

## **Packing List and Camping Equipment for Lehigh University Field Camp**

Many people react with uncertainty about having to live out of a tent and a duffel bag for a month. Rest assured it can be fun and rewarding, and not a cataclysmic battle with nature. Even seasoned campers usually feel a little nervous, so the prospect can be downright disconcerting if you've never camped before. However, some or maybe even many of the "never been camping" folks emerge from camp really liking the camping part. The experience builds personal confidence, and forges an incredibly tight-knit community.

Your primary needs are food, shelter, and clothing. The camp handles food as a group, so you need to focus on your shelter and clothing. Equipment choices are a personal decision. Some people go for the "latest and greatest" while others borrow from friends and family. No single approach is the "correct" one.

In this document, I outline the equipment I've acquired through the years relevant to living and working at field camp, along with information gleaned from five years of long-term living and working above treeline in the mountains of New Hampshire. The items I use are a blend of old and new, and serve as examples of functionality, durability, and economy. I enjoy hiking and camping, so I slowly acquire good quality equipment, treat it well, and hope to use it for many years. I don't have the latest and greatest simply because the older gear functions as well as the latest gizmo. Some camping/outfitters stores will try to convince you to spend more money on equipment than necessary. If you don't ever think you'll camp again after Field Camp, then you certainly can economize by borrowing gear from a friend and sharing where possible. You DO NOT need to run out and buy all the equipment outlined here. Use this document to help focus your strategy.

After field camp, I've heard many participants offering advice about what they valued the most. For some it was the raingear. For others it was the flip-flops or tevas. Some lived and died by their solar showers. Others couldn't survive without their favorite backpack, warm jacket, etc. Think about what you need to stay comfortable sleeping at 25-50 degrees at night, and hiking/walking in brush up and down hillsides in 80-90 degree heat. What keeps you happy?

Campers are allowed up to 3 bags, one of which should be a sturdy daypack. Many people pack their sleeping bag, ground pad, tent, and tarp into one duffel bag, and their clothes and personal effects into a second duffel. Others have everything in one huge bag. Whatever you pick, make sure the bags are tough and sturdy. Please do not bring hard-sided luggage.

As you assemble your gear, you may find that the weight creeping upwards. As a simple check, you should be able to put the daypack on your back, and carry your duffel(s) with your hands. You'll need to be able to walk like this about a few hundred feet, from our transportation trucks to your campsite. WE DO NOT HIKE WITH ALL THIS GEAR. To avoid back injuries, no single bag may exceed 70 pounds.

\*\*\* THE LAST PAGE CONTAINS A CHECKLIST \*\*\*

## **Shelter – aka the “House”**

Your sleeping arrangements constitute an important component of your comfort. The primary items include a tent, sleeping bag, and pad.

**Tent:** I first used a Eureka Timberline 2 tent in 1987, and it withstood abuse for more than 20 years. What made the Timberline a good tent was that the footprint is small and rectangular, giving a good amount of useful space for one person plus their gear. The ventilation was excellent, and the tent was freestanding. The small volume of the tent meant that the air inside remained warmer than in a large dome tent sized for a family of 6. I’ve noticed more than a 10°F difference between inside and outside the tent on cold mornings. The aluminum poles are very strong and won’t splinter like the cheaper fiberglass poles on economy dome tents. This model is still for sale and costs ~\$220 (yikes inflation!). This tent has now been retired from my use, but is still available for purchase online. My selection for its replacement is temporarily a three season tent from Amazon that is no longer available. I am still looking for a good long-term tent, and I may either just buy another Timberline 2, or something very similar. Many tents would work well, but use caution when considering cheap department store brands. Some of the \$35 tents may not survive one month of continuous use. Some might be fine if handled carefully. An important feature found in many higher quality tents are larger rain flies. A rain fly that just covers a small portion of the top of the tent like a hat may be prone to flooding when there is non-vertical rain. Rain flies that cover the top as well as sides of the tent are more effective. When selecting a size, consider that at a few of our campsites, the flat sleeping ground occurs in small patches, so having a giant dome tent may limit your choices of tenting spots, and perhaps force you to sleep on a larger open patch of slanted ground.

