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Photo Journal

A collection of cabins in winter

Food & Gardening

Wild Game: Prepping & preserving game meat

Off Grid Tech

Off Grid Gadgets: 10 cool inventions to make your off grid life easier
It's that time of year again - slippery roads, power outages, empty grocery shelves, and dead batteries. Are you prepared for a winter disaster? There are many emergency scenarios you could find yourself in, depending on your lifestyle and where you live, from being stuck in your car to being lost on a winter hunt. Preparing for the worst case scenario ahead of time can make the difference between life and death for you and your loved ones. I'm going to go over a few of the most common situations people find themselves in.

An auto disaster is a situation that can affect anyone. Commuters, little old ladies, children, hunters, and anyone else who needs to drive through a snow storm can quickly find themselves in a survival situation in no time flat. All it takes is a slippery spot in the road, a flat tire, or another driver to place you in a life threatening scenario. Most people do not prepare for an automobile situation where they will be stuck in their car for extended periods of time in GOOD conditions, not to mention freezing, snow drift conditions. Waiting in your car through a drive through restaurant line is miserable enough, but sleeping in your car can be downright painful. Preparation and forethought are key to making it through the storm and being rescued.

People don't just get stuck on back roads - some have been buried by plows, slid off the road out of sight of other motorists and snow plows, or been pinned behind the wheel where hiking out was not an option. Hypothermia can set in fast, and most people think they can just leave the heater going and wait to be spotted. Cold can sap your cell phone batteries quickly, and rescue may not be as near as you think.
Leaving your car running while it is stuck in snow can kill you in minutes, as carbon monoxide from the engine is odorless and can seep into a car quickly. Think about that dead skunk you drove past and instantly smelled at 60mph. That is a heavier oil, not a gas. Your car is not made to keep air out. The number one danger of a snow bound situation in your vehicle is dying from running your engine. Let me repeat that: Sitting in a car stuck in snow with the heater on is the number one killer.

I read of a situation where a police officer was on the scene when a lady and her two children ran off the highway onto the median and were not injured. They were in a couple of feet of snow and stuck. The policeman had already talked to the mother and they were all fine. Minutes later the officer noticed she had slumped over the wheel. He ran to the vehicle and all three had passed out and the engine was still running. He extracted all three from the car but could only perform CPR on one at a time. Fortunately a passing motorist stopped and together they managed to revive them. It can happen that quickly. One minute you are put out and late, the next you are passed out and succumbing to carbon monoxide poisoning. The engine is not the best option for staying warm. Not by a long shot. You can purchase a carbon monoxide detector that you stick to your dash board and if it starts to change black, you need to turn the engine off.

Even if you run the car for short periods of time it may not keep you very warm and you can only run it for as long as the gas holds out. I get into an argument with my wife every winter: we pile into the car for a long, cold drive and she cranks the heater and ditches her coat. I end up cooking while she is never warm enough. I don’t like to get out of the car to put my coat on in the cold. I prefer to adjust the vehicle temperature to what is comfortable with my coat on. What happens if you slide off the road and are pinned in your seat? Your coat won’t do you any good in the back seat if you can’t reach it.
The key to auto survival is preparation. We keep a “crash bag” in our car - a large military style duffel bag where we store all our cold weather gear. We throw it in our vehicles on bad drives where we may need it. My crash bag consists of long underwear, a military style Extreme Cold Weather Clothing System (ECWCS) which is a polypropylene under suit, a “bear suit” which is a thick brown felt like liner covered by a Gore-Tex shell that makes it breathable but water proof. I also have “Mickey Mouse boots”. I throw in heavy duty gloves, scarves, hand warmers, goggles, and various hats. You may also want to include snow boots. You can alter your gear to your personal needs and preference. I’m just brain damaged from the military and prefer gear I am familiar with and know works in the worst conditions. Even a subzero sleeping bag thrown in the back seat can save your life. Just have enough to save any one else that may be stranded with you, or one that can hold multiple people to conserve body heat.

On top of our crash bags we also have an auto-survival kit. You can adapt yours for your area and likely needs. Some of the items you may want to include are blankets, tire patch worms and a cigarette lighter air pump, tire chains, reflective survival blankets, cold weather tape, flares, a compact snow shovel, kitty litter, salt, a flash light, jumper cables, compact saw, rope, a winch, sleeping bags, and extra clothing. If you include food and water in your vehicle, be certain the water packets are small enough to keep thawed by body heat, and the food can stand extreme temperatures. Military MREs, for example, are not good to keep in your car if the temperature on a hot day exceeds 100 degrees, as the shelf life drops to only a couple of weeks. Energy bars, jerky, etc., are better for a scenario you may find yourself in and can be thrown in your crash bags and taken into the house at night. Remember the threes: You can survive without oxygen for approximately three min-
utes, water for three days, and food for three weeks.

There are also a few automobile heaters you can buy or make. We have small attachments that screw onto the little green propane bottles. You light them with a match and they will keep your car above freezing for several hours, though the gas from these can also be dangerous. There is also a candle that hangs in a small lantern that is good for tents and cars, but they tend to melt in car kits and you find a wick and caked ooze when you need them.

The heater I prefer is easy to make and very inexpensive. Get a small container, such as a military ammunition can, or a Tupperware container that will hold several bottles of 90% isopropyl alcohol. You will need three or four bottles per night for continuous use. You will also need a roll of toilet paper and a metal cookie or coffee can that the toilet paper roll will snugly fit into. It should have a metal lid if possible, but a plastic one will work if you allow the can to cool before capping it. Take the cardboard tube out of the toilet paper roll and crush it into the can. Store it with the lid on, but do not add the rubbing alcohol until you are ready to use it, as the water in the alcohol will rust out the can.

When you need to use this heater, take one of your reflective survival blankets and tape it between the front and back seats so you are only heating the smallest area of the car as possible. Make certain you get tape that works in cold conditions because many types of tape won’t stick. You can also roll the edges of the blanket
up in the windows. One window should be slightly cracked to allow fresh air in, mostly because of the alcohol smell, but it is safe to breathe. It is only about three parts per million carbon monoxide. Pour the rubbing alcohol into the can until it is about 1/4 full. Wait a few seconds for it to soak into the toilet paper tube then light it with a match or cigarette lighter. It puts off a blue flame a couple of inches above the lip of the can.

