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February 2020

Extreme Cold Weather Survival Tactics

Dangerous Animal Encounters
Part II: Real Life Stories

**Emergency Fire Building 101** 

**Napalm Fire Starters: Step by Step** 

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# **Extreme Cold Weather Survival Tactics**

With harsh winter weather engulfing much of the US, now is a great time to review some of the time-tested techniques for thriving in a frigid outdoor environment. In this article, we'll share the systems, tactics, and preparations for spending vast amounts of time in a winter wonderland.



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# Dangerous Animal Encounters Part II: Real Life Stories

Sure, we all know that there are dangers lurking deep in the forest, but what's the likelihood those dangers could invade your own backyard? In many parts of the country, confrontations between humans and potentially dangerous wildlife are on the rise in a big way.



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# **Emergency Fire Building 101**

It's one of survivalism's harshest ironies that, when you most desperately need a roaring fire to stave off frostbite, fire-building conditions are at their least favorable. That's exactly why you need a plan, complete with tools and techniques to ensure you can make fire happen quickly whenever and wherever.



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# **Napalm Fire Starters: Step by Step**

Somewhere inside every prepper is a soul that yearns to play with fire, and especially napalm. In this dirt simple recipe, we'll show you how to build your own "napalm" fire putty that burns like a champ for 5 minutes while you show off your advanced fire-building skills.



# Tips for Surviving Winter When The SHTF

Surviving the winter months has been a challenge for human beings for thousands of years, and the steps our ancestors took to prepare for extreme cold can serve as a guide for preppers today. The key priorities in winter are to stay warm, stay fed and stay safe, which means plans to take long journeys or explore surrounding areas should be put off until the spring.

Doubt, fear and panic are deadly enemies at the best of times, but they can be especially dangerous when conditions are extreme, and the outlook is bleak. However, those who can use their cunning, preparedness and resourcefulness to make it through a tough winter without electricity and warm cocoa will likely find themselves stronger, more resilient and more confident in the years ahead.

# First, the Good News



Not all is doom and gloom when the days grow short and temperatures plummet. While the dangers posed by the weather get more serious in the winter, other perils become less of a concern. Some of the most dangerous animals either hibernate or become inactive in the winter months, and gangs of human raiders are also likely to put their activities on hold and batten down the hatches. The critters that do remain active in the winter tend to slow down when temperatures are low, which should make them easier to take down with a well-placed shot or arrow.

Preppers should also take comfort in knowing that the dangers they will face in the winter are predictable and can be prepared for well in advance. Surviving winter is far less of a challenge for those who have a safe and secure place to shelter and abundant supplies of food and fuel. These are all things that should be planned and stockpiled well before the first snow falls.

# **Staying Warm**



Wood should be gathered throughout the year and stored in a place sheltered from the elements, and traps should be placed in wood stores to catch mice and other creatures that love to nest in them. Most people in the civilized world would turn their nose up in disgust if you offered them some grilled mouse, but just a few months without the comforts of home would have those same people selling their souls for just one bite of a rat burger.



Extreme cold kills in two ways. Hypothermia sets in when the body's core temperature falls below 98 degrees, and frost bite takes hold when ice develops on the surfaces of fingers, toes and ears. Wearing warm clothing and staying dry should be enough to prevent heat loss and keep these killers at bay. Proper clothing is crucial in winter to prevent the three types of heat loss.



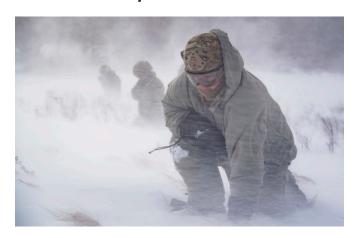
- Heat radiating from areas exposed to the elements. This can be prevented by covering the face and wearing a hat. Hats are especially important as they can make the whole body feel warmer while protecting an area of the body that allows a lot of heat to escape.
- Heat lost through contact with water or other conductive elements. This risk can be avoided by not touching cold things and taking great care to prevent boots and clothing from getting wet. Activities that cause perspiration should also be avoided whenever possible.
- Wind peeling heat from the skin. The effects of wind can be mitigated by curtailing outdoor activities and waiting for a lull in the weather when trips are unavoidable.

Cotton and fabrics made from cotton, such as denim and flannel, should be avoided when choosing winter clothing. This is because cotton provides very little insulation when it gets wet and can impede the body's ability to produce heat. Clothing should be layered in the winter months to keep the body's heat in and the cold out, and each layer should be chosen with care.

• The base layer: Base layers should be thin, light and made out of synthetic materials like polyester or polypropylene or natural fibers such as silk or fine wool.

- Middle layers: These layers should be thicker and heavier and made out of the same kind of materials as the base layer.
- The outer layer: This is the first line of defense against the outside world. An ideal outer layer is waterproof and filled with an insulating material of some kind. Parkas that cover the waist when bending down and feature attached hoods and cuffs and bottoms that close securely are an ideal choice.
- The extremities: Scarves, gloves, hats, masks and boots round out a winter wardrobe. Synthetic materials that resist water are preferable, and mittens are better at keeping hands warm than traditional gloves.

## **DIY Insulation Tips**



It's easy to sit here before the SHTF and tell you what type of clothing you should wear for winter survival. But what happens if you're caught in a situation where you can't grab your bug out bag? Or, even worse, what if you had your bag with you, but it was somehow lost or stolen along the way?

