

Colorado Mountain Club, Boulder Group

BRS

Basic Rock School



Student Handbook

Schedule and Locations

The dates for your session

Lecture 1:

Lecture 2:

Field Trip 1:

Field Trip 2:

Field Trip 3:

Clubroom Location

633 South Broadway, Unit K, Boulder, CO, 80305.

In the Table Mesa Shopping Center, upstairs from Elevations Credit Union, or around the corner from Neptune Mountaineering.

Phone: 303-554-7688

Field Trip 1 and 3

The meeting time and destination will be determined by your instructors. Expect the trips to go from around 7 AM to 5 PM.

Field Trip 2

The belay test and knot test will be at the "Belay Tower." The tower is behind the baseball field on Mapleton Avenue between 28th and 30th Streets in Boulder. The tower is a pair of telephone poles connected by a crosspiece near the top.

The multi-pitch climb meeting time and destination will be determined by your instructors and scheduled either before or after your belay test and knot test.

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Introduction

Welcome to Basic Rock School (BRS)! You have enrolled in a program that is a doorway, should you choose to pursue rock climbing, to a lifetime of adventure, discovery, and satisfaction. Most importantly, you will learn the tools to be a *safe* climber, ensuring that your adventure really *will* last a lifetime.

The Boulder Group of the Colorado Mountain Club (CMC) offers many rock climbs in the Boulder-Denver area every year. Completion of BRS is a prerequisite for these climbs. It is a set of credentials that indicates to the leaders of these climbs that you know the equipment, techniques, and safety concepts required on any climb. It only remains that the difficulty of the climb is within your skill level.

The CMC is not a “guide service.” We’re not here to tie your knots, buckle your harness, or haul you up the rock. Instead, the goal of BRS is to make you an *autonomous participant* in CMC rock climbs. Even so, two lectures and three all-day field trips cannot make you a skilled, experienced climber. But BRS will give you a foundation of safe techniques for you to continue climbing and gain that skill and experience.

As you continue climbing, you will eventually see much equipment and many techniques you did not see in BRS. Some are incredibly stupid and dangerous. Many are workable and safe alternatives to what you saw here. There are many ways to climb safely. However, with such limited time, BRS has only enough time to show you *one* way. But that way is complete. If you follow the instruction and practice all the safety concepts of BRS, you will have a foundation with no gaps. You will have a background invaluable to yourself and to your climbing partners, inside and outside the CMC.

So let's begin...

Overview

Lectures

Before the field trips start, there are two Tuesday-evening lectures in the Clubroom starting at 6:30 PM. In the first, you'll get an introduction to your instructors and to BRS. You'll choose your BRS school group by picking a set of instructors and a field trip day (Saturday or Sunday). In the second, you'll meet with the rest of your group to introduce yourselves and go over the knots and equipment.

Field Trips

The three field trips are the heart of BRS. Each packs a lot of information and practice into a full day. Expect to meet around 7 AM and go to about 5 PM. You will be outside all day; bring food, water, clothing, required equipment, and protection from the elements. Details follow in this handbook.

Reading Assignments

The required text for BRS is *Rock Climbing: Mastering Basic Skills*, by Craig Luebben. The specific assignments are listed for the second lecture and each field trip. Note that in each reading assignment there are topics you must read and others that you need not read. As good as Craig's book is, it covers more than BRS teaches. Save those topics for later; concentrate on practicing the topics in BRS. Details follow in this handbook.

There is more excellent information about climbing, especially belaying, in *Mountaineering: The Freedom of the Hills*, 8th edition, by the Seattle Mountaineers. It supplements the Luebben book well and is the most complete text on mountaineering available.

Your Group

At the second lecture, you'll meet with your BRS school group, which will consist of five or six students and three instructors, and will meet on either Saturdays or Sundays. You'll be an autonomous "family" for the next three weekends. You won't have much contact with the other groups unless you meet at a local watering hole after class (which we recommend; a long tradition of the school is the exchange of the day's tall tales over adult beverages.)

Your Instructors

Your group will have three instructors – one senior instructor and two assistant instructors. The senior instructor is in charge of the group and usually determines the location of the field trips and the flow and direction of the instruction. The assistant instructors help the senior instructor. They are often recent BRS graduates who have kept their enthusiasm for BRS itself and may be hoping to be "seniors" someday. All instructors are unpaid volunteers who share a love of teaching.