To protect the underside of the tent from gravel, rocks, tree sap, etc, use a polyethylene woven tarp. Check the footprint of the tent you will use and look for an inexpensive tarp like the blue or green ones from Walmart, Kmart, or Home Depot/Lowes. You don’t really need the expensive manufacturer-supplied nylon ground cloths that are pre-cut to the size of your tent. Remember to be sure the edges of the tarp do not extend beyond the edge of the tent - as your tarp would then convert into a water collector under your tent.

**Pad:** The advent of the self-inflating air mattress about 30 years ago dramatically increased the comfort of sleeping on the ground. Often known by the brand name Thermarest, these pads are worth their weight in gold. With a typical sleeping bag, your body weight compresses the loft underneath you, and therefore the thickness of your sleeping pad actually controls your insulation from the ground. You will spend many hours sleeping, and a \$99 pad will amount to approximately 25 cents per sleeping hour over the whole trip. If you decide to purchase one of these pads, go for the full length, and at least 1.5” or thicker, “base camp” or “luxury camp” style pad. I bought the ‘L.L. Bean Camp Futon’ for \$90 about 10 years ago and love it. The pad is 4” thick, a dramatic improvement over my older 2” thick pad. While the ¾ length and ultralight pads may seem nice for trimming weight for backpacking, you will never need to carry your pad more than 500’ to your campsite. Unless your body is short enough to fit on a short pad, get the full length. You’ll thank yourself later. Many retailers sell these pads for between \$65 and \$120. Yes they’re expensive. I personally believe they’re worth it.

**Sleeping bag:** You will need to consider two factors when looking at sleeping bags: first is the insulating material composition, and the second is the degree rating. The choice between

synthetic vs down as insulating material in sleeping bags remains a hotly debated topic. Down is sometimes preferred by backpackers who must carry a bag long distances, since it is lighter per degree of insulation, but it costs more and doesn't work well when wet. Again, since you need only carry your bag a few hundred feet to your tent, you don't need to pay the premium for the weight savings of a down bag. If you have a down bag already, it will work fine. Synthetic bags retain their insulation capacity when wet, so if you sweat a lot, or have a leaky tent, you'll stay much warmer with a synthetic bag. For temperature ratings, if you are a warm sleeper, you might keep warm with a 0 or perhaps even a +20 degree bag. If you are typically a cold person, wear lots of sweaters, sometimes feel frozen at night, lean towards the lower rated bags- like zero degrees or lower. While we rarely, if ever, see temperatures this cold, all manufacturers exaggerate their ratings, particularly those in the "economy" line. I have a 20° synthetic bag from LL Bean. I've never been cold at night. However, I've used a 0° bag from a major retailer, and it seemed colder than the lower rated LL Bean bag. You should be looking at prices ranging from \$70-\$130. Sleeping bag shape varies between tapered and rectangular, and all shapes work fine. Consider the next section in pondering the shape of the bag. If you already have a bag with a warmer temperature rating, or you simply want to make different choices, you might consider an insulated sleeping bag liner - particularly the fleece ones. They can make a marginally warm bag turn into a toaster oven.

**Sheets:** So, now that I described my sleeping bag, I will say that I've rarely slept inside it. Instead, I make a bed using my sleeping pad and an inexpensive sheet set. I unzip my sleeping bag and use it as a "comforter." So add one fitted sheet and one flat sheet to your list, flannel can be a nicer to the touch in cold weather. Often a home goods, department store or a TJ Maxx will have a discount section with cheap sheets for sale. The benefit of this arrangement is that you can very easily wash your sheets without washing your whole sleeping bag. Remember that this technique won't work well if you have a thin or narrow sleeping pad. Another good option if you are a colder sleeper and will stay in your bag throughout the night, is getting a cheap "sleeping bag sheet" or a "sleeping bag liner." Again, this allows for ease of cleaning; so you don't need to wash your sleeping bag on laundry days, just the sheet.