For this portion of the article, we're going to assume that it's wintertime, the sh!t has already hit the proverbial fan (for you at least!), and you don't have the necessary supplies to keep yourself warm enough to survive. The good news is that there are many DIY options that can help you get through a frigid night.

In an ideal situation, you'll have at least two layers on already. This will enable you to put the insulation between two layers instead of putting it against your skin. If you only have one layer, though, you'll have to deal with the discomfort and itchiness that can be caused by having DIY insulation touching your skin. That's still better than freezing to death, right?

- 1. **Newspapers** One trick that homeless people have been using for decades is to stuff newspapers inside their clothing. Again, if you have to put this directly against your skin, it won't be pleasant. You'll also most likely get lots of ink rubbed off on your body, and it won't be easy to clean off. But newspapers do provide a good source of insulation that will help you stay warm.
- 2. **Natural Insulation** Envision yourself in the woods. You should see lots of long grasses and other forms of natural insulation. Everything from straw to leaves can act as a DIY form of insulation when your back is up against the proverbial wall. Other natural options that work particularly well include ferns, moss, bark fibers, pine needles, and weed tops. Hopefully you won't have to put pine needles against your skin. Whenever possible, choose natural materials that are dead and dry, as they'll do the best job of insulating you.
- 3. Man-Made Insulation Much like newspapers, there are several ways you can insulate your clothing with common man-made items. Whether you're in the woods or in a neighborhood that no longer has any heat or electricity, you may be able to find some of these items due to the unfortunate tendency to litter. Plastic bags can be wadded up and shoved inside one of your layers, as can bubble wrap, packing peanuts, foam, and pretty much anything else that comes inside a shipped box. Don't forget that you can rip foam out of car seats too.
- 4. What About Fiberglass Insulation? Yes, you could technically break through a wall and rip out some insulation. And yes, you could use it as a layer to help yourself survive. The problem is that fiberglass insulation is dangerous. It's best not to breathe it in, and you certainly don't want its itchy awfulness against your skin. If it's the choice between this and dying, though? It's important to do whatever's necessary to survive.

# Staying Warm While Sleeping

All the clothing insulation in the world will only take you so far if you're lying down on the freezing cold ground. Therefore, you need to insulate the ground too. Think that sounds impossible? It's not!



If you have a sleeping pad or bag with you, this process will be a lot easier. Still, it's not impossible if you have nothing with you at all.



**Protect Yourself** - First, you'll need to find an area that offers as much protection from the elements as possible. This may be a small cave, sitting with your back against a large tree, or even hiding in an alley next to a dumpster if you're stuck outside in the city. The most important part is to prevent yourself from being in the middle of an open field with nothing but cold ground beneath you and freezing wind all around you.



Lay Down a Base Layer – Once you've found the right spot, you'll want to lay down a base layer. This can be anything from a large broken-down cardboard box all the way to a big pile of leaves. In many cases, you'll need to cobble together a base layer from multiple materials. The same items that can help you insulate your clothing will work great here. Make sure the base layer is large enough and as thick as possible.

**Cover the Base Layer** – Now you'll want to cover the base layer with something softer, if at all possible. A blanket would be ideal. If that's not an option, look for the softest natural materials on hand.

Put Down Your Final Layer – This is where you'll put your sleeping pad or bag, if you have one. If you don't, it's wise to cover the base layer with as much of the softer material as possible. Make sure your clothing is also fully insulated before you turn in for the night. Don't forget to protect your face! Even something as simple as a thin handkerchief can help prevent wind chapping and frostbite.

## Don't Eat the Snow



Remaining hydrated is just as important in the winter as it is in the summer, but eating snow is not a very good idea. Our bodies use up vital energy to warm snow up, which can actually make dehydration worse. Eating snow has also been known to cause hypothermia. Snow can be used as a water source, but it should be heated up before it is consumed.

### Your Winter Survival Kit

Your ability to survive harsh weather will be greatly enhanced by the right tools and supplies. While it may be possible to make it through to the spring with your wits alone, why would you want to make an already hard situation even more difficult? If your shelter or bugout bag contains the following winter items along with the proper attire, your chances of keeping your head while all those around you are losing theirs will much improved.

- A reliable fire starter: A stockpile of warm and dry wood will be of little use to preppers who do not have the tools or knowhow required to get a fire going. Winter weather can change quickly and without warning and fires may have to be built in a hurry, which is why a waterproof and windproof fire starter could be the most valuable item of equipment in a cold climate bugout bag. The good news is that tinder should be easy to find as winter winds dry out bark and twigs.
- **Sunglasses:** Snow can be blinding, which can be a serious problem when dangers are all around. While winter sunglasses with coatings to protect against ultraviolet light and reduce glare are ideal, even a cheap pair of gas station shades will do the job in a pinch.