After-BRS Climbs

Check the CMC Boulder Group web site, the e-newsletter *Compass*, or the email newsletter "GPS" for Boulder Group rock climbs through the year. As a BRS graduate, you qualify for "Group I" climbs, which range from 5.0 to 5.5 in difficulty. Participate in these climbs and begin your progression to the harder climbs, designated as Group II and Group III.

Your Future

We hope you use BRS as a springboard to a long and successful climbing career. Also, if you enjoyed BRS itself and would like to continue the excitement and satisfaction, consider being an assistant instructor in BRS in future sessions. You don't have to know it all; instructing is a great way to solidify what you know and continue learning! Talk to your instructors in this session if you have an interest in teaching.

Safety

The first priority of BRS is safety. Instructors will work with students to correct mistakes and to encourage those who are struggling with some aspect of the course, but all safety rules must be followed strictly. Students may be expelled from BRS for not following the safety rules.

A few safety rules are mentioned below. Your instructor may add more rules, depending on the location and situation.

- Students must wear a climbing helmet at all times during field trips, except when told otherwise by their instructors.
- Students must do no climbing without the supervision of their instructors.
- A belayer must pay strict attention to the climber on belay.
- Be careful on steep and/or loose terrain. Choose a safe route, step carefully, and stay in balance.
- Be watchful of loose rocks and avoid kicking them down. If you do dislodge a rock, yell ROCK! repeatedly until the rock comes to rest.

Ultimately *you* are responsible for your safety. A few personal safety tips are mentioned below:

- Get in the habit of checking your harness buckle, your locking carabiners, and your climbing rope tie-in often. Check others and even check your instructors!
- Have the gear to protect you from sun, cold, wind, and wet.
- Drink water early and often. But drink no ground water that has not been boiled, filtered, or treated.
- Recognize and avoid poison ivy.
- Check for wood ticks during the day and after you're done.
- Always seek to improve your first aid and backcountry skills.

Equipment

Mountaineering safety depends partly on good equipment. This doesn't necessarily mean expensive equipment. Plain or fancy, make the equipment appropriate for the intended use. Remember that as your career progresses, your needs will change. Consult experienced climbers, mountaineering texts, and equipment catalogs before making significant investments. If you're not sure you'll pursue some aspect of climbing, try renting the gear first.

The following are required for participation in BRS.

Clothing and Footwear

In choosing clothing and footwear, consider that BRS field trips are *not* canceled because of snow, sleet, rain, wind, or scorching sun and heat. In short, be ready for mountain conditions.

- Synthetic or wool long underwear to wick moisture away from your skin. No cotton!
- One or more medium-weight, long-sleeved, synthetic fleece or wool shirts, jackets or sweaters as insulating layers. No cotton!
- Wool or fleece hat.
- Warm mittens or gloves. Windproof and waterproof overmitts.
- Mountaineering parka with a hood. Should be windproof but breathable.
- Heavy-duty pants. No jeans!
- Wind pants.
- Medium or heavy wool or synthetic socks.
- Medium-weight, general-purpose mountaineering boots with lug soles. We recommend leather instead of mesh or nylon because it's waterproofable. No tennis shoes.
- Rain gear. Waterproof or water-resistant shell and pants.

Other Equipment

- Medium-size climbing daypack with at least 3000 cu. in. (50 liters) capacity
- The ten essentials
- Toiletries kit (lip balm, TP, small shovel, Ziploc-style bags)

The Ten Essentials

An important way to be prepared for emergencies is to carry certain items to deal with the extreme conditions in the mountains. Years of experience has led to the well-known “Ten Essentials.” Even if one or more of the items seems inappropriate for a rock-climbing day trip, it is good practice to gather and pack all of them. Students may not be permitted to participate in BRS field trips without them. The following list is a melding of the CMC’s traditional list with those in *Mountaineering: The Freedom of the Hills*, 8th edition, and *Rock Climbing: Mastering Basic Skills*, and a few tweaks from your editor.