When I first made one of these heaters I thought it might be extremely dangerous if knocked over, spilling alcohol in the car with the flame touching off the alcohol. I figured it might be like a Molotov cocktail going off in the tent or car. So I tested it. I took mine into the center of my drive way, lit it, then kicked it over. It continued to burn on its side without spilling any of the fluid. To be safer, I still light it inside the military ammo box as added insurance. The can also acts as a heat radiator.

Another trick is to radiating the heat with this type of heater is to stand a small red clay flower pot upside down over the top of the can. The only real danger with this type of heater is lighting something on fire with the flame. Use common sense and only light it as long as you need it. You can continue to light it for short periods of time to conserve alcohol.

**A few more auto survival tips:**

If you find yourself stuck in snow in your vehicle, you should try to keep the area around the doors on at least one side of the vehicle cleared from snow drifts and be able to get out of the car if you need to. Being pinned can severely restrict your options for what you can reach from your seat. Again, try to wear adequate layers to stay warm.

The kitty litter and rock salt in your kit can be used to get traction on ice. The saw can be used to saw brush or branches to use for traction as well. The snow shovel can be used to clear the vehicle of drifts or to pile a shelter wall from winds and further drifting. You can tear the insulation ceiling liner in your car in an emergency to provide some insulation from the cold. You can break off the rear view mirror and reflect sunlight
to get the attention of passing vehicles. You can also cut up the spare tire with the saw and pile the pieces in a hubcap, then drizzle motor oil over the rubber pieces so you can light it on fire when you spot a potential rescuer. The black smoke the burning rubber produces should work well to signal rescuers. If you are near trees you can also light a signal fire with a small pine or piled shrubs.

I heard of one case where a man was driving through a closed back road taking a short cut when a snow storm hit. He was driving an RV and didn't notify anyone of where he was going or when he should be expected to arrive. Instead of hiking a few miles back to the main road he remained in the RV. He exhausted his supplies and continued to write letters in a journal to his wife while he prayed for rescue. When some snowmobilers found his body later, the lights in the RV were still on. While it is usually a better option to remain in your vehicle, some situations may require at least one member to try and go for help. This should, of course, be the most able bodied member and they should take enough supplies to insure their survival, considering the others in the party depend on them bringing rescue.

**Hypothermia**

Another very important winter survival factor is knowing how to spot hypothermia symptoms in yourself and others. Hypothermia can set in in relatively warm conditions because of wind chill factor, wet clothing, and body heat being lost faster than it can be generated. Children on playgrounds and people shoveling snow suffer from this all the time. They get wet from sweat and exertion and then the wind picks up. They are soon lightheaded and dizzy, then sleepiness sets in and all they want to do is take a nap. They can rapidly become disoriented and slur their speech. At this point it is extremely dangerous to heat them up quickly, or have them move around much because of

_Sudden storms, icy roads, and blowing snow can quickly turn a leisurely drive into an emergency situation. Preparedness is key to survival._
Winter hiking, hunting, and skiing are activities many people enjoy. Prepare for unforeseen circumstances by packing a few simple survival essentials in a backpack when on these outings.
A basic first aid kit should always be kept in your car and backpack for winter outings along with the rest of your survival gear.

A condition known as after-drop. An example of this would be a rescuer putting someone suffering from hypothermia in front of a heater, or throwing them in a hot shower or tub, and the victim suddenly keels over dead. What is happening is the body is trying to survive by shutting down blood flow to the extremities such as the fingers and toes, then arms, legs, and head, focusing blood flow to the vital organs, primarily the heart and lungs. When the arms and legs are suddenly heated, the body dumps cold blood to the heart and causes cardiac arrest.

Hypothermia should be treated by only heating the major organs first. Wrap an electric blanket, a chemical heater, or use body heat from someone else as close to the vital organs as possible. Do not heat the extremities. Try to give a hypothermia victim heated liquids to drink if they are able. One method is to dissolving raw, dark honey in warm water and give that to the person as you heat the vitals.

To avoid hypothermia, dry clothing is vital. Dress in layers and try to avoid getting sweaty. Keep spare dry clothing to change into if you have to exert yourself.

**General outdoor survival tips:**

Never eat snow or ice if you are thirsty. This can cause mouth swelling and you burn calories as you heat them to body temperature. Include a sierra cup or some other container you can melt the snow in and drink the warm liquid. Never rub snow on frost bite.

If you need to build a snow shelter you can dig into the side of a snow bank. It is best to do some research on snow shelters and practice before you actually need one. Snow is an excellent insulator and you can keep a shelter above freezing with a candle, but you want insulation between you and the snow, and a vent hole at the top to provide adequate air flow to breathe.

If you are hunting and find yourself having to spend the night in the woods, research and practice making a debris shelter that works in your particular area. A quick shelter in pine forests can be made by finding a small dead pole a couple of feet taller than you are. Tie one end of this about two and a half feet up on another tree with the other end on the ground. You can also cross two sticks to make a bipod to rest the long pole on. Position the tripod so it is about three feet wide (a little wider than your body) with the long pole as the roof. Now gather and cross smaller poles against the long pole, alternating along the length of it to make a frame. Once this is laid out you can gather enough pine boughs to line the floor to insulate you from the snow. Bury the frame in debris such as leaves, pine boughs and weeds until it is covered to a depth at LEAST the length of your arm. You can then use snow on top of this to insulate it, but again, leave a vent hole for air enough to breathe. You can fashion a door by
making a circle out of a green limb and weaving other sticks back and forth through it, then insulating it with further pine boughs. Think of this shelter like a wood sleeping bag, with minimal air space so your body heat can help warm the interior.