- **Goggles:** If you want to know how much a cold wind can hurt unprotected eyes, just ask a motorcyclist. A good pair of goggles can make outdoor winter excursions far more comfortable, and that could focus the senses and give you a few extra crucial moments if a threat pops up.
- A shovel: Trudging through several feet of snow is hard work and robs your body of vital energy while burning precious calories. The sweat this exertion produces can also start you on the hellish road to hypothermia. Using a shovel to clear paths around your shelter avoids this problem and makes it easier to flee in an emergency.
- An dxe: Your axe will be a constant companion in the winter months. Axes can be used to chop or split wood, and they are also very useful as weapons. There is a reason why Vikings and other warrior races from frigid parts of the world valued axes above all other implements.
- **Lip balm:** Dry, cracked and bleeding lips are no fun at all. A tube of lip balm can prevent this misery, and preppers who fail to hoard them before the SHTF will be singing the blues come wintertime.
- **Plastic:** Sheets of plastic or even plastic grocery bags can keep moisture out and heat in, and plastic bags placed over socks can keep feet dry and prevent frostbite.
- **Blankets:** A thick wool blanket can maintain your core body temperature when your clothes are drying and protect you while you sleep. Blankets can also be pressed into service as towels and used to seal shelters.
- Hand warmers: The hands are especially vulnerable to cold weather, and gloves may not always be enough to stave off potentially deadly numbness. Air-activated hand warmers get hot in about 15 minutes and can provide heat for up to eight hours. They only work once, so it is probably a good idea to stock up on them before the SHTF.

• Road flares: There may come a time when building a fire becomes a matter of life or death and your fingers are too numb to flick a lighter or strike a match. This is a situation where a road flare can be the difference between seeing another day and succumbing to the elements.



• **Books:** Keeping the mind occupied is almost as important as protecting the body in a harsh environment. Mental distractions could be especially valuable when your companions include children or people that have a hard time adjusting to unpleasant realities.

# Be Thankful



There is a reason why most ancient cultures held their biggest celebrations in the middle of the winter. They knew that harsh conditions can crush the soul as well as the body, and they reminded their people to be grateful for simple pleasures no matter how hard life gets.

If you find yourself succumbing to doubt during a bleak winter spent in a ruined world, be thankful that you survived while so many others perished. Take heart in the knowledge that you saw what was coming and made preparations, and then remember that winter, like all things, comes to an end.





# DANGEROUS ANIMAL ENCOUNTERS PART II: REAL LIFE STORIES

The United States is a vast and beautiful country with frigid mountainous regions, scorched deserts and seemingly endless plains. And all these natural environments are home to animals that can cause human beings a great deal of harm. There was a time when an American had to wander far from home to encounter a dangerous wild animal, but things have changed in recent years. Seeing a bear rummaging through a garbage can no longer surprises homeowners in many parts of the country, and most American cities now have thriving coyote populations.

Wild animal populations will likely explode even further when the SHTF, and animal encounters are becoming more common and more deadly every day. What follows are a few notable experiences that have happened recently.

# NOT LIKE THE KITTY CAT YOU HAVE AT HOME

Using common sense should be the guiding rule when dealing with any kind of wild animal but thinking before acting is especially important when the creature involved has claws and teeth that can kill or maim. People sometimes get hurt because they assume an animal that looks like their pet cat or dog is docile. This was a mistake made by a Colorado woman in September 2019.



The woman was driving her SUV in Colorado Springs when she noticed an injured bobcat at the side of the road. She then pulled over, wrapped the injured bobcat in a blanket and placed it in the back of her vehicle. Her 3-year-old son was sitting on the back seat. Bobcats look just like domestic cats but

are about twice as large, and they are dangerous even when they have not suffered life-threatening injuries.

Bobcats, which can be found as far north as Canada and as far south as Mexico, have been known to hunt small deer, which means that keeping them away from toddlers is probably a good idea. The woman wisely chose to call the authorities once she had the bobcat secured, which may have saved her child's life. Officials rushed to the scene to euthanize the injured cat, which apparently put up a spirited fight despite severe internal injuries and paralyzed back legs. People who have approached injured cougars, coyotes or wolves have not been so lucky.

#### HOLD THE PHONE



Smartphones and social media have turned many Americans into amateur photographers who love to share their day-to-day experiences with others, but the desire to take the perfect selfie sometimes leads to trouble. Parks usually place signs to remind visitors of the dangers posed by wild animals, but these warnings are often ignored by individuals hoping to take a great picture.

In October 2017, a woman was gored on the arm after approaching a group of elk in Missouri's Lone Elk Park. Signs warned park visitors to stay at least 100 feet away from animals that can weigh over 800 pounds. A wildlife photographer who witnessed the attack said that the bull elk lowered his head and charged only after his audible warnings had been ignored.

Another elk encounter in September 2019 could have ended tragically if a Colorado park worker had not used his pickup truck to intervene. The ranger went into action after seeing an elk repeatedly striking a woman who had been knocked to the ground. She

escaped with only minor injuries. She also got into trouble with a wild animal because she wanted to take a photograph.

#### **DANGER IN NUMBERS**



Human beings eat very well and produce mountains of trash, which turns towns and villages into very attractive destinations for animals looking for a good meal. The spread of human communities has led to a surge in animal populations around the country, and some of these critters are just plain mean.

Texas is currently dealing with a serious wild hog problem. Wild hogs are an incredibly destructive species, and about half of the 6 million or so in North America can be found in the Lone Star State. Authorities have responded to the threat by relaxing regulations, and wild hogs can now be hunted all year long and even from aircraft. Hunters and trappers bag about 750,000 wild hogs in Texas each year, but the problem continues to grow. Hogs breed extremely quickly, and experts say that about 70% of the state's wild pigs must be killed each year just to maintain population numbers that are already dangerously high.

Wild hogs cause about \$400 million in property damage each year in Texas, and human encounters are becoming more common as their numbers swell. There have been reports of hogs terrorizing camp sites in search of food, and more recent reports are even more worrying. In November 2019, a woman was attacked and killed by a herd of wild hogs as she approached a suburban home. Wildlife experts worry that stories like the woman's will soon become part of daily life in Texas.

