

Broken Top Backpack

PROGRAM DESCRIPTION

Typically we will start out in the Tumalo Valley, and hike up to the base of Broken Top Mountain. We will circumnavigate Broken Top and head up to the Tam McCarthur Rim, where stunning views of the Cascade Mountains await us. From the rim we will hike down to Todd Lake which is on the Cascade Lakes highway where our ride will be waiting to take us back Portland. Routes are subject to change due to fire, weather, or other safety concerns.

Over the course of the week you can expect to travel at least 20 miles, possibly more with side trips. Our goals - beyond hiking from point to point -- include the study and observations of some of the most prominent volcanic peaks in Oregon. We'll learn of their formation, growth, and the persistent erosional forces that continue to shape them. We'll get up-close looks at the glaciers clinging to the snowy slopes, as well as some of the amazing wildlife that inhabit these high elevations. We'll take time to investigate the recent volcanic activity on the west side of South Sister.

Our route will ascend and descend gradually from the trailhead in the Tumalo Valley to the Cascade Lakes Highway, allowing us to explore alpine lakes and scenic vistas along the way. We'll camp off trail each night and close to sources of fresh water. This trip is considered strenuous in difficulty and will help campers learn techniques useful for longer backpacking experiences.

Course Syllabus

OBJECTIVES: Academic and outdoor training goals

- ◆ To familiarize students with the natural history of Oregon's Cascade Mountains
- ◆ To recognize several key wildlife indicator species of alpine settings
- ◆ Be able to cook and care for oneself in the backcountry for several days
- ◆ Be able to safely navigate using map & compass
- ◆ To understand current volcanic activity and the processes of mountain building
- ◆ To gain confidence in remote mountain settings

ACTIVITIES: Hands on learning in the field

- ◆ Investigate sub-alpine forest communities and alpine/tundra ecosystems
- ◆ Practice Leave-No-Trace camping techniques
- ◆ Learn navigation: Map and compass use
- ◆ Learn to recognize common summer constellations
- ◆ Study the volcanic history of Broken Top and local glacier investigation
- ◆ Safe foot-travel over high-elevation terrain

SCIENTIFIC CONCEPTS: Scientific Principles to be introduced

- ◆ Volcanic Geology: energy, force & motion, matter, rock-cycle
- ◆ Ecologic cycles: eg. Water, nutrients, organism
- ◆ Rain shadow: cause & effect, orography
- ◆ Wilderness definition: political and idealistic
- ◆ Astronomy: deep space, spatial relationships, legends

Broken Top Backpack: EQUIPMENT LIST AND PACKING TIPS

We have included a list of items that each person should bring, along with an explanation for why certain items are necessary. To help minimize weight and eliminate redundant items on the trip, we have found that it is advantageous for a pair (or more) of students to share a tent. Before we set off on the trail, we will take an inventory of everything we have with us and organize groups to share gear. Any extra stuff we do not take with us can be picked up at the end of the trip. *All campers will be sharing a tent with at least one other person.* If you have any questions about the trip please contact the OMSI outdoor Science Education manager at 971.269.9929.

Packing For The Trip

The basic idea when packing for a backcountry trip is to stay warm and dry. One of the most problematic fabrics to wear in the backcountry is cotton. This is because when cotton gets wet it does not keep you warm (in fact it draws heat away from your body) and it takes a long time to dry. Cotton sweatshirts are heavy, bulky, in addition to being a poor insulator. Cotton socks will keep your feet cold, but also tend to cause blisters when they get sweaty and wet. Minimal cotton clothes (such as jeans), are okay for in camp, but not while hiking, and you must make sure you keep them dry. Synthetic or wool materials are great things to have in the backcountry; these materials will keep you warm when wet, dry faster, and generally breathe better than cotton.

Bringing one set of clothes to wear on trail, and one set of clothes to wear in camp, is a good way to think about what to pack. In the case of bad weather, you will have a dry set of clothes to put on when you get to camp. Also bring clothes that you can layer, so you can add or subtract a layer depending on the conditions. Adding extra socks (especially liners) will help your feet stay dry which will help prevent blisters. Extra underwear and an extra t-shirt may also be a good idea as it can make you more comfortable. As you pack, try to include items that will can be used for multiple purposes. **REMEMBER: EVERYTHING YOU PACK YOU WILL CARRY!** *More gear and clothes means more weight.*

This list is the minimum you should bring; please make sure all these items are brought along.

SLEEPING GEAR

- sleeping bag
- insulating foam pad (for comfort, and to prevent significant conductive heat loss)
- tent (to be shared; not necessary to purchase if you do not have one)

CLOTHING AND FOOTWEAR

- 1 pair of shorts (optional, can double as swim wear)
- 2-3 t-shirts (one for hiking, one in camp, one extra)
- 1-2 pair long pants (1 pair for hiking in, one for in camp)
- 2-3 warm top layers (different weights for versatility, i.e. fleece, jacket, long-sleeved shirt)
- 1-2 pair synthetic (i.e. polypropylene, capilene, etc.) long underwear top and bottoms
- rain gear (jacket and pants)
- warm hat
- light gloves
- hiking socks and liners (2-4 pairs of each)
- underwear (3-5 pairs)
- swim suit
- sun hat (with brim/bill)
- sneakers or sports sandals (light footwear for low impact use in camp)
- Well fitting, broken-in hiking boots.** The more broken-in the better to prevent blisters. (See the tips section for more info on boots.)

CLOTHES FOR VAN

- ___ a set of clean clothes to wear home in the van (pack in separate bag)

PERSONAL GEAR

- ___ toothbrush and toothpaste
- ___ small towel (optional, can use bandanna)
- ___ biodegradable soap and container
- ___ sunglasses
- ___ sunscreen (15 SPF or higher)
- ___ mosquito repellent
- ___ lip balm with sun screen
- ___ bandanna

EQUIPMENT

- ___ external or internal frame backpack
- ___ backpack rain cover and large garbage bags for waterproofing
- ___ webbing or compression straps to tie extra gear to pack (if you have them)
- ___ small stuff sacks to organize gear (optional)
- ___ Minimum 2 water bottles (or bladder), must be able to carry *at least* 2 liters
- ___ flashlight with extra batteries, headlamp preferred
- ___ bowl, cup/thermal mug, spoon
- ___ pocket knife (optional)
- ___ *small* personal first-aid/survival kit (moleskin, Band-Aids, compass, whistle)
- ___ *small* repair kit (for backpack/tent/outerwear)
- ___ sack lunch for van ride on first day

OPTIONAL

- ___ gaiters (invaluable in wet weather, snow or dust to keep boots and socks dry or clean)
- ___ camera
- ___ field guide, binoculars (these are heavy...consider this carefully if you *really* want them)
- ___ hiking poles
- ___ book, deck of cards,
- ___ mosquito head net (the mountains can be very buggy)
- ___ day pack or fanny pack
- ___ 30' of lightweight rope or cord
- ___ zip lock baggies

REMEMBER: YOU will be carrying everything you pack, so ONLY pack what you need.

ALL CLOTHES AND EQUIPMENT SHOULD BE MARKED WITH THE PARTICIPANT'S FULL NAME. OMSI IS NOT RESPONSIBLE FOR LOST ITEMS.

NO ELECTRICAL EQUIPMENT SHOULD BE BROUGHT (CELL PHONES, MP3 PLAYERS, COMPUTER GAMES, ETC.)