- Navigation: Map and compass
- Sun protection: Sunglasses and sunscreen
- Insulation: Extra clothing
- Illumination: Headlamp or flashlight with extra batteries and bulb, or extra headlamp or flashlight
- Body emergency: First aid kit and individual medical needs (for example, an epi-pen, asthma inhaler, or insulin kit)
- Fire: Matches or lighter, and firestarter
- Repair tool kit: Knife and other tools and supplies
- Nutrition: Extra food, beyond what you plan to eat
- Hydration: Water bottle, extra water, water filter, and/or water purification tablets
- Emergency shelter: Bivouac sack or equivalent

Recommended Contents of a First Aid Kit

- 10 large Band-Aids
- 6 4x4-inch gauze compresses
- 1 roll of gauze
- 2 4x4-inch Telfa non-adhering pads
- 2 3x3-inch moleskin or molefoam pads
- 5 medium butterfly bandages
- 2 triangular bandages
- 1 Ace bandage
- 1 elastic knee brace
- 1 roll of adhesive tape
- 1 tube of triple antibiotic such as Neosporin
- 4 individual packets of alcohol prep pads
- 4 individual packets of povidone-iodine surgical soap
- 1 tube or stick of lip balm
- 1 bottle of eye drops
- 1 pair of tweezers
- 1 single-edge razor blade
- 12 ibuprofen, Tylenol, aspirin, etc.
- 2 pair of non-latex gloves
- 1 CPR face shield
- 2 Accident report forms
- 1 Pencil or pen

Recommended Contents of an Emergency Tool Kit

- 1 multi-tool such as a Leatherman, or a small knife, a small pair of pliers, and a small pair of scissors
- 1 whistle
- 1 signal mirror
- 1 miniature flashlight

Climbing Equipment

Again, this is required equipment for BRS. As a BRS student, you get a discount on this equipment at local climbing stores. See “Equipment Discounts” on the next page.

Textbook: *Rock Climbing: Mastering Basic Skills*, by Craig Luebben.
Note: This textbook will be sold at a discount at the first lecture.

Carabiners: Two pear-shaped locking carabiners
Two additional locking carabiners; smaller ones are OK
Two non-locking carabiners, any style except bent-gate

Belay device: Any tubular, two-slot belay device, such as a Black Diamond ATC, a Trango Pyramid, an HB Sheriff, or a Petzl Reverso. It must have no moving parts, so no GriGris, etc.

6-mm nylon accessory cord: Don't get Spectra or Kevlar. Have the store cut and fuse three lengths of cord:

- 10 feet for a foot prusik
- 6 feet waist prusik
- 4 feet for an autoblock

Personal anchor: A 48-inch (double-length) sewn runner, or a daisy chain such as a Metolius PAS

Harness: A seat harness specifically made for climbing and approved by UIAA or CE. Do not use someone else's old harness.

Helmet: A helmet specifically made for climbing and approved by UIAA or CE. Do not use a biking or kayaking helmet. *You are not required to buy a helmet; BRS will supply one if you prefer.*

Belay gloves: A pair of leather work gloves; “rough-out” is best. Poke a hole near the opening of each glove and insert a small key ring or wire loop so you can clip it to a carabiner.

Equipment Discounts

The stores listed below offer a 15% discount on required student equipment. In addition, many of the stores offer a 10% discount on other equipment with your CMC membership card. The exact items subject to discount varies among the stores. You must present your BRS Student ID card to get the 15% discount for the BRS equipment. The card is valid during the current BRS session unless otherwise specified by the participating store.

Neptune Mountaineering

633 South Broadway, Unit A, Boulder, CO 80305. 303-499-8866

Open Mon-Fri 10-8, Sat & Sun 10-6

Also offers 10% off non-sale items with your membership card.

The Boulder Army Store

1545 Pearl Street, Boulder, CO 80302. 303-442-7616

Open Mon-Thu 9-7, Fri & Sat 9-6, Sun 12-5

Also offers 10% off non-sale items with your membership card.

Mountain Miser

209 West Hampden Avenue, Englewood, CO 80110. 303-761-7070

Open Mon-Fri 10-7, Sat 10-6, Sun 11-5

Also offers 10% off non-sale items with your membership card.