#### WHEN THE HUNTER BECOMES THE HUNTED



Hunters have huge advantages when they venture out into the wilderness. However, a high-powered firearm, camouflage and an array of lures is sometimes no match for animal instincts. An Arkansas hunter learned this lesson the hard way in October 2019 when he was fatally gored by a buck that he thought was dead.

The man was hunting deer in the Ozark Mountains when he shot a buck with a muzzleloader. Authorities are not sure what happened next, but they do know that the man succumbed to his injuries while being transported to a local hospital. This is why hunters are encouraged to wait at least 30 minutes before approaching a downed animal.

Even suburbanites who never venture out into the woods have reason to be cautious around deer, which have become a fixture in many suburban communities. While generally shy and docile, deer can become aggressive when they feel threatened or their offspring are in danger. In November 2019, a Tennessee woman suffered severe injuries after being gored by an enraged white-tail deer. The woman was collecting her mail when the attack took place.

#### WHERE NIGHTMARES COME TRUE

Even corporations with seemingly unlimited resources find it difficult to deal with growing 10 animal populations. Walt Disney World was built on

swampland in Orlando, and the area is still home to a worryingly large number of alligators. Disney spends enormous amounts of money to ensure that its guests have safe and enjoyable experiences, but Mother Nature sometimes has different plans.



In August 2016, a 2-year-old Nebraska boy was killed after being attacked by an alligator while playing in the Seven Seas Lagoon outside the Grand Floridian Resort and Spa. The boy's father witnessed the attack, but the gator had pulled his son under the water before he could intervene. Police found the body virtually intact about 16 hours later.

Florida is home to more than 1 million alligators, and state workers remove about 8,000 of them each year from private property. Disney World, which is about the same size as San Francisco, features a 25,000-acre conservation area and is inhabited by hundreds of gators. About 80 of the unpaying guests are ousted from the park each year.

#### PSYCHOTIC COWS CAUSE DAMAGE



Cows can become psychotic due to different reasons. They could have given birth, sometimes making them overly protective of their young, but mainly their erratic behavior is caused by them having a disease. And, in one case, a 900-pound cow in Jackson County, Georgia savagely attacked and head butted a farmer several times.

The violent encounter left the man with a gash on his head and broken ribs. Fearing for his life, he said he crawled to his vehicle to get his shotgun and unloaded three rounds into Bessie. Surprisingly, the mad cow still didn't go down and stayed on its feet until it plowed into a fencepost and knocked itself unconscious. A veterinarian later confirmed the mad cow had a case of rabies.

Although it isn't common, cattle can contract rabies from wild animals such as bobcats and foxes. The farmer got treatment for his injuries, received a rabies shot, and later made a full recovery.

#### **MICROORGANISMS ATTACK**

Ever wonder why we pasteurize milk? Well, pasteurization kills harmful organisms that can make its way into your milk, including rabies. Alarmingly enough, the rabies virus has made its way into the dairy supply into milk before. There has never been a case of rabies being transmitted this way to humans, though.

Meanwhile, don't get too comfortable with that fact because two communities in Massachusetts needed to receive mass treatment for rabies after drinking raw milk from infected cows, according to the CDC.

The agency reports that about 150 rabid cattle have been reported to them since 1990. Yes, raw milk tastes better to many, but in addition to rabies, it can contain a host of deadly microorganisms that can cause typhoid fever, listeriosis and diphtheria, among others.

#### **EXPERTS GIVE A LITTLE HELP**

Not all animal encounters are deadly, and some are downright cute. The search for food in human communities often leads wild animals into environments that they are completely unprepared for, and this led to a very strange situation for the Placer County Sheriff's Office. Deputies came across an adult bear and one of her cubs desperately trying to open a dumpster outside a Kings Beach motel, and they soon discovered that they were not looking 11 for food.



Another cub had become trapped inside the dumpster, and its mother and sibling seemed to sense that the deputies were there to help. They stepped back to allow the deputies to open the dumpster and place a ladder inside, which the trapped cub wasted no time in using. A video of the escape was released and soon went viral, but experts are worried that it may be sending the wrong message. Wild animals can become extremely unpredictable when their offspring are in trouble, and it is best in these situations to call the authorities and resist the urge to intervene.

#### LITTLE CREATURES PACK A BIG WALLOP, TOO



Many animals encountered don't have to be huge, salivating beasts to be dangerous. Nor do they need to be encountered in the wild as one woman on a United Airlines flight found out. It all started when the passenger, who was en route from San Francisco to Atlanta, felt a stinging sensation on her leg.

The woman said she then went to the restroom to find out what was causing the twinge and a live scorpion dropped out of her pants once she dropped them. The scorpion skittered across the floor, seeking safety, and flight attendants were able to retrieve it.

The bizarre incident prompted an emergency response once the plane landed, and paramedics tended to the woman. She was stung multiple times but didn't sustain any serious injuries. The lady was expected to make a full recovery. No news was reported on how the scorpion fared after hitchhiking and having a close encounter between skin and fabric.

The United Airlines passenger recovered because adults rarely sustain life-threating injuries from scorpions whose habitats are in the United States. However, young children and older adults can be at the most risk from scorpion stings, especially from bark scorpions.