If you are on foot it is always wise to carry enough supplies in a survival kit to match your skill levels in outdoor survival. I know many people that require the highest tech trinkets money can buy, and their survival kits outweigh them. Others carry a knife and minimal gear and can survive in most situations with primitive survival skills alone. It's up to you. Just try and prepare before you may find yourself in a desperate situation.

One of the no-brainers that seems to get most people in trouble is not notifying someone of your plans. Let at least one person know when you are leaving, how long you plan to be away, what area you plan to be in, and when you plan on returning. This can narrow the search area drastically if you end up stranded. Remember, a rescue party has to search a larger area the further you wander from your last known location. If you don't have anyone to notify of your plans, you can look up internet programs where you can type the information, and if you don't deactivate them on time, the program will notify authorities. You can also get a phone application that can be installed to locate your cell phone.

I tend to still like a few gadgets and trinkets even though I have primitive skills. I carry a small rig that has survival blankets, a good knife, a fold out gathering bag, a pistol, extra magazines, a signal mirror and compass, a military strobe light, a flash light, a monocular, a three way hand chain saw, fishing tackle, a sawed down X-acto blade, mosquito head net, chap stick, sun block, duct tape, parachute cord, a sewing kit, a plastic whistle (metal can stick to you in the cold), and a half dozen ways to make a fire. I keep a blast match, a magnesium fire starter, and a gel packet that you light the edge and it lights everything including the ground on fire in a last ditch effort. I keep all this on a small pouch on a belt with a shoulder strap. It is my minimal gear when I go off grid. I also carry a camel-back style canteen that has some more gadgets tucked in it. I prefer a reflective blanket with a tougher tarp type material I can use to line my poncho and to make a quick shelter with minimal effort. Good luck making a debris shelter with a twisted ankle. In my pack I carry more fire making tools and a plastic two hand snow shovel that is just a flat, flexible plastic sheet that can also be used
to splint a broken bone. I also carry a small first aid kit, toilet paper, a dried sponge for gathering water, a filter straw, hand warmers, a solar radio, aluminum foil, and perhaps a heavy trash bag. I also have a pair of tactical gloves I fasten to the shoulder rig. They come in handy for crawling, climbing and even keeping the bugs off. I wear a sniper veil that doubles as a towel, sun shield, fish net, and again protection from insects. I wear these in all weather conditions, or I can throw them in the car with my crash bag. All these items combined only weigh a few pounds and can be life savers. Throw in a few snacks and you are good to go.

Again, the key to survival in any situation is attitude and the will to live. Many people who survive shouldn't have, and many that should have survived died. Try and have enough forethought to prepare for a situation that may be likely given your lifestyle, your risk level, and your education and experience in outdoor survival techniques. Carry the right gear, notify the right people, and avoid unnecessary risks.

Be safe and take care of yourself! Others may need you.

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If you plan on taking a trip during bad weather, always let someone know where you'll be and for how long, even if it's a short trip.
Everyone knows that the holidays can be a hectic time of year when it comes to preparing for parties and gatherings and shopping for gifts. Take a look around just about any store this month and you're sure to see a plethora of shoppers rushing around in search of sales and the perfect presents to wrap in paper and bows to put under the tree or to box up and send off to faraway loved ones.

The hustle and bustle of holiday shopping can be exciting, no doubt; sometimes it's fun to wander around stores and see the lights and decorations, listen to Christmas music, see all the pretty holiday packaging, and get caught up in the buzz of busy shoppers and shopkeepers. But it can all also be very stressful and expensive, which defeats the whole purpose of the holiday season.

Maybe you're one of those people who gets a thrill out of standing in line at midnight for an early morning sale or scouring shelves for hours to find the perfect something for that special someone in your life. If so, that's perfectly okay. But if you're looking for a change this holiday season, consider making this a handmade Christmas: skip the stores, save a ton of money, and create gifts that are heartfelt, unique, and that will be enjoyed and cherished.

The first year I decided to forgo the traditional shopping for Christmas and switch to handmade, it was partly out of necessity - as a single mom I found my-
self on a strict budget, struggling to come up with enough extra cash to provide a decent Christmas for my kids. The other part of my decision was the realization that many of the people on my list didn’t really need anything. What would be the point buying my grandma another useless knick knack to add to those she has accumulated over many years, or spending too much money on gifts for my other family members that might just be stashed in a closet by the following year?

So that year, I decided not to buy a single thing. Instead, I made everyone a gift basket filled with handmade goodies, including salsa made from vegetables I had grown in my garden, teriyaki jerky from the deer I harvested that fall, and a few other little handmade items. I saved a ton of money and everything I made was a big hit. Ever since then, little handmade gifts have become something of a tradition for my family. We all enjoy giving and receiving them so much more than the things we could go pick up off a store shelf.

If simplifying the holidays with meaningful, handmade, sustainable gifts sounds like something you’d like to try, I highly encourage you to do it. Just about everyone loves handmade gifts, and you don’t have to have a huge garden or be an expert at the sewing machine to make them. No matter what your talents are, you can come up with something handmade that others will love. Need some inspiration? Here are several gift ideas to get you started:

**Edible Gifts**

Do you have a garden, raise honey bees, hunt game, or raise your own livestock for food? If so, then you have all you need to make edible homemade gifts.

If you grow a garden, you can make so many different things that every person on your shopping list should be easy to satisfy. Canned foods like salsa, tomatoes, pickles, jams and jellies, and other home-canned goods all make wonderful

What you grow in your garden or gather in the wild can be turned into gifts. In this gift basket I have my homemade (and homegrown) green tomato salsa, chokecherry jelly, and dried stevia.
gifts, and jars of canned foods just look pretty, so they always make nice additions to gift baskets. Dried herbs from homegrown plants, packaged in decorative jars or bags, are something just about everyone can use, and are so much more flavorful than store bought seasonings.

Seed packets, while not directly edible, can make awesome gifts. How cool would it be to provide your loved ones organic seeds from your garden so they can grow their own? To make it more fun, you can prepare themed mixtures. For example, a purple flower garden mixture, herb garden mixes, salsa garden mixtures, etc.