The Mountain Shop

632 South Mason, Fort Collins, CO 80524. 970-493-5720

Open Mon-Fri 10-7, Sat 9-6, Sun 10-5

15% discount on BRS equipment only

Lecture 1

Date: 6:30 PM, CMC Boulder Group Clubroom

- Sign-in and receipt of course materials: This handbook, a student ID/equipment discount card, and a practice rope
- Introduction to BRS
- Introduction to your instructors
- A brief history of mountaineering
- An overview of BRS
- An overview of climbing logistics; the “Ladderhorn” demo
- An overview of equipment
- Miscellaneous lore: How to choose a climbing partner, whom to call in an emergency, how to sign up for CMC trips, how to become a leader, how to become a BRS instructor
- Sign up for your school group
- Questions and answers

A note on your practice rope: Next week (“knot night”), your instructors will coach you in tying the knots. Knot night can go pretty late. You can get a jump start on knot night by attempting to learn and practice the knots in the coming week just by the descriptions in this book and the textbook. Good luck!

Reading Assignment for Lecture 2

Rock Climbing: Mastering Basic Skills, by Craig Luebben

Introduction, Page 11-17
Top-roping Traditional climbing Bouldering How to Use This Book Further Training A Note to New Climbers Climbing Etiquette
Chapter 3: Climbing Gear – Outfitting for the Climb, Page 60-77
Climbing Gear Belay Devices Carabiners Clothing Cord Harness Helmet Ropes The Ten Essentials Webbing Slings
Chapter 4: Knots – Bringing the Rope to Life, Page 80-95; other pages as listed
Figure eight tie-in* Double overhand backup* Clove hitch Figure eight loop* Overhand loop* Double fishermans* Figure eight with fishermans backups* Flat overhand Autoblock Prusik Girth hitch Munter hitch Mule knot, Page 265 Klemheist knot, Page 263 Backpack coil, Page 76

* Luebben calls these knots by different names than we do.

Lecture 2—“Knot Night”

Date: 6:30 PM, CMC Boulder Group Clubroom

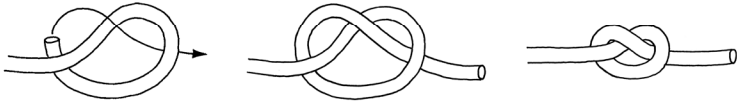
- Meet your group and exchange contact information
- Tell us about yourself, your climbing experience (not required), and your climbing goals
- Learn about the equipment – helmets, harnesses, carabiners, belay devices
- Learn about ropes and knots

Knots Listed By Their Function


- **Tie the climbing rope to your harness**
Figure-eight bend, backed up with a half grapevine or overhand
- **Clip the climbing rope into an anchor**
Figure-eight with a bight, overhand with a bight, or clove hitch
- **Tie two ropes together**
Grapevine, figure eight bend (backed up), or flat overhand (backed up)
- **Belay a climber**
How to thread a belay device; the Munter hitch
- **Free the hands to escape the belay**
Mule knot, Munter-mule knot
- **Ascend or descend a rope**
Prusik knot, Klemheist knot
- **Back up a rappel**
How to thread a rappel device; the autoblock
- **Coil a rope**
The backpacker's coil

Climbing Knots Illustrated

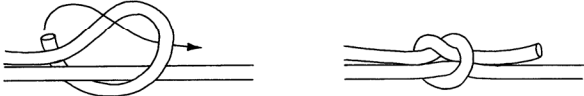
Overhand: Basic Form



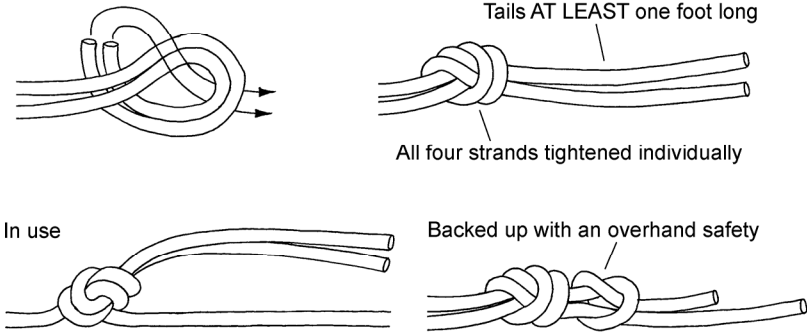
Overhand with a Bight: Tie into an anchor