Bark scorpions are the only scorpions in the U.S. with venom strong enough to cause serious reactions. symptoms. These desert-dwelling scorpions are found mostly in the Southwest desert in the U.S., and an adult can range in size from about 7-8 centimeters.

Keep in mind when you are traveling that an animal encounter of this kind can be more severe. In fact, there are about 30 of an estimated 1500 species of scorpion that produce venom that can be fatal, according to the Mayo Clinic. A million scorpion stings happen annually worldwide, and there is a significant public health risk where access to medical care can be limited.

Other small animals can be detrimental to your health, and it's vital to your survival to be prepared. For example, have yourself vaccinated against malaria if you are traveling to a region where it's carried by mosquitoes or take precautions if you work outside and encounter venomous snakes and spiders. Outdoor workers, who are at very high risk

in these cases, can take action such as using tools to move piles of brush and other debris and by wearing thick, leather gloves to protect against venomous bites and stings.

#### THINKING IS THE BEST DEFENSE

People who see problems looming on the horizon and take active steps to prepare for what life may bring are usually careful and cautious individuals, but even preppers may remove their thinking hats when confronted by a cute animal in trouble. Most serious animal encounters begin when a human being makes a very bad decision, and they often end with a visit to an emergency room or the morgue.

The thing to remember is that wild animals are driven by the basic instinct to survive, which can prompt even placid species to launch violent attacks in times of stress. We now live in a society with agencies ready to come to the aid of a stricken animal, but those days may be coming to an end. Nature is cruel and unforgiving, and an injured animal rarely lasts for very long in the wild. In a post SHTF world, dispatching a merciful bullet is probably a much wiser path to take than making a dangerous and probably futile attempt to intervene.

Many stories of animal encounters involve children who were not aware of the risks or may have been mistaken for prey. Losing a child could be the final straw for preppers struggling to survive in a harsh new paradigm, which is why it is important to make sure that all members of your party understand and appreciate the dangers of contact with wild creatures. A little knowledge goes a long way, but a reliable gun and a steady aim remain the best defenses against aggressive fauna.





How many times have you watched full-grown adults struggle to start a basic campfire... even with lighter fluid at their disposal? Sure, they might have had one too many adult beverages, or maybe they weren't taking the task seriously, but one thing is for sure: Most people are surprisingly bad at starting fires under the best possible circumstances. One can only imagine their success rate in a situation where their safety depends on it.

In movies and TV, igniting a successful a campfire is often the symbol that a stranded group of travelers has a fighting chance to survive whatever calamity has befallen them. And while a roaring fire won't solve all of your problems in a wilderness SHTF scenario, this is one survival notion that Hollywood does actually get right.

Fire is essential for many survival tasks, cooking food, boiling water, sanitation, and... oh yeah, warmth.

As we've discussed on these pages before, hypothermia is a highly insidious condition that disables many important bodily functions. Hypothermia impairs your judgment bit by bit and, even sneakier, those 13 suffering from it will often stop shivering.

The dangerous paradox is, getting a fire started can be especially challenging in the winter time, when it's actually most critical. Temperatures are dangerously low, there may be snow covering all the available fuel, and even when you find that fuel, it may be damp. In fact, cold, damp, and windy conditions are as ideal for hypothermia as they are inhospitable for getting your emergency fire started.

That's why having a robust emergency fire plan, complete with tools and even backup options is an essential part of your self-reliance plan. Knowledge is indeed power in a survival situation, but that power is often best applied with tools that make your efforts more productive with less work and/or time. And, as we've discussed before, time is nearly always your most precious and least plentiful resource.

With that said, our goal with this article is simple: We want to give you the tools and techniques you need to make fire happen quickly and effectively. After all this is not a leisurely campfire that's part of your evening sing-along activity, it's a chore you must do in the service of other necessary chores. You may even be in a race against time, as your shivering hands are on the road to going totally numb and useless; i.e. you can't afford the time to make multiple attempts.

#### EMERGENCY FIRE BUILDING: 101



To effectively drill this loose knowledge that we all know into a "system" that actually works to make you more a capable and efficient fire starter, we need to start with, drumroll please... the fundamentals.

The fundamentals are not particularly intriguing, surprising, or fun, but they can be illuminating if your goal is to light a fire. To put a finer point on it: This is the information you already know but refuse to acknowledge most or all of the time when engaging in this activity. In fact, we've found that's a fairy good definition of the word "fundamentals" in most contexts.

#### **SPARK + TINDER + KINDLING + FUEL**

A lot of what we're going to review here is a process commonly referred to as the "one match fire" technique, a system designed to get you from soup to nuts with only a single match. Let's look at a few of the fundamentals in isolation:

**TINDER** – This term means a lot of things to a lot of people. In our definition, however, we limit the scope of tinder to mean either a flammable material that you carry in your pack or dry twigs that are matchstick thick or smaller. Dried cotton balls, dried grass, wood shavings and other materials found in nature can also make excellent tinder.

TIP: It's fairly accurate to say there's no such thing as having too much tinder. Gather more than twice as much as you think you'll need. Since this is the first stage of your fire, it's much better to err on the side of burning more fuel and creating more heat to fuel the next stage of your fire.

**KINDLING** – For kindling, you'll want to assemble a bundle of sticks that are roughly pencil-thickness. These should be dried, preferably pine, fir, or juniper, as well as roughly a foot in length. This will allow you to reposition your sticks if necessary as they burn.