**Pillow:** Bring one. No question about it. I opt for the full size pillow from my house, or you can get one at any home goods store like Walmart or Kmart. A flannel pillowcase is a nice touch and makes sleeping in the cold much more comfortable. It is also easy to wash on laundry days when you've gone a few days without washing your hair. If you are prone to being cold at night, bring a fleece cap. I keep the cap stuffed into my pillow so I can find it easily.

**Chair:** Any of the dept store brands are fine. They cost between \$10 and \$20, and should hold up for the duration of camp. Most people get the chairs that collapse into a tube-style stuff sack. Don't go for the fancy "backpacker" chairs that are tripods or other unusual shapes; they tip over easily and are often considerably more expensive.

**Shower:** Though I previously thought it would never function properly, a solar camp shower is a helpful item to have after a hot dry dusty day in the field. I bring one every year and use it occasionally. I would not recommend the Wal-mart \$8.00 Ozark Trail or other cheap models. They generally have a flimsy fill cap and the shower tube becomes disconnected easily. Instead stop by a Cabelas or REI and look at the Stearns "Sun Shower" series. They are made to last but

they do cost \$20-\$35. I'd suggest a few people share the use of a shower for the trip. If you are conservative, you will only use about half of the 3-5 gallon capacity per person. You will need to find a private, out of the way place to use it, as the campground is generally a populated place. A large tarp can be rigged to provide privacy. This will seem obvious after you read it – but you cannot have a warm solar shower before breakfast. The sun takes several hours to heat the water, but it can and will get hot enough to be uncomfortable. They really do work – though a recent comment from a camper noted that the low water pressure made it difficult to remove the shampoo and conditioner from long hair.

**Duffel Bag:** I pack my house into an X-large duffel bag. Remember that you need to watch the overall weight of the bag, not the size, so a larger bag will be easier to pack, particularly for the items that make your house. Place all these items in the duffel bag, and this constitutes your “house” for the duration of camp:

Sleeping bag – 9 lbs  
Sleeping pad – 6 lbs  
Tent – 10 lbs  
Tarp – 2 lb  
Pillow/Sheets – 3 lbs

Chair – 10 lbs  
Shower – 3 lbs  
Duffel bag – 5 lbs  
Total – > approx 50 lbs

Remember that you will have to walk only about 100-200 meters with this gear. Better to pack something that brings you comfort than shave a pound or two off the net weight.

## **Field Daypack**

**Backpack:** You'll need something to carry food, water, and clothing on a daily basis. There are many many possibilities here, so choose something that works for you. If you already have something - try and put 2-3 liters of water, a modest size tupperware for a lunch sandwich, and spare warm clothing inside. Personally, I like in the Camelbak "Rim Runner." (~\$100) Many daypacks will work fine, and this is just one example of a pack that has a moderate capacity (1500 cu in) plus space for a 2-3 liter water pouch. On many occasions, we will be out in the field for 8 hours per day, with no chance to refill water. The large camelbak reservoir is very nice to have since it keeps the water surprisingly cold and always accessible. The same result could of course be achieved with any daypack plus a refilled soda/gatorade bottle, but the convenience factor is a plus. I usually leave camp wearing warm clothes and carrying a pack containing only a small first aid kit, writing implements, water, and my lunch. I return from the field with all my warm clothes in the backpack and wearing a single layer.