I know some local ranchers that keep bee boxes on their property and every so often they give me a huge jar of raw honey. I don't care what time of year it is, when I get that honey it feels like Christmas morning every time! Do you raise honey bees? If so, you probably already know that homegrown honey is a highly sought after and valuable delicacy for many people, so this makes an ideal gift. You can also use your honey and honeycombs to make a variety of homemade edible gifts or bath and body gifts.

Got meat? If you raise livestock or harvest big game, you have another valuable commodity that can be given as gifts. You can give away fresh or frozen meat or make delicious treats such as jerky, summer sausages or sausage sticks, and salami.

Mason jar recipes - soup mixes, cookie and brownie mixes, and muffin mixes all look nice and decorative when layered in mason jars and can be given as gifts along with printed preparation instructions. You can use this idea for just about Canned jams and jellies make delicious (and pretty!) Christmas gifts Homegrown raw honey makes a deliciously healthy gift

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Home brewed wine, beer, and kombucha are all yummy gift ideas.
Who doesn’t love homemade cookies for Christmas? And for the cook on your gift list, you can make spice and seasoning blends, marinades, spice rubs, and infused olive oils and vinegars.
anything you can make that requires dry ingredients.

Infused sugars can be made by mixing aromatic edibles into jars of sugar to give the sugars subtle flavors and scents. You can infuse sugar with orange and lemon peels, mint leaves, vanilla beans, rose petals, etc. The flavored sugars taste great in coffee and when used for baking.

Here are some other foods that make delicious and useful gifts: homemade cheeses, vanilla, mint, or almond extracts, herb infused olive oils & vinegars, tea mixes, spice mixtures for marinades and steak rubs for grilling enthusiasts, holiday cookie trays, homemade candies like chocolates, caramels, or taffy for those with a sweet tooth, flavored vodkas, homemade wine or beer, fruit leathers made from seasonal or homegrown fruits, and seed & nut snack mixes.

**Bath & Body Gifts**

Homemade bath and body products are easy to make and are excellent gifts, and because they are made with wholesome, good-for-your-skin ingredients, they are a healthy alternative to all the chemical and preservative-laden products you might buy at the store.

Soapmaking has definitely become something of an art form. I don't make it myself, but I love buying handmade soaps at my local farmers market and natural food store. A soap base can be mixed with all kinds of herbs, flowers, and essential oils to create soaps that look beautiful, smell wonderful, and feel great on the skin.

Lotions and lip balm are really easy to make using ingredients like coconut oil, shea and cocoa butter, beeswax, and essential oils. It's fun to experiment with combinations of scents and ingredients, and they are pretty forgiving if you don't follow recipes exactly. They last a long time and have tons of health benefits for skin. For the lip balm in the photo above I used just coconut oil, beeswax, shea butter, cocoa butter, and lavender oil. I have been using what I don't plan on giving away for the last few weeks; the stuff is amazing!
Bath fizzes and sugar scrub make an incredibly relaxing bath even more so by giving you a nice way to pamper your skin. Bath fizzes can be made with sea salt or epsom salt, baking soda, witch hazel, and your favorite essential oils. Sugar scrub is an amazing exfoliator and moisturizer. It can be made using any scents you like, so it's fun to experiment with. See my favorite sugar scrub recipe at the end of the article.

Microwavable heat packs are an ideal gift for just about anyone, and all you need to make one is rice, some fabric, and very basic sewing skills. You can make it small or large, and pretty much whatever shape you want. My sister made the one below for me last year. Rice packs are incredibly versatile; they can be kept in the freezer and used as a cold pack or microwaved and used as a heating pad.

Handmade Products

Whatever hobbies or talents you have, you can likely turn your crafts into gifts.

If you can crochet or knit, you can make scarves, dishcloth sets, hats, mittens, coasters, headbands, blankets, and all kinds of other useful gifts that can be customized to suit the person the gift is intended for.

Jewelry can be made with beads, wire, leather, hemp, and just about anything else you can think of. If jewelry making is something you enjoy, you can likely make something for everyone on your list. If some of the people in your life aren't likely to wear jewelry, maybe they'd enjoy a vintage keychain, personalized wine glass charms, a beaded bookmark, or something pretty to hang from their rear view mirror.

Handmade wooden gifts always seem to be popular. You can make long lasting wooden treasures for anyone's taste if you have woodworking tools and skills: bookshelves, rustic cutting boards, picture frames, wooden toys for kids, jewelry boxes, spice racks, end tables, hanging plant holders...I could go on all day! Adults and kids alike can be given functional and beautiful wooden gifts they will love.

Kits in a jar - put just about anything in a mason jar and it looks cute. You can make kits that are personalized for each individual you'll be giving them to. For example, put together a sewing kit for the crafty person in your life that contains a variety of threads and needles, a pin cushion, and scissors. For the artsy person, make a jar that contains drawing or painting supplies. For children, make jars with crayons, markers, rolled up pieces of paper in different colors, and so on...
Coffee mugs can be personalized with funny sayings or drawings and given to your favorite coffee or tea drinker. If you have access to the right supplies, you can paint beautiful mugs. Or, make it more simple: buy inexpensive plain white mugs from a secondhand store and write funny sayings on them with Sharpies. Bake them in the oven for a short while to set the marker so it won’t wash off. These are really popular on Etsy right now, so you can search there for some ideas.

If sewing is your thing, you have the opportunity to make gifts that everyone can use. Fleece hats and mittens, quilts, stuffed animals for kiddos, tote bags, purses or wallets, decorative pillows, retro-style aprons, and fabric-covered cork boards for hanging pictures, notes, and artwork are just a handful of ideas you can make with a sewing machine and some fabric.

