try soaking the celery seed in room-tempeture water for 1-2 days. Plant at once.

Step 11: Beans,watering,feeding,planting,growing Climates,soil

Beans (and their plants) come in a variety of shapes, sizes and colors. The pods (or its contents) are what are commonly eaten as a garden vegetable. However, the leaflets (which are nutritious when used in salads) and the flowers are also edible.

The pods and seeds come in a wide selection of colors, and can be “stringed” or “stringless.” The first choice in selecting the bean plants for your garden, will be whether you want a climbing variety or a dwarf variety. Climbing beans need structure (like a tall trellis, fence, stake, or even cornstalks!) and produce high yields of pods. Dwarf varieties use less gardening space , don't require as much support, but they don't produce as much.

Some bean varieties are suitable for container gardening (check with your nursery).

GROWING CLIMATES

Beans grow best in warm & hot weather best to put them in a full sun spot, but the do not tolerate frost.

SOIL

When you are growing beans make sure your soil is well drained and fertilize. Dig deeply adding well rotten organic compost or manure to your soil.

PLANTING

Plant after the threat of frost is over.

Plant when it starts warming up about late spring beans are easy and fast growers so it is best to sow the seeds drectily in your garden bed there are diffent varieties of beans.

Plant climbing beans 6 inches apart and 1 inch deep in rows plant 3 feet apart.

Dwarf beans plant 1 inch deep and space 2 inches apart in rows 24 inches apart.

If planting dwarf beans, you may want to stagger plant your crop over several weeks to extend your harvest period.

WATERING

Keep soil moist. if you have sandy soil keep an eye on it.

Beans have a shallow root system so they can dry out easily.

FEEDING

Add liquid fertilizer when flowering commences.

TIPS

1: Mulch around established bean plants with compost to protect shallow root system

2: Hill rows with soil during early growth to protect against wind.

3:When weeding take care not to disturb the soil or roots just beneath the surface.

4: Beans will not grow well until the soil is warm.

5: If you have a problem with aphids, red spider mites, and bean flies. Also plant diseases such as blight mosaic and anthracnose way present themselves. Use organic bug and disease spray don't forget to spray the underside of the leaves.

6: Important: Don’t leave dead plant material lying around your garden. That encourages plant diseases and insects.

Step 12: Potatoes,watering,feeding,planting,growing Climates,soil

This South American vegetable is grown in home gardens for its starchy tubers (roots). Rumor has it that many years ago, Europeans were very suspicious about, even feared potatoes.

Potato's popularity thrived from its ability to grow both at high altitudes and in colder temperatures (places where corn, another common starch staple, couldn't). You can grow potatoes of a vaiety of colors: cream, red, purple, and even blue.

Potatoes are also considered a cleaning crop. By growing potatoes in a new garden space will help prepare the soil for other plants in other seasons.While the yield is small, some gardeners with very large containers are successful in growing potatoes in the pots.

SOIL

Well-drained soil is best for potatoes.

Also its best to have crumbly soil and deeply dug compost or well rotten manure this does matter a lot when growing potatoes.The more lose garden soil you have the more Bigger potatoes you will have.

GROWING CLIMATES

Potatoes can take nearly any climate but watch the timing.

They don't tolerate frost and do not care for extreme heat. Select a nice sunny spot for your potatoes.

PLANTING

You can plant potatoes as soon as the soil can be worked.

Plant after the last frost date plant the seeds 2 ft apart in rows and dig the rows 6" deep then lay a layer of fertilizer or compost, manure on the bottom.

Then cover the fertilizer with 2" of soil from your garden, Then plant the seeds 14 inches apart and fill the rest with garden soil and rake it out evenly. Another method of growing potatoes is to simply cover the seed pieces with 10” of decomposing straw or mulch, then 4” of rich crumbly soil.

WATERING

Water potatoes regularly over the garden season to have smoother and bigger tubers. Cut back on watering when harvest time approches

FEEDING

Fertilize with liquid fertilizer every two weeks. (This allows you to have healther potatoes and awareds off diseases such as bilght.....)