**FUEL** – This consists of the "fire logs" that will eventually make up your fire. The key components to remember here are dryness and variety. Dryness is pretty self-explanatory. What people often forget is that you need a variety of thicknesses in your fuel pile. In fact, it's often good to group these sticks by thickness, beginning with thumb-width sticks on up to the larger logs.

Damp logs can be dried by stacking them and/or using specific fire building techniques such as the "log cabin," which we'll describe in the "Methods" section.

**HEARTH** – In order to ensure that your tinder isn't sitting directly on the cold and possibly damp ground as you are trying to get it to ignite, it's a good idea to build a hearth (or floor) for your fire pit. Use dead dry sticks, thumb-width, laid in parallel across your fire location.

This will both keep your tinder and kindling above the damp cold ground and allow for more air flow. Eventually the hearth will catch fire as well, becoming fuel for your fire.

**WIND CHECK** — Wind direction is always an important consideration in fire lighting, even when you can barely distinguish the direction of a light breeze. This critical step is often overlooked and can cause you significant trouble when you find you've lit your fire on the downwind side.

As you can probably guess, your goal is to light the fire on the upwind side, allowing the wind to move the fire toward the rest of your fuel. Use your body to create a windbreak as you light your tinder, the breeze will naturally work in your favor as it moves around you and across the fire.

Instructions: Again, forgive us if stating the obvious seems remedial. The fact is, it's the little touches that can be pivotal when attempting a "one match fire," especially if you're down to you last match.

The first thing to remember, regardless of the type of ignitor you're using to start the flames, is that preparation is key. You'll want to gather all of your materials around your fire pit, keeping them close at hand.

Assemble the tinder, kindling, and larger pieces of fuel according to your chosen fire building technique. Check the wind; protect your tinder as you light it. Use plenty of tinder to ignite your kindling. Use plenty of kindling as well, to create a bed of smoldering hot material capable of igniting your larger fuel.

Be mindful at the fuel stage not to throw a couple of huge yule logs on your fire and walk away. Oftentimes, this is the point at which fires die off. Use plenty of thumb-width sticks to get a large bed of coals burning, then progressively larger fuel can be used.

#### TOOLS



One thing you need to have in your EDC kit is, of course, some type of fire-starting tool. There are tons of products out there to choose from, but we're going to steer clear of a few varieties in general. That is, if we don't mention it in this article we're implying that it's pretty useless or vastly less efficient than the industry standard.

#### **FERROCERIUM ROD**

There's a lot to like about these simple spark makers, including the fact that they never run out of fuel. Ferrocerium rods also aren't sensitive to water damage or general wear and tear damage from bouncing around in your backpack over time.

If you're not familiar, here's a simple explanation of what makes these fire tools work. Ferrocerium is a 15 synthetic metal that produces sparks in excess of



3,000°F when scraped with a sharp edge. In many ways, it's an updated version of the old magnesium fire starters that were once standard issue. The difference, these are much, much more effective tools.

As you might imagine, a spark that intense has little trouble igniting tinder, even in sub-freezing temperatures. Simply hold the rod stationary, scrape it with the (usually) included scraper tool directing the sparks on to your tinder. Then, boom, fire happens.



**RECOMMENDATION:** We don't usually recommend any of Gerber's Bear Grylls line, it's often a little more expensive than other options of higher quality. This ferro rod system is an exception. This unit is plenty functional for its intended use, creating superhot sparks. What sets it apart is usability and features, however, the striker easily separates from the rod for easy use, it's self-contained, and it comes on a lanyard.

#### STORM PROOF MATCHES

Stormproof matches are another great option when it comes to emergency fire starting, giving you a 25-30 second flame per match to get your tinder going. "Stormproof" is essentially a catch-all term for these specially treated waterproof, wind-resistant matches that are made by a pretty wide variety of manufacturers including Zippo.



While there is some variance when it comes to performance, pretty much any quality set of these matches will work as advertised, i.e. give you a waterresistant/wind resistant flame for 20+ seconds in any conditions. When it comes to "what to look for," once again we look at features as the tie-breaker.

Recommendation: Zippo's Typhoon match kit advertises a 30-second flame, about 5 seconds longer-burning than most of the competitors. What we really like about this set is the carrying case that keeps these matches safe and dry as they bounce around wherever the heck you decided to stash them. The case itself includes the strike pad, as well as seals up water-tight to protect the survival supplies you may be depending on.

#### **BIC LIGHTER**

Look, when it comes to ease of use, durability, and portability, it's hard to beat a Bic lighter. It's safe to say that anything built for someone with an addictive smoking habit has to work on-demand in all types of conditions. Going on the ubiquity of these lighters as our primary data, they've been meeting the world's fire-starting needs and then some for almost 50 years.

Advertised as producing 3,000+ lights, these are an

excellent \$2 investment. They light tinder as well as they light cigarettes and they're very easy to carry. Now, there are a couple key considerations to keep in mind with these lighters.

While a Bic might be your primary, it's 16 important to have a backup in place. The

fuel in a Bic is susceptible to turning gelatinous in very cold temps (10°F and below). Additionally, these are far from "wind-proof." If you're working in windy conditions, you may want to opt for a ferro rod or stormproof matches, just to keep you from going insane.

Lastly, there's a reason we're using the brand name here, and not "generic gas station lighter." Bic lighters just tend to be dramatically more reliable than the generic lighters out there. There are very few disposable lighter brand names that we can recall, and we believe that's for a reason.