Coupon books are something even the most un-crafty person can make. These can be customized to fit every person you’ll be giving gifts to. For your spouse or significant other, provide coupons for massages and date night ideas. For kids, give coupons for fun activities and outings. For other friends and family members, offer coupon books for babysitting, a girls or guys day out, house cleaning, home cooked meals, etc.
Peppermint Sugar Scrub

Sugar scrub is super easy to make and feels amazing on your skin, working as a moisturizer while exfoliating. I made a big batch of this to go in my gift baskets this year, but I’m having a hard time not using it all up myself! Here’s the recipe:

2 cups sugar  
1/4 cup coconut oil  
15 drops peppermint essential oil  
red sugar crystals

Mix the sugar and coconut oil in a large bowl until well combined. You may need to soften the coconut oil slightly so it is easier to mix, just don’t get it so hot and runny that the sugar dissolves. Once combined, stir in the essential oil. Add desired amount of red sugar crystals and mix them in. These are just for decoration - they add a nice sparkly, pepperminty look to the scrub. :)

Spoon the sugar scrub into jelly jars or other decorative containers with lids. Use the scrub in the shower as a luxuriously moisturizing exfoliator. A tiny bit goes a long way.

Maybe you’re not quite ready to commit to the idea of making all your gifts by hand If that’s the case, don’t feel bad - there are many people who either don’t feel like they have the time or talent to make something nice or they just enjoy the shopping experience too much to give it up.

If you’ll be buying your gifts this year, consider buying handmade gifts from others. You can support your local artists and small businesses while you shop rather than visiting the big box stores. You can also find thousands of small business owners online who make their living creating their own products. Websites like Etsy are the ideal place to find just about any kind of handmade gift you possibly hope to find, and maybe find inspiration in gifts you never thought to look for.

Here’s an amazingly creative & useful gift wrap idea. A friend of mine reuses animal feed sacks to make these adorable totes that can be used as a gift bag, and the bag itself is a gift that can be used over and over.
Photo Journal

Cabins in winter
Wild game is a nourishing, healthy source of food and may likely become your primary meat source, if it isn’t already, if you are planning on living off grid or transitioning to a sustainable way of life. Having grown up in Wyoming in a family of hunters, I was raised on deer, elk, and antelope meat. We also had our own flock of chickens, so between those and wild game we brought home from our hunting and fishing trips, I remember rarely ever having store-bought meats in our home. Harvesting, preparing, and preserving our own meat was simply a part of life, and I never gave it much thought until I got older and started paying more attention to the food system.

Eating wild game meat has many health benefits compared to farm-raised and domestic meat sources. Speaking specifically of big game here (deer, elk, antelope, moose, bison, etc.), wild game animals are not force fed grains, antibiotics, or medications throughout their lives. They eat what they were meant to eat: what is available to them in nature. They also live very active lives as opposed to being confined to pens and cages. Game animals truly are a free range, grass-fed, organic source of protein. Game meats are considered a healthy red meat: very low in fat and high in iron, B vitamins, niacin, and riboflavin. Stocking a freezer full of venison is something I do every year now, and I

Mule deer are a source of deliciously healthy red meat, as are whitetail deer, elk, antelope, and bison.
know by doing so I am providing a healthy food source for myself and my kids.

Cost savings are another benefit of eating wild game. Harvesting your own meats costs a fraction of what you would pay for meats at the store, especially if you purchase meat of organic and free range animals. Of course, the exception would be if you spend tons of money on licenses and hunting trips or pay a lot to have your meat processed.

Like all meats, game meat is perishable and needs to be carefully handled and preserved for optimal safety and quality. If you hunt and process your own animals, there are several things to keep in mind to ensure you get the most out of your game. Though this is common sense, before you harvest an animal, be sure to select one that appears healthy. Obviously, don’t consume animals that appear sick or are acting abnormally. Animals may carry diseases that can be passed on to humans.

As soon as you get your animal, you’ll want to field dress it immediately before dragging it back to your camp or before hauling it home. Field dressing is the process of removing the internal organs to allow the carcass to cool quickly. This is absolutely imperative because it helps preserve the quality of the meat and slows bacteria growth. After the organs are removed, the carcass should be hung to allow the body cavity to completely drain of blood. The carcass should be kept as cool and dry as possible as it hangs.

Processing

Will you be processing your own meat or having someone else do it? Some hunters haul their game straight to a processor to have it butchered and packaged, while others take on the job themselves. We always process our own. It takes some time and work, but it’s definitely doable and saves a lot of money in the end. Learning the different cuts of meat and how to properly package and prepare them isn’t as intimidating as it may seem, with some practice.

There are two things I have heard my dad say over and over and over throughout our many years of processing and preparing game meats: 1. Keep the meat
cold! and 2. Keep your knife sharp! Those are both very important for meat quality and efficiency, and my dad will be quite happy to know that those two statements have been so deeply pounded into my brain that I deemed it necessary to put the words down in this article.

The very first step you’ll need to undertake before getting any meat off your animal is to remove the hide. While the animal is hanging, start at the top of the carcass (which could be the neck if it is hanging by its head, or the back legs if hanging by a leg) and start cutting the skin away with a very sharp knife. Pull the skin down the carcass as you cut, like peeling off a sock, as this helps avoid getting much hair on the meat. After the skin is removed, cut off as much fat and blood shot meat as you can and discard any meat that has come in contact with gut contents. Then wash the carcass to remove as much dirt, hair, grass, blood, and any other contaminants as possible. After the carcass is skinned, cleaned, and trimmed up, you’re ready to start cutting and packaging the meat.

As you begin cutting meat off the carcass, work with only one part of the animal at a time and leave the rest hanging in a cool location. Some cuts of meat make excellent steaks, like the loins along the backbone and the strips of tenderloin on the underside of the backbone. Hind quarter meat also makes good steaks and roasts. The rest of the meat can be cut up into steaks, stew meat, or ground into burger or ground up with beef or pork fat and seasoned to make sausage. What you do with it really depends on your personal preferences and what types of meat you think you’ll use most throughout the year. I used to cut the majority of my deer meat into steaks, but I opt for mostly burger now because my kids eat it more readily.

