



CONSERVATION EDUCATION PROGRAM *Learning on the Land*

May 2011

www.sjma.org

San Juan Mountains Association - For Lands' Sake!

Welcome to our e-Newsletter!

We hope you enjoy SJMA's newsletter created solely for educators - whether you teach in the classroom or outdoors, this newsletter is for you! In each monthly issue, you will receive helpful information on natural and cultural resources found in the Four Corners area, as well as field and classroom activities to do with your students.

The San Juan Mountains Association is the educational nonprofit partner for San Juan National Forest and Bureau of Land Management. If you received this newsletter and do not wish to continue receiving it, send an "unsubscribe teacher newsletter" email to gabi@sjma.org. If a friend or colleague sees this newsletter and is interested in receiving it, please have them send an email to gabi@sjma.org.

Staying Found

As the winter snow melts away, more people are venturing out into the backcountry. Whether you travel by foot, bike, horse or motorized vehicle, there is so much to explore. There are green baby shoots of plants, mountain vistas, animal tracks, waterfalls... it is easy to wander away from the trail to get a better look. But pay attention. Many folks have no idea how unprepared they are if they get lost. Maybe they think they know something from all hype about wilderness survival on TV with Bear Grills and "Survivor Man". People may forget that these skills are used as a last resort. It is best to avoid getting lost in the first place!

Don't be afraid - Be prepared!

It is easy for anyone to be better prepared before heading out on an outdoor adventure. And while it is rare that anything will go wrong, being prepared in case something does go wrong is the first step to staying found. Here are some things that should be considered before leaving your home base.

- * Always tell someone where you are going and when you will be back; even if you are only going on for a short walk nearby.
- * Be realistic about some of the dangers possibly encountered.
 - o I.e., stream crossings, faint trails, animals, difficult terrain, rain, snow, lightning storms
- * Consider some things that could prevent returning on time or at all.
 - o Mainly injury or getting lost
- * Ask yourself if you are prepared for this before you even start.

The 10 Essentials of backcountry travel

No one wants to carry a big heavy pack for a short jaunt in the woods. But the 10 essentials are light, compact and could save your life. Consider keeping these items in your pack at all times. Also familiarize yourself with how to use all of these items.

- 1) Map and compass
- 2) Pocket knife or small multi-tool
- 3) Whistle
- 4) First aid kit
- 5) Headlamp or flashlight with extra batteries
- 6) Lighter and/or waterproof matches
- 7) 10ft or more of small strong cord
- 8) Rain coat or poncho and extra warm clothing or space blanket
- 9) Extra food and water (or chlorine tablets if you KNOW you can find water)
- 10) Sunglasses and sunscreen (especially in Colorado)



Bring rain gear and warm clothing

This may seem like a lot, but all of this can weigh less than 3 pounds.

The art of staying found

Hike in numbers when possible

In most situations, two heads are better than one and three are better than two. Hiking with other people can reduce the risk of getting lost. Dogs can even make good hiking partners. Some have a natural tendency to follow their trail back. That being said, you should test out your canine companion before trusting him to navigate.

Know your landmarks

Pay attention to your surroundings before and during your outing. This makes it much easier to stay found, especially if your trip will return the same way.

The best landmarks are large and immovable objects. Some examples include rivers, mountains, lone trees and boulders, as well as unique looking boulder fields and groves of plants.

Secondary landmarks can be quite helpful as well. Secondary landmarks are not as large or obvious but they are something unique to you that might look familiar later. They are especially helpful at trail intersections or when bushwhacking. You might remember a specific fallen tree, a lookout point, an animal den, or even just a divot on the trail. Your own footprints are also very helpful in finding your way back so don't be afraid to step in the mud or snow on occasion.

Don't get tunnel vision: look all around, including BEHIND to observe landmarks.

The art of staying found continued

Stay on designated routes

There are many game trails and meadows out there to explore. Unless you are confident in your ability to navigate, stay on the well-marked trail or route. If it is snowing or the path is unclear, mark the trail using cairns (small piles of rocks that you remove on your way back). There are all kinds of amazing things located within sight of the trail. However, the trail might not be visible once you get to these things. Always make sure you know exactly how to get back to the trail. If in doubt, have one person stay on the trail and keep that person in sight.



Actively using compass

Know how to use a compass and map and actively check them

Mark your progress as you travel along the map. From time to time, triangulate your position on the map. This makes it nearly impossible to get lost. It is also good practice with map and compass skills.

Know more than the 10 essentials

While the 10 essentials are, well, essential, here are some mental skills to take along. Learn how to tell time according to the sun. This knowledge can also help you navigate by the sun. You can also navigate by the stars without a compass. The most important mental skill in the backcountry is the ability to stay calm and focused.

Where am I?