TIPS

1: When weeding the potatoes be careful not to disturb the potatoes root system when you are pulling weeds. It would be best to heavily put mulch or straw around it.

2: Potato moth is a common pest when you are growing potatoes and it will attack any potatoe tuber that comes out of the soil. put more soil on it to cover the tuber.

3: Don't compost or recycle infected plants. Remove them imediately from your garden and burn them.

4: Be gentle when harvesting. It is easy to bruise potatoes or damage the skin (causes them to rot in storage).

Step 13: Tomatoes,watering,feeding,planting,growing Climates,soil

Be prepared with 6’ posts, cages, or trellises and the means to secure the vines to them. (Drive the posts, etc. into the ground such that they’re sturdy to the touch and a good wind won’t blow them over.) To secure your vines to the supports, use soft cotton cloth strips (from an old bed sheet, etc.).

Tie the vines gently and not so tightly as to hinder future growth or damage the plant. Secure the vines at 1 foot intervals.

SOIL

Prepare your garden soil one month before planting.

Dig deep in compost or manure to your soil.

GROWING CLIMATES

Tomatoes can be grown in nealy any climate but they grow best in warm weather and do not tolerate frost.

PLANTING

Plant your tomatoe seeds in seed starter trays indoors plant your seeds1/4 inches deep in your starter soil, Seeds should emerge in two weeks.

When your tomatoe seedling are 4 inch tall transplant to a bigger cup and have a growing light about 5 to 6 inch from the plant. When it grows its 10 inches tall transplant to garden bed, plant 2 feet between rows.

WATERING

During the growing days do not let the soil dry out.

Keep the soil moist not soggy during hot spells water every day.

FEEDING

Apply fertilizer (watered into the soil around the plants) after you see the first fruits froming.

TIPS

1: Harden the plants for two weeks before planting into the garden soil.

2:Plant your tomato plants deeply - the first set of leaves should be near ground level. The tomato plant will use the planted stem to sprout additional roots, giving the plant a stronger root support system.

3:Uneven watering can cause blossom-end rot. Do not water with sprinklers or from above. Instead, use irrigation hoses or dig troughs among the plants for irrigation.

4:Drive in your supports (stakes, posts, cage, etc.) shortly after planting your seedlings. If you wait until later when they need the support, you may damage the root structure in the process.

Step 14: Peppers,watering,feeding,planting,growing Climates,soil

Peppers come in many different varieties: bell (green, red, yellow, purple), banana (used mostly for salads and pickling), cayenne, and jalapeno peppers, just to name a few. In hot climates, peppers are perennials. In all other climates, they grow as annuals. Peppers are a warm weather crop, and have little tolerance for cold. Peppers such as bells and bananas are known as sweet peppers. They're often used as a fresh snack on a vegetable tray, in salads, pickled, stuffed, on kabobs, or as an ingredient in a cooked dish. Bell peppers are commonly eaten when green, but if left to ripen on the vine, they will turn red, yellow, orange, etc.

(depending upon the variety) .Peppers with some "heat" are commonly referred to as chile peppers or chiles. These peppers are often used to add zest to pickles, guacamole, pasta dishes, stir fries, and anything in between.Note: This plant has no relation whatsoever to the plant that produces peppercorns for your common table condiment (also called "pepper").

GROWING CLIMATES

Peppers need a lot of sun light when growing about 9 hours of sun light.

Peppers do not care for cold weather and does not tolerate frost.

SOIL

Add compost or well rotten manure to your soil, dig the manure deeply in to the soil so that your soil is crumbly and drains well.

PLANTING

Pepper seeds take 3 weeks to germinate. Its best to start planting your pepper seeds indoors, plant outside when the weather at above 60 degrees.

Plant your pepper seeds 18" apart in your garden, and plant seeds 1/4 deep into the soil.

WATERING

Keep the plants evenly watered so that the soil is evenly moist (but not soggy). This helps prevent flower drop.