**Office:** You will use a mapping board (provided by Lehigh) out in the field every day, so you don't need a separate clipboard. Bring a roll of drafting or blue painters tape to fasten maps and papers to the mapping board, plus a roll of scotch tape to attach pages to your field notebook. A good fullsize ruler/straightedge, plus a small one to fit in a field notebook, and a protractor are necessary. High quality mechanical pencils are critical. Buy spare pencils and spare graphite at the same time, because you'll drop them in the field and in camp (bright colors help). Try out both the pencil lead stiffness, and the lead diameter (suggest 0.3mm and 0.5mm). Many people prefer to draft with graphite slightly harder than a #2/HB. You will need colored pencils, the 12 or 24 color set is adequate (\$5-\$15) and sharpener. Since we all make mistakes, one or two good, non-abrasive block erasers (<\$5), for example - the Staedtler Mars Eraser. For finalizing maps and graphs, I've used felt tip permanent black markers in very fine, fine, medium. An ultra fine sharpie and a black extra fine sharpie would work OK too. A cheap folder can be useful for holding finished maps and project papers. A small Tupperware, office organizer, or soft pouch can generally hold all your pens and pencils plus a ruler. While it might be reasonable to share some of this equipment with a partner, remember that usage is concentrated, and two people cannot use a pen at the same time.

**Knife/Multitool:** Multipurpose tools like a Swiss Army Knife sometimes come in handy, and may be useful to bring, but are not necessary. I used to bring a leatherman multi-tool but I don't bring it anymore since TSA confiscated the knife during an unfortunate packing error on my part. Turns out I've not really missed it, which leads me to suppose that you may not need a knife at all. The kitchen has knives for group food prep, and the silverware bin has knives for eating. We also have a camp toolkit for fixing things - but you'll need a staff member to help you access it.

**Headlamp:** The advent of LED headlamps makes these an easy and affordable part of camping. The Petzl brand is very reliable, and they make the "Tikka" (~\$28) and "Tikkina" (~\$19) which I have and use every night in the campground. It is super lightweight, and can be left in your daypack (or tent) and you won't notice the weight. Shop around and you may find a similar light available for less. Absolutely the same result can be obtained with a \$5 LED flashlight, but the convenience of a headlamp is worth it to me, especially for late-night bathroom runs.

**Sandwich box:** A simple tupperware square box to keep a sandwich or two from getting squished and leaking throughout your bag.. You may find your caloric intake higher than normal - and thus you might be eating two sandwiches. I get the doubleheight sandwich size, and pack it with two sandwiches. I find it keeps the fillings inside better if it's packed in there tightly. We see students coming with double size boxes, and everything you can imagine, including the semi-disposable tupperware. Whatever works for you is fine. You will be able to wash it daily with the dinner/breakfast dishes. Please do not bring ziploc bags. The bags quickly metamorphose a beautiful crafted artisan sandwich into a sticky-jam-dough-ball.

**Field Notebook:** We give you a field notebook included as part of the camp fee. We buy the forestry suppliers books with a table layout on one side and a grid on the other side. Handlenses are also provided for your use. If you need an additional field notebook, we can provide one for \$10. We will provide other sheet supplies (like mylar, blank white paper, graph paper, and tracing paper) for your use too. See below though - for other items

**Rock Hammer:** Rock hammers are a personal choice as to whether you get the pick style or chisel style. Local home improvement stores carry the chisel tip style as a brick hammer or bricklayers hammer. Specialty stores and online vendors like <http://www.amateurgeologist.com> carry the pick style.

### **Clothing Duffel Bag:**

**Think in layers.** Once we get to the western states, getting wet is not as critical an issue like it is in the east and far west. It can happen, but it is less frequent. Temperate zone hikers need to use equipment that insulates when wet, which means using synthetic fabrics and not cotton. Cotton loses all its insulation properties when it gets wet, so typically I would never wear cotton in the east. However, out west, you can use a variety of fabrics according to your preferences and needs. For example, if you have flannel shirts and not a fleece pullover, that's OK, bring 'em.

**It can be cold!** The climate in the field areas is near 20's at night, 50's for breakfast, 80's and 90's during the midday heat, and then back to 20-40's overnight.