#### CHEATER TINDER

Another popular fire starting "tool" is to pack what we like to call "cheater tinder." The "cheater" part is not to poke fun, since carrying this stuff is far from a bad idea. Instead, the cheater part refers to the fact that it's often treated with some type of accelerant.



This stuff can take many forms, from homemade napalm (which we've shared the recipe for in this issue) to Vaseline soaked cotton balls that catch easily and allow you plenty of time to light your tinder.

Most of these require storage in an air-tight container and/or zip-lock plastic bag, as to prevent them from drying out and losing the added flammability factor provided by the accelerant.

To make Vaseline cotton ball fire starters, simply slather an ordinary cotton ball in petroleum jelly (Vaseline), and wrap it in plastic wrap. Since the Vaseline is petroleum based, it's waterproof, perfect for rainy conditions. These treated cotton balls will typically burn for almost 4 minutes, so maximum burn time for a lightweight fuel source.

#### **EMERGENCY FIRE METHODS**

As we discussed in the 101 segment, the fundamentals of building a fire in an emergency/survival situation are pretty much the same, no matter what configuration your fire will eventually take. There's really no way around it, you must go from spark to tinder to kindling to fire.



There are, however, a few methods that provide you a bit more of a framework to follow, producing a more purpose-built fire from the very start. One of the most important methods is the "Teepee."

#### **TEEPEE TECHNIQUE**

Most people utilize a rough version of this technique instinctively. You get a small leaf debris fire going, then start leaning "teepee poles" around it in a circular pattern. We've seen it in so many movies, while camping, etc., so it's the common starting point.

There's a lot to like about the teepee technique, though there are several common mistakes that really prevent this from being a reliable survival technique. The first common mistake is to build the teepee around a fledgling fire. Ideally, you'll have the teepee built first, then build a fire inside of it, using the structure as a wind break to protect your baby fire.

The second mistake is that, most people forget that it's a teepee, not a cone; teepees have doors. The door, of course, is when you'll actually light your tinder and feed your kindling as the teepee structure protects it from gusting winds and traps in heat.

We recently came across an ingenious way to build a highly effective teepee structure quickly. In areas where dry leaf debris is available, gather a mound

of leaf debris as a base to support your teepee sticks as your build the structure. Remember to leave a doorway and cleared out space for your tinder.



#### **LOG CABIN FIRE**



There are several key advantages to a log cabin fire, especially if you want to use your fire for Dutchoven cooking or grilling. Like it sounds, the log cabin fire consists of stacked logs in a square configuration like cabin walls.

Just like a real cabin, those "walls" create an insulating effect, consolidating heat that would otherwise be radiating off into the atmosphere. These walls make your fire warmer for those around it, while also giving you a place to rest pots, pans, and grill grates.

To build a log cabin fire, ironically enough, you'll want to start with your teepee method. Once you have a teepee built, lay two logs parallel on either side as close to the teepee as possible. Next stack two more logs on either side of your teepee atop the first set of logs. Lincoln Logs, anyone?

A quick note on log selection here, you'll be well suited to use the largest logs available to build your "log cabin" super structure, even if they're a little damp. Dead fall logs are suitable here, particularly if you're short on time.

These larger logs will leave you the biggest gap between logs which you can use to light your teepee and feed kindling as your fire gets going. As you build taller, build your squares tighter around the teepee structure so that the flames will eventually burn them, causing them to fall in.

While the teepee fire will eventually dry and burn the larger logs making up your cabin walls, the function they serve best is to direct the heat. You will still need to feed fire logs into the fire via the gaps.

#### **UPSIDE-DOWN FIRE**



The "upside-down technique" takes the idea of building the hearth underneath your fire to the next level. In windy or rainy conditions, a teepee provides needed protection to build a hot bed of coals to work from. In situations where you simply want your fire to keep burning for many hours (as you sleep or hunt or even gather more firewood) the upside-down method may be the best choice.

To execute this technique, you simply begin with the biggest logs first, stacking progressively smaller diameter logs until you reach thumb thickness sticks. Maximum height on this is about waist high, and that's only if you've got a nice large pit.

Next, build your teepee atop the thumb-thickness sticks and light your tinder. As you can imagine, the fire will burn slowly downward toward your larger material, keeping a nice and efficient heat source while not blazing like a giant bonfire. The end result is, of course, a nice bed of coals you can use to start your morning or evening cook fire with.

In a survival situation where hypothermia is a looming concern, this is a great fire to sit a potential victim next to, putting up a survival "space blanket" behind them to reflect the fire's heat.

# THE "RANGER" TRASH TORCH TECHNIQUE

Whether you're in a SHTF scenario or on a weekend camping trip, chances are that you'll be able to get your hands on some cardboard; beer and soft drink boxes are perfect, as well as the common cardboard box.

We picked up this fire-building technique during an outing with a retired Air Force Ranger and it made a definite impression on us. It had been raining steadily

for two days and, though it was showing signs of clearing up, light rain continued to fall. It was time to build a fire, but it seemed unlikely to most of the group -- not to the Ranger.

He directed us to find small twigs and kindling while he rummaged through our camp trash to locate a somewhat dry piece of cardboard. He returned with a flatted box from an empty 24-pack of beer and began cutting the ends into long strips with his knife, making a fringe. When he had finished on one side, he flipped the box around and did the same on the other side.