FEEDING

Prepare your gaden soil adding manure or compost 3 weeks before planting.Once the plants are in bloom, you can fertilize if desired.

TIPS

1: When the plant starts to bear fruit, I lightly tie the central stalk to the stake for support.

2: If you wait until the pepper plant needs the support to insert your stake in the ground nearby, you will cause damage to the growing pepper plant's tender root system. Instead, insert the stake when transplanting, before the plant's root system has formed.

3:DO NOT transplant your seedlings outside until the weather is warm and settled.

4:You may wish to pinch off shoots, to encourage a bushier and more compact plant.

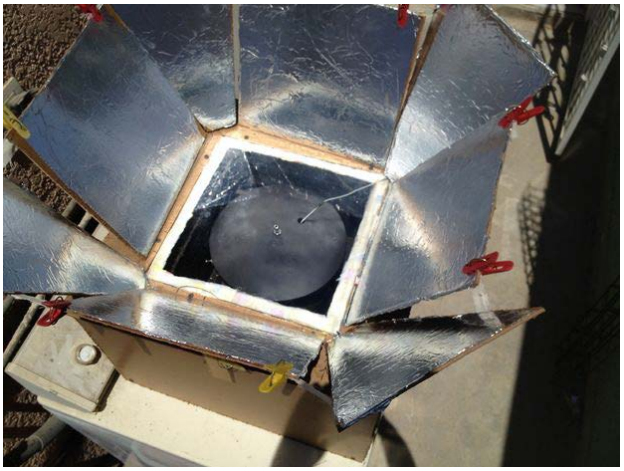
Solar box cooker

This design is for a solar box cooker that costs less than $10. This design can cook about 3 liters of soup or 2 loaves of bread.

The maximum temperature I have had my oven at when empty so far was 163C or 326F. When cooking bread in good sun conditions the temperature is around 140C.

This design has 4 inches of insulation. A pot of stew will only loose 4 degrees per hour at 85C with no sun.

It works best in places close to the equator. If you live further north or south a different mirror configuration is needed.



Step 1: Building and painting the oven box

First you must determine what you would like to cook in your solar oven. I sized my oven based on a pot I wanted to use and 2 bread pans.

My oven is a 11x11 inch square that is 8.5 inches tall. I built the frame out of pine 1x2s. I build legs so the bottom surface was 4 inches off the ground (I decided to insulate the entire oven with 4 inches of insulation).

I then used inexpensive 1/8 fiber board to create the sides and bottom. I spent some time looking for a flat black, high heat, non toxic and water resistant paint. On the internet I found a charcoal powder paint. It is made using equal parts charcoal power, white glue and water. I covered a small sample of wood and

placed on a pop can in a pot with boiling water. I boiled it for a few hours to check if the paint could handle the high heat and humid in this boiling environment. The paint did very well. I made a large batch of the paint and used a large paint brush to paint all inside surfaces of the oven. I used 3 coats of the paint to ensure a nice strong black color and that there is enough to protect the fiber board from humidity.

After the paint was dry I stuck my head into the oven to look for air leaks. I marked all the spots where light came through. I then used some high temperature silicon to seal and the cracks. The oven needs to be air tight so that hot air doesn't escape.

Step 2: Insulation and insulation box

I bought some inexpensive fabric stuffing in order to insulate the solar oven. I built a box that was 4 inches taller and was 4 inches larger in each direction. The box was made out of 1/8 inch fiber board. I joined it by screwing the sides into 1x2 blocks in the corners. I glued 2 pieces of 1/8 inch fiberboard together to form a stronger bottom piece.

Insulation was cut and placed on the bottom of the insulation box. Holes were cut into the insulation to make room for the oven legs. The oven was rapped in insulation.

The oven was then carefully place in the center of the insulation box.

Step 3: Top pieces between the oven and insulation box

Four pieces of 1/8 fiber board was used to seal the top between the oven and insulation box.