Overhand Safety: Back up another knot



Flat Overhand: Tie two ropes together



Tails AT LEAST one foot long

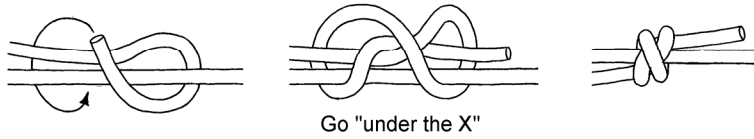
All four strands tightened individually

In use

Backed up with an overhand safety

Climbing Knots, continued

Half Grapevine Safety: Back up another knot



Grapevine: Tie two ropes together



Figure Eight: Basic form

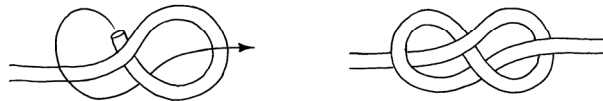


Figure Eight with a Bight: Tie into an anchor

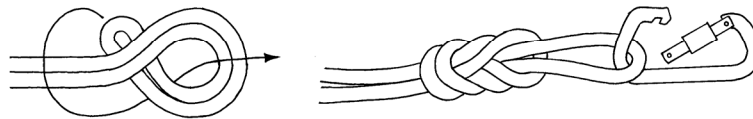
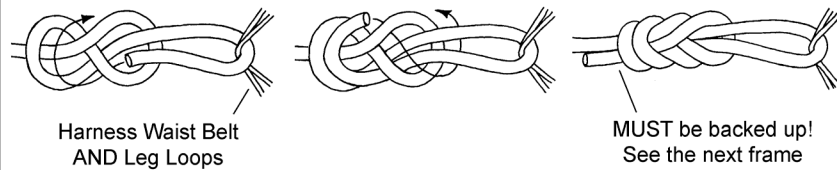
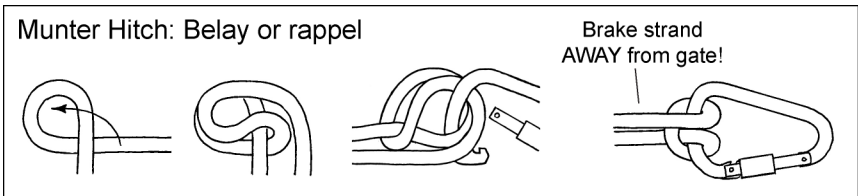
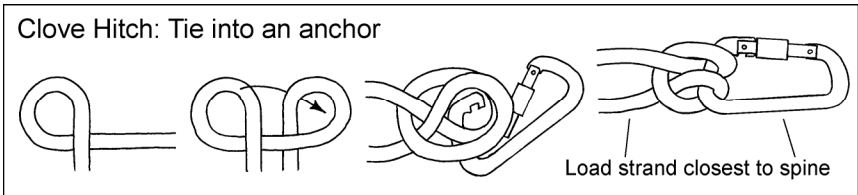
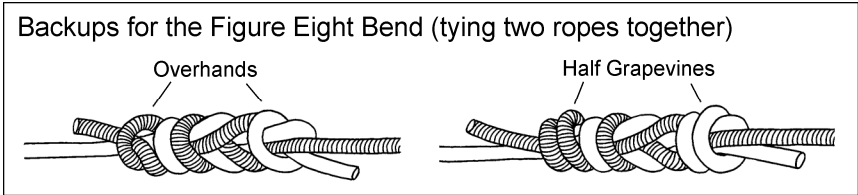
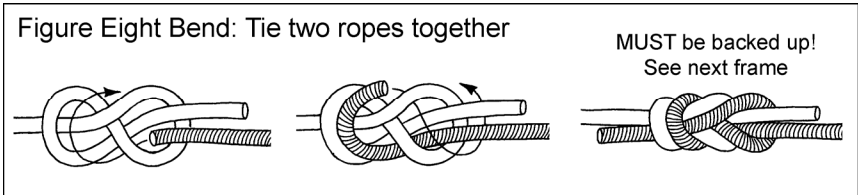
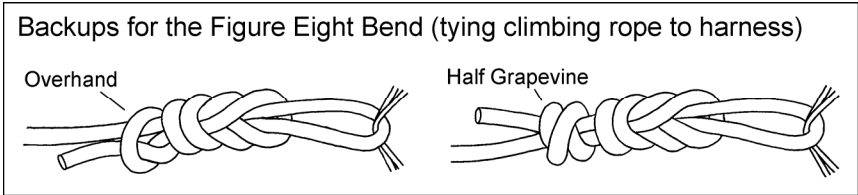