Between myself, my parents, and my sisters and their husbands, we process several deer a year at my parents’ house, so they have a nice commercial meat grinder that makes processing go so much faster than it
Deer meat cuts guide

Meat cuts on game animals are similar to those on beef - with enough variety to fill your freezer with all kinds of choices.
A nice electric meat grinder definitely make grinding burger fast and easy, but it isn’t absolutely necessary. A hand-crank grinder like this will work - and give you a workout! Other cuts of meat can be chopped into steaks or stew meat.
would with a smaller grinder. It also has an attachment that will tenderize steaks before you package them. It’s amazing what a difference this makes with game meat, which can be a bit tough - it’s almost like pre-chewing your meat! If processing game animals is something you’ll be doing regularly, I highly recommend investing in a nice meat grinder.

Preserving & Preparing Game Meat

There are several ways to preserve your game meat. Freezing is most common, but you can also make jerky and sausages, seal cuts of meat in canning jars, and dry or smoke it.

Freezing

Freezing is probably the best way to preserve the quality of meat. Having a freezer full of a variety of meat cuts to use throughout the year is also extremely convenient. You can freeze your meat cuts and burger into handy packages of about a pound a piece. Double wrapping is recommended if the meat will be kept in the freezer for several months or more. You can double wrap with freezer paper, or do like we do and wrap the meat first in plastic wrap, squeezing out as much air as possible, then wrap it again in freezer paper. You can then label the package with a description and date with a pen or marker.

After wrapping and labeling your packages of meat, freeze them as quickly as possible at 0 degrees Fahrenheit or colder. Be sure to spread the meat out in the freezer until the packages are frozen solid, after which they can be stacked. Do not stack the packages before they are frozen, because the packages in the middle will not freeze quickly enough and may spoil. Meats can typically be kept in a deep freeze for up to a year, if packaged properly.

Canning

When we were kids, my mom often canned venison, which was delicious on sandwiches. I rarely do this...
now, since freezing is faster, but if you want some variety or don’t have a lot of freezer space it is a good option. Large game can be canned using the same processing times and methods as beef. You’ll want to process only properly chilled meats, and within 2 days of harvesting the meat, otherwise freezing is the better option.

Canned meats are usually cooked first, then packed into jars with broth. The broth is simply water boiled in the same pan used for cooking the meat, giving the broth flavor from the meat drippings. Canning can be used to preserve sausages, chunks of roast, stew meats, rib meat, steaks, and pretty much whatever else you want to experiment with.

### Curing, Smoking, and Drying

I absolutely love elk and deer jerky, and always save a good part of my deer meat every year specifically for this purpose. My family loves it, too, and we all have a variety of recipes we use, so homemade jerky is something we often give each other for gifts. Jerky can keep for a long time after it’s made, so it is a good way to preserve some of your game meat and makes a delicious snack. Because it requires no refrigeration or preparation before eating, jerky is great to have on hand for camping trips, hikes, road trips, and emergency kits. The recipe to the right is one of my favorite ways to make jerky, and is always requested by my family members.

I have not personally used smoking or curing as a way to preserve game meat, but both options are there for those interested. Curing involves adding a combination of salt, sugar, and nitrite and/or nitrate to meat to add flavor and to preserve it. The meat can be rubbed in cure or be soaked in a cure solution or injected. See [this publication](#) for more information about curing and smoking.

As with any food and no matter what methods you use, to keep things safe and sanitary, always wash any tools, utensils, and work surfaces that have had contact with raw meat in hot, soapy water. Have fun trying out different recipes for your meat; there are tons of great recipes and tips on the web. Remember, you can use game meats almost any way you can use beef, so the possibilities are endless.

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**Teriyaki Jerky**

Of all the jerky recipes I’ve tried, this one is my absolute favorite. I make it every year now and give some away for Christmas. Give it a try, but watch out…it’s addictive!

1 Tbsp brown sugar  
1 1/2 tsp salt  
1 tsp onion powder  
1/2 tsp garlic powder  
1/4 tsp black pepper  
2/3 cup bottled teriyaki marinade  
1/2 cup orange juice  
1/4 cup water  
1 Tbsp honey  
2 tsp soy sauce  
1 tsp liquid smoke  
1 pound deer meat, cut into 1/8 to 1/4 inch strips  
(you can also use elk, buffalo, antelope, beef, etc.)

Whisk together the brown sugar, salt, onion powder, garlic powder, and pepper in a medium bowl. Add the teriyaki marinade, orange juice, water, honey, soy sauce, and liquid smoke. Whisk until the salt has dissolved.

Place the meat strips in a large zip top plastic bag. Add the marinade to the bag, seal, and toss to coat the meat. Unseal, squeeze out the air, reseal and refrigerate 24 to 36 hours.

Use a colander to drain the liquid off the strips. Place strips in a single layer on dehydrator racks. Dry 4 to 8 hours, rotating racks every hour. Turn the strips over halfway through the process.

The jerky is finished when it is pliable but has no sign of redness in the middle.
The **BioLite** camp stove and portable grill
Off Grid Gadgets

10 cool inventions to make your off grid life easier

by Justin Zimmer

When you go off grid, you aren’t going empty handed. We are, if anything, tool oriented primates and we all love our toys! So, here we have gathered a list of 10 cool gadgets to make your life off grid easier.

Portable Power and Connectability

BioLite Stoves

Us Hominids have been using fire for cooking and heating for hundreds of thousands of years. Cooking with fire may have even made us who we are. So it makes sense that, as we get away from our cities with their electric cooktops and microwave ovens, we return to the use of fire to cook our steaks and warm the hairless apes we are.

But we didn’t go through thousands of years of cultural and technological evolution just to sit around a smokey fire pit gnawing on scorched squirrel on a stick! No, we’re bringing our digital revolution with us, and we ain’t dying of lung disease from smoke inhalation!
Enter BioLite, the clean burning stove that charges your iPhone. BioLite started out with a simple backpacking stove that burned any form of solid biomass you could gather from your campsite and, by using peltier thermoelectric generation, the little bugger could even pour your smartphone some juice while you brewed a pot of coffee. However, rather than just another novelty item, the BioLite CampStove presented a design that burned hot and clean, meaning significantly less smoke and a more efficient flame from whatever fuel was at hand. But wait, there’s more! BioLite wasn’t just founded to give yuppies the ability to play Angry Birds while getting in touch with the outdoors. BioLite inventors Alexander Drummond and Jonathan Cedar designed the BioLite to combat the health hazards of the wood burning stoves used for cooking in developing countries. With a market-based approach to poverty alleviation (Libertarian readers say woot!), BioLite is poised to make a difference by thinking outside the fire pit with their HomeStove product line currently only available in test markets in Uganda, Ghana and India.