Even the best navigators may momentarily be unsure of their location. The second you are unsure of where you are, you should STOP. STOP is an acronym for the following:

- * **S**top: DON'T PANIC! Don't take another step until you...
- * **T**hink: figure out what happened. To do this you might need to...
- * **O**bserve: things such as landmarks, weather, physical condition of others, and time of day in order to...
- * **P**lan: Make a plan to either stay put or retrace your steps based on your observations.

I am really lost

You used landmarks. You used the map and compass. You whistled and no one responded. You are really lost. You are not sure which way to go and you fear that any direction will take you farther away from where you are supposed to be. Once you realize you are really lost, you must prepare to spend some time outside.

First, put on extra clothing or sun protection. Next, consider the weather. If it is hot, seek shade and water. If it is cold or raining, seek shelter and build a fire. It is always cold at night in Colorado so you will want to prepare an area for a shelter and fire.

The rule of threes

When prioritizing your needs, consider the rule of threes. This may ease your mind.

- * 3 minutes: the time a human can survive without oxygen
- * 3 hours: the time a human can survive severe weather without shelter
- * 3 days: the time a human can survive without drinking water
- * 3 weeks: the time a human can survive without food

Notes on shelter building

More people than you think have survived the night in an emergency shelter. Here are some guidelines for a good shelter:

- * Choose a spot with plenty of natural shelter and build on to that
 - o I.e., a rock overhang or dense grove of trees
- * Make sure you are far enough from a roaring stream - this sound may drown out the noise of animals or rescue crews
- * Build on ground that will not collect water in the rain
- * Make the shelter just large enough to fit everyone huddled together - this will retain body heat
- * Have the door facing east toward the sunrise unless the wind blows from the east
- * Position the door so you can build a fire outside of it
- * An adequate shelter should fend off the wind and rain
- * Insulate the ground with dry conifer needles, live boughs or snow
- * DO NOT lay directly on rock - it will take your body heat
- * Use your cord to lash branches together to support the shelter
- * Use your knife to cut boughs for an outside layer
- * Resist the urge to use rain gear on the outside of the shelter - it will serve you better if worn on your body

These girls could survive the night in this shelter with warm clothing and a fire.



Arrogance and the backcountry don't mix

Every year people get lost because they just did not think it would happen to them. They overestimate their abilities. They don't bring the 10 essentials because they thought they wouldn't get lost. A lack of preparedness leads to unnecessary strife such as hypothermia, dehydration or getting even more lost.

Field & Classroom Activities

Just walk in a straight line: This activity will show kids that it is very difficult to walk in a straight line without the use of landmarks or a compass. This is why lost people sometimes walk in circles.

- o Supplies: one blindfold and a soft object like a backpack or a bean bag chair
- o Find a large open area free of obstacles
- o Pick a starting point and then set the soft object 20 to 30 feet away
- o One at a time, blindfold a volunteer and have them walk towards the soft object
- o Let them know when they are at the object or have passed it

Most people will miss the object. They will begin to curve one way or the other. This is a natural human tendency. This activity will show how useful landmarks and compass bearings can be when lost.

Practice shelter building: Take the kids out to a wooded area with lots of deadfall.

Separate the kids into groups of 10 or less. If you want, give the kids some loose guidelines on what makes a good emergency shelter.

- o Explain to the kids a scenario along these lines: The kids are lost and there is a large storm cloud rolling their way. The wind is cool and getting stronger. They hear thunder off in the distance. If they don't find shelter within 20 minutes, they will be soaked and hypothermic. They will need to build a shelter that will fit two or three people (the hypothetical number of "lost" people in the scenario).
- o Tell the kids that in a real survival situation they would be able to use live plants, but in this case they can only use what is dead
- o Before allowing the kids to go crazy with shelter building, be sure to set boundaries (so no one gets lost) and cover safety concerns about lifting and watching where they are swinging branches. Give everyone 20 minutes to build.
- o Then call everyone back and take them around as one group to view the all the shelters. Pour water on the shelters to test water resistance. Kick the shelters to test wind resistance. This is not a contest. It is a learning lesson to see what works and what doesn't.
- o After analyzing all the shelters, break them down so as to leave no trace. Be sure to remind kids of safety concerns during this process.

Field & Classroom Activities continued

What is really essential?:

This is a great indoor activity about what to take when heading out on the trails.

- o Make flashcards with names of a variety of items. These items should fall into 3 main categories: 1) Essential 2) non-essential but useful and 3) completely unnecessary.