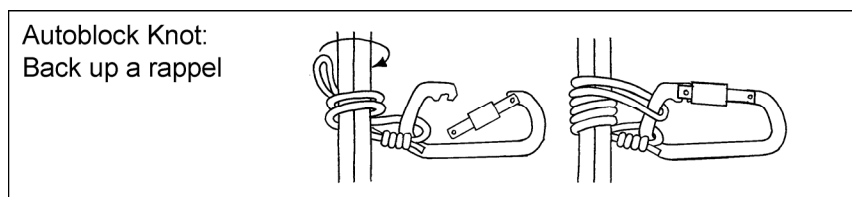
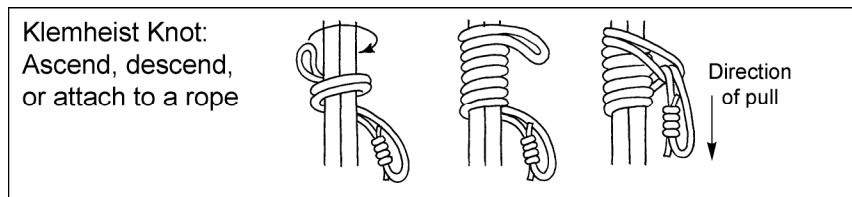
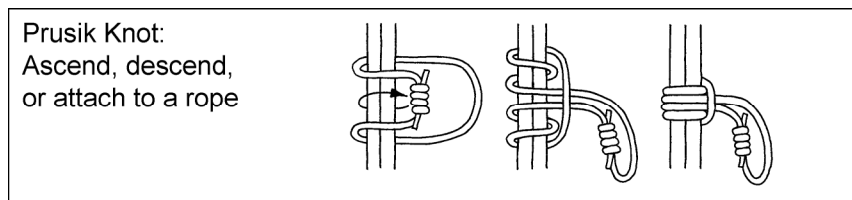
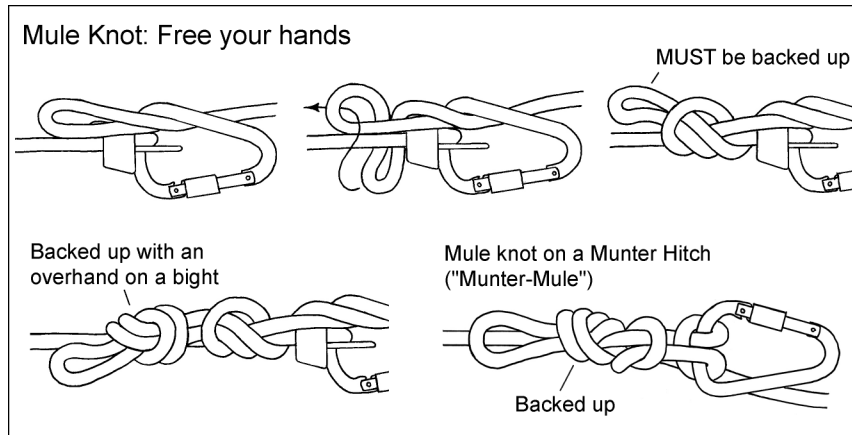
Figure Eight Bend: Tie the climbing rope to your harness