**Layer 1: Underwear and Socks.** Your first layer is underwear and you should bring plenty of it. Avoid wearing the same underwear during the day and night. Bring enough underwear and socks so that you can change at least every day. I am a fan of the Smartwool brand of socks, and I pick them up at an LLBean outlet store for about \$9 per pair. I bring 12 pairs of underwear, and 8 pairs of socks.

**Layer 2: Wear Layer: T-shirts, long pants, shorts.** This layer absorbs some of your body funk, and should be changed every 2-3 days, and more frequently if you tend to get dirty. Depending on whether you will be hiking, or going to town you'll select from what you bring. Long pants are useful for beating your way through brush and brambles, which does happen frequently. Jeans and old khakis are my favorites for long pants. The Carhartt brand is well known for being exceptionally durable, particularly their canvas fabric line. A number of people bring 4 pairs of the long pants where the legs zip off to create shorts. I bring two pairs old khakis, two pair jeans, four shorts, and a bathing suit. For shirts, I bring 10 all cotton T-shirts. You may want to reserve one set of clothes for days when you'll be in town doing laundry and everything else you brought will be in a washing machine.

**Layer 3: Warmth Layer: Vests, jackets, zip pants.** Keeping you warm is obviously the role of the warmth layer. Trapped air gives you warmth, so a flat flannel shirt will not keep you as warm as a puffy down vest. If you like flannel, bring more than 1 of them, and layer. In the morning, I typically see many students wearing everything they brought. If you are prone to feeling cold, make certain you have multiple thick warm layer(s) for your upper body, the most important part to keep warm. I bring a zip fleece vest, side zip fleece pants, a fleece jacket, a fleece hat. The thickness of the fabrics is roughly Polartec 200-300. A small pair of gloves and the aforementioned wool socks (in Layer 1) are very helpful if you are prone to having cold extremities.

**Layer 4: Water/Windproof layer: Raingear.** Shedding dirt, blocking wind/rain, and allowing sweat to escape is the challenge for the fourth layer. Some people separate these into two categories by bringing both an ultralight windbreaker and a set of completely waterproof raingear. I bring one set of gear consisting of a goretex raingear jacket and side zip rain pants. I wear the rain jacket every morning on top of my vest to keep warm until the sun hits camp. Field camp typically gets rain 1-2 times during the month, usually on the trip out. Some years we see rain for multiple days in a row. Goretex is not necessary, but it does work well in the

dryer climates of the west. Sunglasses can also be useful to protect your eyes not only from the sun but from flying sediment on exceptionally windy days.

**Footwear/Boots:** Hiking boots generally fall into the categories of leather vs synthetics. Leather is more durable and waterproof but can be hotter. Synthetics are lightweight and more breathable, but can be a little less durable. Go with what makes you comfortable. If you choose leather, make sure to break them in well by wearing the boots at least four hours per day for a month before camp starts. If you roll your ankle frequently, make sure your boots provide solid ankle support. Some people opt for the Timberland “sh\*t kicker” style of boots (with/without steel toe), and many choose a low hiker. Sneakers, especially running shoes that have no lateral support, are generally unsuitable as a hiking boot.

**Footwear/Tevas/Keens:** In the evenings and around camp, students often change into more comfortable footwear. These can include sneakers and outdoor shoes. We’ve been seeing a fair number of Tevas, Croc’s, or Keen’s around camp. We’ve also seen some flip-flops around camp, but you do face a higher toe-stub risk, and need to be very careful.

I bring three sets of footwear: heavyweight leather boots, lightweight hikers, and tevas. I live in the lightweight hikers (~\$69) and change into the heavy leather boots only when I am certain to be out hiking over rough terrain all day. I bring the tevas in case I want to play in the stream next to camp, but it is a real foot injury risk. I’ve generally not worn them often.