Since the initial success of the CampStove, BioLite has released a bevy of accessories for the CampStove and a new camp stove called the BaseCamp that received over a million dollars on its kickstarter campaign indicating that the market is good for smart camp stoves. Not only is the BaseCamp bigger, but it also comes with a battery so you can charge your devices (think GoPro, GPS, Phone, etc.) whenever you need to without the constant need for a fire.
The **Lantern** is a satellite receiver that provides some of the most important information online - news and archived data - for free.
Lantern Satellite Receiver by Outernet

For some, off grid means a hiatus from all forms of technology and broadcast information, but for others it’s a way of life, and - unless you’re a hermit meditating on the experience of loneliness and boredom - staying connected to the world is an important part of being a social animal. In the age of the Internet, being connected pretty much means having an IP address and living a thousand miles from anywhere can mean not even having a dial-up connection. For developing countries, this is often just a fact of life, and catching up with the rest of the world is hard when the bulk of human knowledge is wrapped up in a technology that you simply don’t have access to.

Introducing: The Outernet! The Outernet is an open source, crowdfunded initiative to create a free and open internet with access via satellite receivers that can be built from scratch using plans available on the Outernet website. With resources such as Wikipedia, Open Source Ecology, and Project Gutenberg cached quarterly, the knowledge needed to build a modern civilization from scratch is being beamed down from space at a whopping 2MB/day per user! That doesn't sound like much but it's better than nothing and as funding increases so will the throughput and coverage.

Currently, Outernet is using IndieGoGo as an outlet for funding their operation outside of general donations by marketing a solar powered receiver called the Lantern. The Lantern can go anywhere and is self-powered. By acting as a Wi-Fi hotspot you can access data from the Outernet using any Wi-Fi enabled device, and you can plug in your mobile device and use the Lantern as a solar powered charger when you don’t feel like whipping out your BioLite CampStove.

Atmospheric Water Generators

Let's face it, if asked what the one thing is that you cannot live without on an off grid homestead, in a sustainable community, on a farm, in a city, on the moon or even floating on the briny sea, we can all agree that the answer would be water. You can't live for more than a few days without water and you sure as heck can't grow crops without it. You can ration it, recycle it, filter it, and conserve it but if you don’t have it to begin with none of that really matters. Not every plot of land is going to have a lake, pond, river, stream, creek or babbling brook and getting to an aquifer will set you back thousands of dollars if your property even has access to one. Hauling your water in leaves you dependent on the outside world, and for the off grid nomad, you need to be able to get water wherever you lay your weary head to rest.
Fortunately, even in the hottest, driest deserts, water abounds. At any given moment, there are about 3,100 cubic miles of water in our planet’s atmosphere. In the bone dry Sonoran Desert of Phoenix, Az, during June, at the peak of summer, the humidity can get as low as 9% and the heat in upwards of 120 degrees fahrenheit. Even in this weather, at the top of the day, there is anywhere from 6 to 8 grams of water per cubic meter, or about .2 to .3 ounces. That doesn’t sound like much, but air moves, and if you’ve got a machine condensing that air all day long, it could make the difference between eating jerky or soup. Well, they make such a machine, and it’s called an atmospheric water generator, or AWG for short. It’s not a complicated device, and you’ve probably got several versions of one throughout your home. The way they work is by cooling the air enough for the water vapor in the air to condense into larger droplets, like rain. You’ve probably seen your home’s air conditioner dumping water every so often during the summer when it’s working really hard. This is the same concept in action, except that, instead of dumping the water on the ground, you capture this moisture, filter it, and use it for drinking, cooking, bathing, gardening, enemas, whatever.

The catch here is that these devices take energy. The primary component is a compressor that cools a set of coils that the air passes through and of course, unless it’s a windy day, you need a fan to blow the air through the device. Generally, these take electric motors to run, and many brands offer solar solutions for running their devices. In many cases, it makes sense to shade the compressor under a large solar panel or array of panels to keep direct sunlight off of the compressor and thereby increase the efficiency while powering the compressor motor with photovoltaics. In windier parts of the world, the compressor could be powered by a wind turbine with the airflow provided by the natural wind currents. Eole Water is deploying such devices in Africa to aide in providing clean water to rural areas. The concept is a simple one, and moderate output can be achieved using off the shelf dehumidifiers and portable AC units with a little hacking.

**Portable Potable Water Filters**

Since we’re on the subject of water, if you come across a natural water source in your off grid adventuring, chances are you are sharing it with the various effluence of the local wildlife including parasites and bacteria. There are methods of making the water drinkable such as iodine tabs and good ‘ol fashioned boiling, but then you are left with deer-piss soup. Safe to drink, but now that I’ve stuck that image in your head, you don’t likely want to force it down the hatch. Fortunately, we have technology to the rescue!

The socially responsible corporation Vestergaard out of Germany produces what could be considered the slickest solution to clean water in the developing world. The LifeStraw is a unique filtration system that deliv-
ers clean water from dirty pond to dry lips in a single suck. Vestergaard claims that the LifeStraw personal water filter removes 99.9999% of waterborne bacteria (that's six zeros!) and 99.9% of waterborne protozoan parasites and particulates as small as .2 microns which should include some jumbo sized viruses. A single LifeStraw can also filter up to 1000 liters of water before being replaced and at about twenty bucks a pop, it's an affordable solution even for developing countries. Vestergaard now has an entire line of LifeStraw filtration systems that scale from a single drinker to an entire community. They even have a filter bottle for the weekend warrior.