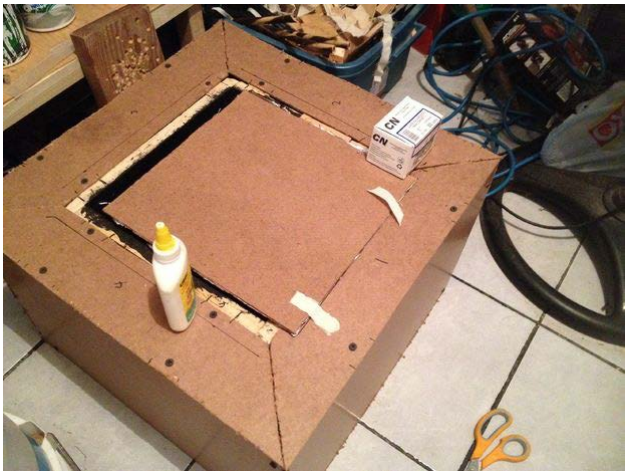
The edges were cut at 45 degrees. 4 Small 2x1 blocks were glued to the oven and insulation box so each top piece could be screwed down.

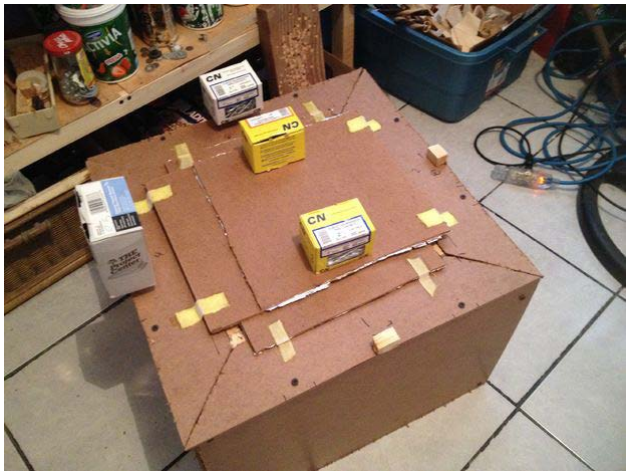
Step 4: Mirrors

First I cut 4 11x11 inch squares out of the fiberboard. I covered them in wood glue and then aluminum foil. 1 held 2 mirror together with the aluminum facing each other using clothes pins. This prevented the mirror from warping with the glue. Hinges were made using cotton fabric and wood glue. They were attached to the

mirror and the top pieces. Two hinges were made for each mirror. A wood block and small piece of 1/8 ply wood was glues to the top surface. A long piece of 1/8 plywood was then secured with a clothes pin to adjust the angle of the mirror. 3 corner mirror were also built. These mirror had fabric arms that were attached with clothes pin to the square mirrors.

For the glass I used a piece of glass I found in the garbage and cut it with a glass cutter. Using double paned glass would help insulate the oven further.





Step 5: Cooking

After a few tests additional newspaper insulation was added to the top of the insulation.

This solar oven is designed to work best when the sun is directly overhead. In this situation all mirrors should be at about 60 degrees. If the sun is not overhead the mirror(s) in the direction of the sun should be at a lower angle and the mirror across form the sun should be at a larger angle. For use in areas that are far away from the equator a mirror should be built that only mounts to one side of the unit. These mirrors will have a steep angle and sides that will reflect the light from the low sun into the oven.

First bread was made in the oven. The oven was pre heated with 2 upside down bread pans so that the bread is raised closer to the top of the oven. The oven made it to 159C and the bread was added. The air temperature in the oven was

about 140C while the bread was baking. The bread baked for one hour and got nice and golden brown using only the heat of the sun.

Next 3 liters of vegetable soup were made in the oven. I was slow cooked for several hours.

Chilli was slow cooked for 10 hours. The chilli was removed for one hour and bread was baked. The chilli was cooked while I was at work for 3 hours. When I got home the chilli was at 85C even though it was getting no sun heat for 1 hour. The chilli only lost about 4 degree Celsius per hour. We ate the chilli and bread for dinner that night.