What he ended up with looked like a long tube with confetti spilling out at both ends. He then folded it in the center and held the two ends together as he lit the cardboard fringe, making a cardboard torch.

Next, he placed the torch in the center of the teepee structure, using the thinnest kindling we'd gathered to feed the flames. The teepee helped to protect the flames from the rain as the flames dried the kindling and eventually, we had the beginnings of a fire... in the middle of a continuing downpour.

One thing is sure, we've never looked at carboard boxes the same since. This cardboard torch concept has made us reluctant to throw away cardboard anytime we're going camping or hiking in the back country.





# HOW TO MAKE YOUR OWN "NAPALM" FIRE STARTERS

Getting cold is serious business; it's not just an issue of comfort. Without a heat source, the equation is pretty stark. You're left with only the heat your body can produce and the efficiency with which your clothing can prevent it from escaping.

This is exactly why, whether you're building an improvised shelter, or even taking refuge in a natural one such as a rock formation, you're going to need fire and need it quickly.

It doesn't take a big nasty polar vortex to put you in serious danger either. A little cold wind and rain can put you in a life or death situation when you're far from home base.

Your emergency fire is how you will warm your weary bones before, during and after any emergency shelter is completed. And truth be told, you don't want to be fumbling when seconds count. That's why we recommend that you keep a few of these "napalm" fire starters in your pack.

These balls of fire putty ignite instantly and burn for well over 4-5 minutes each. That should give you the time you need to get even the most stubborn of kindling to catch.

Napalm fire starters could definitely save your life in a pinch. Plus, who doesn't like an easy project, one that involves pyromania, on a lazy weekend?

#### **MATERIALS:**



- Styrofoam (cups, plates, and egg cartons work great)
- Gasoline (or acetone nail polish remover)
- Matches
- 1 Metal bowl
- Screwdriver
- Rubber gloves

## STEP I: PREPARE YOUR BASE

If you have an old metal bowl hanging around that you don't mind pouring gasoline into, this is the perfect time to put it to use. Make sure the inside of the bowl is clean to aid the bonding process.

Keep in mind that this is not a good long-term storage option for this hazardous material. You'll be able to store the napalm putty in zip-lock bags after completion.

#### STEP 2: FILL 'ER UP



Pour your gasoline or acetone into your bowl, filling it about 1/4 full. A little goes a long way here, so leave room to work with later. You can always pour more gas in there later if need be. It's more likely that you'll have too much.

## STEP 3: ADD THE STYROFDAM



First things first, you want to make sure you're using actual pure Styrofoam for this napalm concoction. That's why we recommend egg crates or Styrofoam cups.

Much of the "foam" used in packing and shipping these days is made from alternative materials like cellulose. Typically, these are seen as "eco-friendly" and biodegradable, the latter being a problem.

For the purpose of this experiment, you need the nasty old petrochemical form of Styrofoam. Once you're confident that you have real Styrofoam, tear it into small pieces and begin adding them into the gasoline.

You'll notice immediately that the gas begins to eat away at the Styrofoam, bubbling as the air escapes. Since Styrofoam is 98% air, it shrinks quite a bit. Keep adding it until you're out of Styrofoam.

## STEP 4: FORM THE STYROFOAM

Push all of the Styrofoam pieces down into the gasoline and stir them a bit to help them bond together. You may want to add more Styrofoam than you initially planned on.

Monitor the soaking. Using a screwdriver, pencil or twig, mash the Styrofoam pieces down firmly into the base, making a sort of flammable pancake.

Leave the mixture sitting for 15 to 20 minutes.

#### STEP 5: PULL THE PUTTY



Now it's time to get those gloves on, if you haven't already. This step requires that you actually pull apart the "putty" as if it were taffy or play dough.

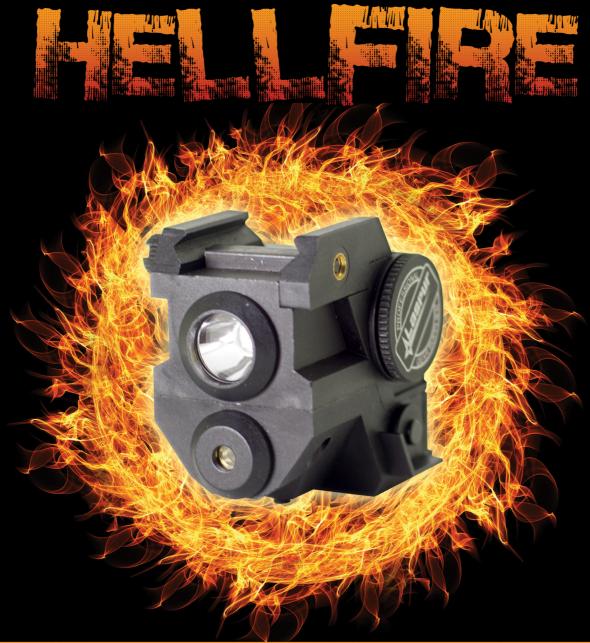
Pull off segments and roll those into balls. We recommend that you aim for roughly the size of a marble or cotton ball.

## STEP 6: LIGHT IT UP!

Your napalm fire starters are ready to use immediately. If you are storing them for later use, make sure to use an air-tight container or a zip-lock style baggie. Even after they've dried out, your napalm will still be effective, yet not as easy to ignite.

Enjoy! Your handy pocket sized "napalm" balls of fire will burn for roughly 5 minutes, yet they're still small enough to carry without getting in your way.





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