Essex, UK based LifeSaver Systems also provides portable and powerful water filtration systems from the LifeSaver Bottle to the community sized LifeSaver C2. While the LifeSaver Bottle will run you 5 times the cost of the LifeStraw Go bottle, LifeSaver Systems promises to filter particles down to 15 nanometers, which is really, really, really, friggin’ small. Like, filter the bodily fluids of an Ebola patient and drink up with a knowing smile on your face kind of small. Plus, the LifeSaver bottle is more complicated in that it has a built in pump to push the water through that super fine filter. If I was in an area where all I needed to worry about was bacteria and parasites, then the cheaper LifeStraw simply makes more sense, but if I’m at a watering hole infested with viruses such as the rotavirus or hepatitis A, you can bet your Great Aunt Ethel’s soiled panties that I’m splurging on the uber-dot-oh-one-five-micron filter sold by LifeSaver.

**Automatic Watering Systems**

Now that you’ve got your water source squared away, and can even drink the stuff, you’ve got to share your moisture with the plants and crops that are ultimately going to keep you fed, provide cellulose for clothing and even dry biomass for heating and cooking. None of that works without water, and with water as a valuable commodity, you need to make sure you are using just enough and not too much. Too much watering can cause root-rot and is overall just wasteful. Unless
Garduino (above) and Airdrop (below) automatic watering systems
you're a watering ninja with the skills and patience to check the water levels and soil pH on your plants all day long, you're going to need some help from our next set of gadgets: automatic and smart watering systems.

Our first automatic system is something you can build yourself. The Garduino is the brainchild of Luke Iseman that uses about $150 in parts. The Garduino system uses temperature and moisture sensors to determine when your plants need water and how much and an open source Garduino microcontroller to control the watering system. Luke has an entire instructable here. Dan Morrill expanded the project with an Android remote control app for the Garduino project. Ain't open source just the coolest! Luke Iseman has even commercialized this project into the Growerbot for outdoor gardening applications. The Growerbot is, of course, also open source and if you've got the know-how to build it you can. The Garduino project originally just uses two nails as a moisture sensor, but there are actual moisture sensors available that may be more accurate.

The Airdrop irrigation concept won Aussie designer/inventor Edward Linacre the 2011 James Dyson Award and combines the concepts of AWG mentioned above and the spirit of automatic watering. Linacre’s concept was designed for agriculture in the Murray-Darling Basin where recent droughts had shown a rise in farmer suicide. The Airdrop is equipped with a solar panel and a wind turbine that draws air into a copper coil by wind or electric motor. The coil runs down into the belly of the device where the sudden drop in temperature and increase in pressure causes moisture to condense and collect in a basin at the bottom. An electric pump then distributes the water through a buried drip hose that keeps the soil moist. Imagine planting one of these babies every yard or so in your garden and letting the Airdrop collect its own water and distribute it without a central water source or much intervention on your part. You could feasibly create an oasis in the harshest desert without sacrificing your valuable drinking water for agriculture. There's no telling when or if Linacre will ever sell the device, but with the crown jewel of Cupertino owning the trademark on the term “AirDrop” don’t expect it to show up at a Home Depot near you with that name. What ought to happen here is for some enterprising inventor to take the concept and research that Linacre has started, and turn it into a workable design, preferably open source and freely distributed but hey, as long as it fits under the Christmas tree I'll be happy.

Composting Toilets

When building an off grid homestead, the question in the back of your mind, the question you don't often dwell on when you dreaming of idling away the warm afternoons in the peaceful summer breeze, is where are you going to put your crap? Everybody fantasizes about totally sustainable showers, utterly energy efficient kitchens and the furniture you made by hand from fallen trees and leather from humanely killed game animals, but none of that is worth anything if you don't have a pot to piss in. Literally. You could, of course, go back to the good 'ol days of pooping in a pot and throwing it out the window, but I think our place on the porcelain throne has instilled in us a strong desire to keep what comes out of us as far away from us as possible. We might be getting
back to basics here, but we aren’t barbarians!

You have options when it comes to handling your sewage. A septic system will likely set you back thousands, if not tens of thousands of dollars. Not to mention, if you’re trying to have as little impact as possible, you can’t just dump your waste anywhere, and overflowing septic system can cause algae blooms that will turn your off grid paradise into a toxic waste dump. The practical alternative, of course, is a composting toilet or toilet system. Ready made systems by Sun-Mar will run from about $1500 for a single self-contained toilet to $3000 for a multi-toilet central flush system - far cheaper than a septic system, though it does require maintenance. The composted waste makes excellent fertilizer however, so your regular cleanings mean a tasty meal for the flora in your life. For the rugged do-it-yourselfer, there is a “bucket to barrel” system that involves lugging a 5 gallon bucket of colon cakes out of the loo every so often, but the overall effect is the same and you’ll save thousands of dollars.

Weather Prediction

For our last gadget, we have something you probably only ever thought of as a novelty item you’d get at a gift shop or science store. If you think about it, there are a lot of things you have complete control over when you get out there on your own in the great outdoors, but the one thing you can’t control is the one thing that can really screw up the whole off grid experience: the weath-
er. Unless you plan on relying on weather.com for all your meteorological needs, you need some basic tools to help you anticipate what Mother Nature is going to dump on you in the coming hours. Do you need to shroud your plants for a freak frost? Should you batten down the hatches and board up your windows in the event of a surprise nor'easter? Is that haboob on the horizon going to be followed by a fast and dirty rain? Well, in the days before the weatherman folks relied on the almanac, old wives' tales and the power of science! The first thing that may come to mind is a cock (a-doodle-doo) shaped weather vane spinning wildly in anticipation of the coming tornado, but we've come a long way since then and wireless personal weather stations are a thing now. For the DIY enthusiast there are always instructions and parts lists for creating your own, but sometimes the low-tech approach is just so much more comforting, if not inaccurate. Completely analog weather stations don't require electricity or batteries and can be hung anywhere, and for your more classy nautical decor, there are many shiny brass gauges to choose from.

Above - La Crosse backyard weather sensor
Below - Simple DIY weather station - plans available here