4 pizza pockets were also cooked in the solar oven.

I started writing down all the food I was cooking in the solar oven without using any electricity or gas.

I love this solar oven and use it almost every day.

ENERGY TECHNICS

Bio-gas plant using kitchen waste

I have been searching for some method of using the kitchen waste efficiently, and I came across information on producing bio-gas from kitchen waste.

The bio-gas produced from kitchen waste, consisting of methane and a little amount of carbon di oxide is an alternative fuel for cooking gas (LPG), cost of which is going up day by day. Also, the kitchen waste can be disposed off efficiently without any odour or flies and the digested slurry from the bio-gas unit is used as an organic manure for our plants.

I have collected some information from the net and tried constructing a proto-type model of the bio-gas plant, using simple materials available locally.

The components of the bio-gas plant are a digester tank, an inlet for feeding the kitchen waste, gas holder tank, an outlet for the digested slurry and the gas delivery system for taking out and utilizing the produced gas.

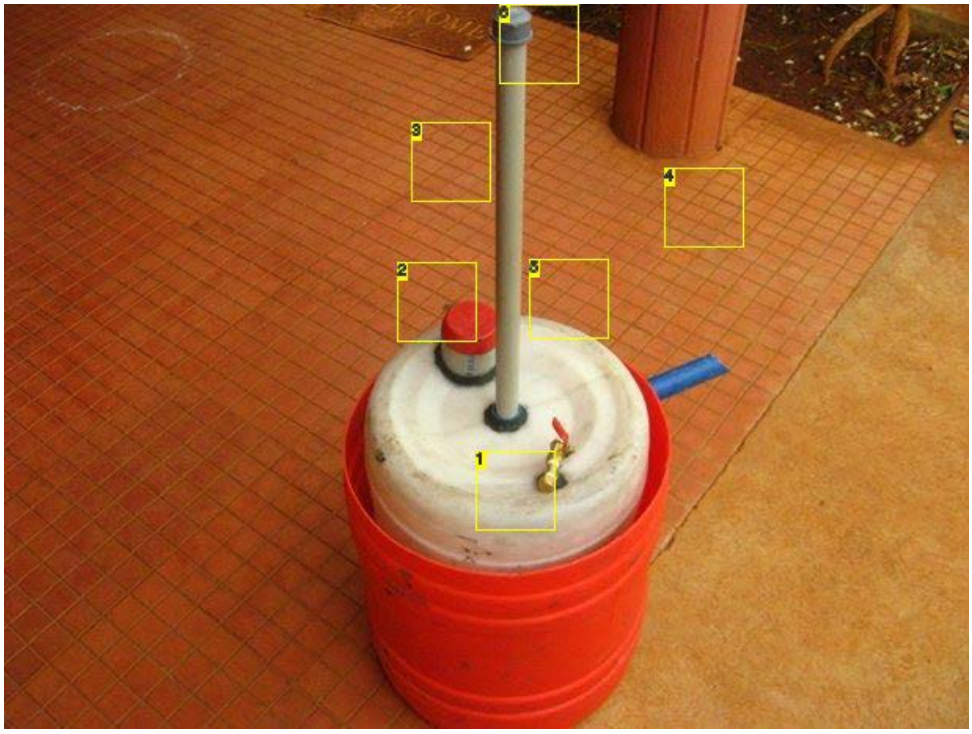


Image Notes

1. Digester Tank

2. Gas Holder Tank

3. Inlet for feeding kitchen waste

4. Outlet for digested slurry

5. Gas Delivery System

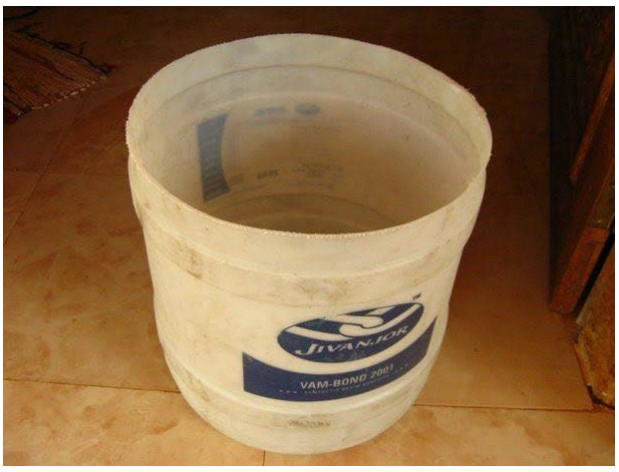
6. Guide pipe for moving the Gas holder tank up and down. Need to reduce the height to match up with the Digestion Tank

Step 1:

Bought this PVC can, which will act as the digester unit and removed the top portion of the can, by cutting it with a hack saw blade:

Step 2:

The smaller white can, which will act as the gas holder fits inside the red one. Here, again removed the top of the white can, also with the help of a hack saw blade:



Step 3:

64 mm, 32 mm and 25 mm dia PVC pipes which will be used for feeding the kitchen waste, guide pipe for the gas holder and guide pipe fixed with the digestion chamber respectively. A small piece of 32 mm dia pipe will be used as outlet for the slurry:

Step 4:

Things required for the gas delivery system: got these items from a hardware store

1. Ball valve : one no (to adjust the gas flow)

2. 'T' joint : one no (to connect the gas holder and the ball valve)

3. Cap to block one end of 'T' joint : one no

4. Coupling or Adapter : one no (to connect vertical end of 'T' in to the gas collector)

5. Nipple: one no (added to the coupling in to the gas collector)