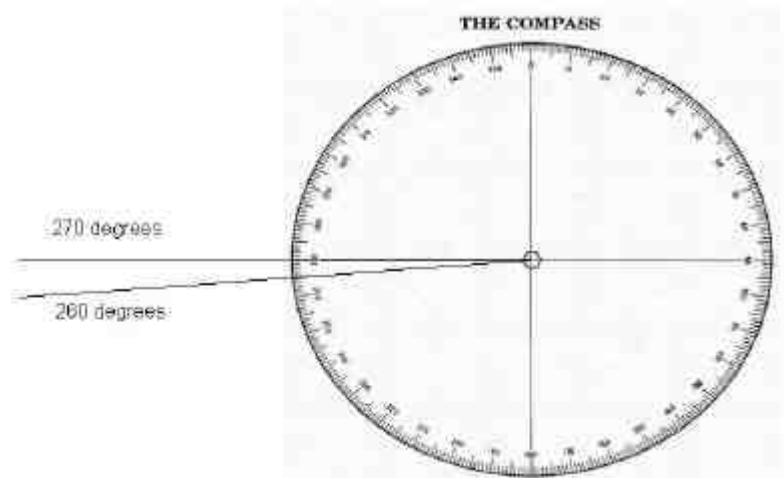
Here are some examples:

Essential	Non-essential but useful	Completely unnecessary
All 10 Essentials	Edible plants book	MP3 player
	Sleeping bag	Teddy bear
	Cell phone	Hot tub
	Small hatchet	A whole watermelon
	Binoculars	Frisbee
	Wristwatch	Coloring book
	GPS unit	Bat Man costume
	Two way radio	

- o Shuffle the cards. As each card is drawn, ask the kids which category the item belongs to and pile them up according to category. After all the cards are drawn, go through the piles and discuss which are in the right category.
- o Explain to the kids that while the items in the "non-essential but useful" pile are useful, they can be eliminated for at least one of these reasons: 1) too heavy or bulky 2) can be reasonably replaced by another item or use of other backcountry skills 3) can be unreliable due to battery usage or limited reception.
- o Also let the kids know that just because something is labeled as "completely unnecessary" that does not mean it might not be fun to bring along. However, someone will have to carry it!

Basic compass work

Gather up some compasses and take the kids outside. Teach them how to take a bearing by starting simple: have everyone face north using a compass. Then have everyone face a random direction such as 237 degrees. Next, have them figure out the bearing to walk back to the school door. Explain to them why it is important to get the bearing exact and follow it exactly. For example, this diagram shows the difference in ten degrees over a very short distance. If they were to follow a bearing off by ten degrees over $\frac{1}{2}$ a mile, they would be off their mark by 460 feet. That is more than a football field in length! If they were navigating in dense forest, fog or snow there is no way they would be able to see their mark from such a distance off. Use the triangle calculator at <http://ostermiller.org/calc/triangle.html> to show the discrepancies in other scenarios.



Extend the Experience

To Build a Fire is not just a classic novel. It is also an important survival skill. This article from Backyard Wilds offers some great advice. <http://backyardwilds.com/?p=578>

Announcements

The Ute Mountain Mesa Verde Birding Festival takes place May 11-15. Join the flock in the land of ancient cultures and modern day Native Americans for an incredible birding adventure. Events include bird watching tours, workshops, an art show, and a special dinner speaker. Go to <http://www.mesaverdecountry.com/tourism/festivals/birding/birdfest.html> for more information.

National Public Lands Day is coming up on Saturday, June 4th. Join SJMA in a trail work project along the Colorado Trail near Durango. More information will follow at [sjma.org](http://www.sjma.org) or contact MK: MK@sjma.org or 970-759-9113

SJMA's Summer Naturalist Training for the free nature tours at Durango Mountain Resort will take place on June 7th from 9AM to 1PM. For more information contact Gabi: gabi@sjma.org or 970-385-1256. Also visit our website at <http://www.sjma.org/education/classes/natlama.htm>.

Fire Ecology Institute for Educators - Back by popular demand, this fun, educational workshop will once again be held at Fort Lewis College in Durango June 13 - 17, 2011. More information and registration information can be found at: <http://fireecologyinstitute.blogspot.com/>

Educators—Become a member of SJMA today and receive a 20% off coupon to our bookstore!

Whether you're a 'formal' K-12 school teacher or a non-formal educator, to receive your 20% off coupon valid at any of SJMA's bookstore locations, simply print this or a future newsletter and bring it and your new membership information in to one of our bookstores (Durango, Pagosa Springs, Bayfield or Dolores).

San Juan Mountains Association has been around since 1988. For 20 years, SJMA has been establishing a legacy of caring for the land. Side by side with our members and volunteers, we are helping to ensure the survival of Southwest Colorado's natural glories for generations to come. SJMA also offers classroom visits, naturalist walks and talks, teacher for-credit workshops, and field trips to public lands. For more information, visit our website at www.sjma.org, or call 970-385-1256.

If you do not wish to continue receiving this newsletter, send an "unsubscribe teacher newsletter" email to gabi@sjma.org. If a friend or colleague sees this newsletter and is interested in receiving it, please have them send an email to gabi@sjma.org.