**Hat/Coverings:** The sun is 5800° hot. Luckily it is far away, but it can still burn you. Consider bringing a baseball hat or wide brimmed sun hat to keep the sun off your head, neck, and shoulders. This is serious - as we’ve had people get really burned who weren’t paying attention to their bodies. Sleeping and wearing a backpack are not fun when your neck is sunburned. If you don’t think you will look good in a hat, we politely disagree, but then please make sure you have extra sunscreen. Sunglasses are helpful in protecting your eyes from the sun and wind. Bring a pair or two.

## **Personal Items**

**Electronics / Phones:** A phone is not required for camp, though we find that most participants want to and do bring them. Cellular coverage is present in many but not all of our field locations. If you consult the calendar posted on the website, please note that we will not have coverage in Wildhorse Campground at all and overnights at Ranger Creek campground. Charging phones can be accomplished in the vans, and some evenings in the base camps using 120v wall outlets where we spend multiple nights and setup a generator. Generally your best strategy is to bring a USB charging cable with both “12V power port/cigarette lighter” and “120v” power sources. A portable battery bank charger can be helpful to bridge between charging opportunities, particularly if your phone battery doesn’t last more than 1 day.

If you want to investigate using your phone to collect strike and dip data, we have found success with *ROCK’D* and *FieldMove Clino*. We have these installed on iPads that we loan out on field projects where they’d be helpful.



Watches can often be useful in the field, but smart watches or watches that need a charge (like Apple Watches or FitBits) are not recommended. A simple, battery powered watch will work best, but is not necessary.

**Electronics / Laptops:** A laptop is not required, and we discourage students from bringing them. They are absolutely NOT necessary, and will be difficult to keep/maintain in a field environment. Better off keeping it at home where it is safe. If you *\*must\** bring something, consider a tablet instead of a full laptop. If you still want to bring a laptop - be certain to bring very good protection for it, like a hard case.

**Brunton / Compass:** If you have one, and want to use it, bring it. Absolutely **do not** go out and buy one. We have a fleet that we loan out, and your school may loan them out too. We are also in the process of incorporating phones and tablets to collect orientation data.

**Cup or Mug:** Mornings around camp can be cold, and a warm beverage can help. We provide enameled metal camping cups because they are easy to sanitize. However you know that metal conducts heat – so hot beverages are difficult to hold with bare hands. You may find value in bringing a plastic, thermally insulated mug. Label it well. You'll be able to wash it at mealtime.

**Complete toiletry kit:** Bring anything you will need to stay clean and healthy. In addition to the dental, optical, and body hygiene items (e.g. biodegradable camping soap) you should bring outdoor related products such as sunscreen and insect repellent. Since we are out all day – sunscreen becomes a daily ritual. Stores out west may not have the menstrual products you prefer, so we recommend bringing what you will likely need, plus a little extra. Bringing a package of baby-wipes (\$3) can be a nice way to feel fresh.

**Towel:** One towel is sufficient. Your choices start with the conventional terry cloth towel found in most U.S. households. While this will work just fine, you might consider investigating something called a “turkish beach towel” on Amazon. They offer a “real size” cotton towel that packs small and dries quickly. You can also consider the variety of microfiber pack towels. Any of the aforementioned options are equally fine.

**Medications:** Bring a supply of prescription and/or routine medication that you will need for the entire camp. It WILL NOT be possible to refill prescriptions on the road in small western towns. Bring any medication that you occasionally need. You might bring a small bottle of analgesic/antipyretic or NSAID (commonly known as Tylenol/acetaminophen, and Advil/ibuprofen). The field camp staff does not dispense medicine; so if you think you might need these, bring them.

If you regularly take anti-anxiety or mood stabilizer medications, please make sure you have a suitable supply, and that the dose is appropriate for any anticipated changes in elevation, environment, or social situation.

If you require medications for anaphylaxis, such as an epinephrine autoinjector, please make sure you have them with you in your backpack that is with you at all times.