6. Gas pipe (flexible) : two meters

7. Barb : one no (fitted with the gas pipe, to join with the Ball valve)

8. Clip : one no (used for crimping the barb with the gas pipe and make it leak-proof)

9. Teflon tape : one roll (used as thread tape in all joints)

Image Notes

1. Ball Valve

2. 'T' Joint

3. Barb and clip crimped with the gas pipe

4. Flexible gas pipe

5. Adaptor

6. Nipple

7. Cap

Step 5:

Here I have marked the cuts to be made in the bottom of the gas collection tank. The smaller hole on the left for gas delivery system, center hole for fixing the 32 mm guide pipe and 64 mm hole for fixing the waste feeding pipe on the right side.

The next image is Inside of the gas holder showing the 32 mm guide pipe (center) and the 64 mm feeding pipe fixed with M-seal

Step 6:

Top view of the gas holder showing the feeding pipe, central guide pipe and the gas delivery system: I have closed the feeding pipe withe an old lid (red one). This will facilitate opening the feed pipe only during feeding of kitchen waste.

Step 7:

Digestion tank fitted with the central guide pipe and the outlet pipe for the slurry:

Step 8:

Completed unit. I have removed the gas pipe, so that the joints will get cured without any stress:

Wait for a day before feeding the system, allowing all joints to get cured and become leak-proof.

Initially, cow-dung mixed with water will be fed in to the system, which will start the gas formation process. Subsequently, kitchen wastes will be used to feed the system.

The gas holder will rise along the guide pipes based on the amount of gas produced. We can add some weight on top of the gas holder to increase the gas pressure.

When we add the kitchen waste, the excess digested slurry will fall out through the outlet pipe, which can be collected, diluted and used as organic manure.

First production of gas will consist of oxygen, methane, carbon di oxide and some other gases and will be released to the atmosphere.

Subsequent gas will consist of about 70 to 80 percent methane and the rest carbon di oxide, which can be used in a gas burning stove.

Total cost of this proto-type system is about one thousand Indian Rupees (about 20 dollars)

This is a basic prototype of a Bio-gas system using the kitchen waste to produce gas. An one thousand litre capacity Digestion tank will be sufficient for a small household for daily cooking purpose. The bigger commercial models provide a water seal between the digestion tank and gas holder tank.