**First Aid Kit:** If you are prone to any particular field or environmental injury, bring what you need to treat it. We're talking about things like blisters, splinters, rolled ankle, etc. Items like Ace bandages, moleskin, knee braces are not easy to find in small western towns or in the middle of a National Park. I also recommend bringing a small first aid kit. The camp keeps an emergency first aid kit, so you don't need a huge personal kit with you. However - you know yourself better than we do. Come prepared for anything you might expect to encounter. For example, if you regularly get headaches - bring what you normally take to treat the headache (see medications above).

**Fishing gear:** If you enjoy fishing, you may bring your gear in a protective tube. You are responsible for obtaining any necessary permits.

**Laundry:** We have four planned laundry stops, roughly a week apart. Camp will provide tide-pod detergent for your use, but you are welcome to bring your own if you have a sensitivity, or a preferred detergent type. You will need a few dollars for operating the machines. All of the places have had operating coin dispensers, but small cash bills, like \$5 or \$10, are needed.

**Resources:**

<a href="http://www.amazon.com">http://www.amazon.com</a>	Economical, good variety
<a href="http://www.campmor.com">http://www.campmor.com</a>	Economical, good all around
<a href="http://www.llbean.com">http://www.llbean.com</a>	Excellent satisfaction guarantee
<a href="http://www.cabelas.com">http://www.cabelas.com</a>	Amazing product depth/breadth
<a href="http://www.sierratradingpost.com">http://www.sierratradingpost.com</a>	Outlet for major brands, good value
<a href="http://www.rei.com">http://www.rei.com</a>	The EMS of the west coast
<a href="http://www.ems.com">http://www.ems.com</a>	The REI of the east coast
<a href="http://www.citysports.com">http://www.citysports.com</a>	The urban EMS/REI
<a href="http://www.dickssportinggoods.com">http://www.dickssportinggoods.com</a>	The mall EMS/REI
<a href="http://www.titlenine.com">http://www.titlenine.com</a>	Women's activewear, particularly jogbras
<a href="http://www.armysurplusworld.com">http://www.armysurplusworld.com</a>	Surplus, duffel bags

Steve Peters

July 2007

July 2008

January 2015 with additions from Field Camp staff

November 2022 with additions from Field Camp staff

Packing checklist and recommended locations.

### **Field Daypack**

Daypack  
2+ L of water / Camelbak

Pouch with:

*Mechanical pencils (0.3mm/0.5mm)*  
*Spare graphite (hard)*  
*Ink markers (2-4)*  
*Ruler*  
*Protractor*  
*Colored Pencils (12 or 24)*  
*Pencil sharpener*  
*Block eraser*  
*Roll of drafting/painters tape*  
*Scotch tape*

Sandwich/lunch box  
Rock hammer  
Camera (or phone)  
Headlamp and/or flashlight

Hat with brim, bandanna  
Sunglasses with strap  
Sunblock  
Lip balm  
Small first aid kit  
Medications

### **House Duffel**

Tent  
Groundcloth  
Sleeping Pad/Thermarest  
Sleeping Bag  
Sheets  
Pillow w/case  
Folding Chair  
Solar Shower with rope

### **Clothing Duffel**

Underwear (8-12)  
Socks (8-12)  
T-Shirts (8-10)  
Flannel/warm shirts (optional)  
Long pants, heavy duty (~2)  
Long pants, lightweight (~2)  
Shorts (~2-4)  
Long pants (zip off, in lieu of above)  
Sweater / down or fleece vest  
Medium jacket  
Your warmest winter coat  
Raincoat/Windbreaker  
Rain pants  
Warm hat and gloves  
Durable hiking boots, well broken in  
Lightweight hiking or tennis shoes  
Tevas / water shoes

### **Personal Items (in either Duffel)**

Camp chair  
Insulated cup or mug (12 oz)  
Biodegradable camping soap  
Insect repellent  
Towel  
Complete toiletry kit  
Medications

We will stop at Cabelas on the trip west in Mitchell SD, after the third night of camping, so if you need something unanticipated, you can pick it up enroute.