Climbing Knots, continued

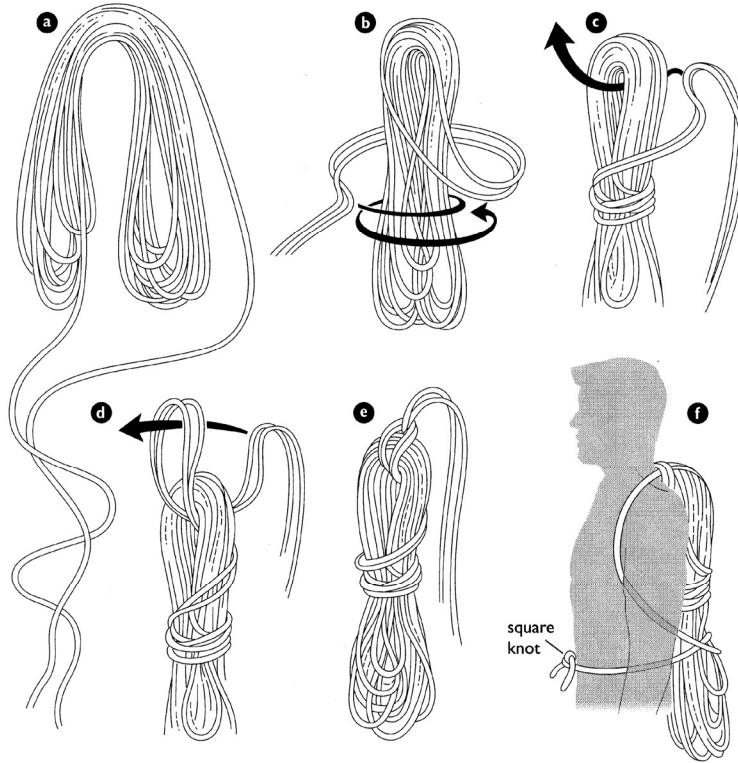


Climbing Knots, continued



Climbing Knots, continued

Backpacker Coil: Carry or store the climbing rope



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Reading Assignment for Field Trip 1

Rock Climbing: Mastering Basic Skills, by Craig Luebben

Chapter 6: Belaying – Keeping your Partner Safe, Page 126–149
Everything except belaying with a GriGri, redirecting the belay, and direct belay.
Chapter 14: Climbing Safe – Avoiding and Escaping Bad Situations, Page 258–285
Escaping a belay, Page 269 Escaping the belay without a cordelette, Page 272–274
Chapter 1: Face Climbing – Dancing on the Rock, Page 20–37
Chapter 2: Crack Climbing – Climbing Cracks from Fingertip Width to Full-Body Chimneys, Page 40–57

Note: In Chapter 6, Luebben shows only the “palm-down” position of the brake hand for belaying. BRS recognizes that there are situations where it may be more appropriate to belay “palm-up.” Your instructors will demonstrate and discuss the advantages and disadvantages of both methods.

Note: BRS teaches a variation of Luebben’s “Escaping the belay without a cordelette.”

Also:

- Review the reading assignment for Lecture 2.
- Read “Leave No Trace” on Page 20.
- **Practice your knots!** Field trip 1 is intense. It will go easier and quicker if you know the knots well. Also, your group will have more time to get onto actual rock at the end of the day.

A Note About Knots

If you're going to forget how to tie a knot, it might be in an emergency when you're rattled, or at night, or when you're tired, cold, and hungry. So practice your knots until they're almost instinctual. Find a way to tie them the same way every time and make that way a habit.

Leave No Trace

More than a buzzword and an organization, it's a good mantra. Leaving no trace is something we should be doing anyway, always. Adhering to the following principles helps ensure that the wild lands we hike and climb in will be as wild tomorrow.

For rock climbers:

- Limit the use of chalk, or use rock-colored chalk.
- Use natural-colored webbing for anchors.
- Use removable protection and natural anchors where possible. But don't pass your rappel rope around a tree; use webbing.
- Don't chisel or glue holds.
- Don't bolt or drill where it's prohibited. Know the regulations where you climb.
- Be judicious about establishing new routes.
- Keep loud voices to the minimum climbing commands.
- Volunteer for trail work and chalk clean-up days.

For everyone:

- Limit the group size.
- Leave pets at home.
- Carpool or take public transportation.
- Park only in established areas.
- Use existing trails. Don't shortcut.
- If there are no trails, walk on the most durable surface.
- Don't disturb vegetation or wildlife.
- Use toilets if available. If not, bury human waste at least 50 yards from water sources and 6" deep. Better yet, pack it out.
- Pack out all trash, even other peoples'.

Field Trip 1—Basic Rock

Date, meeting time and place:

Meeting time, meeting place, and destination to be decided by your senior instructor.

Equipment To Bring

- Clothing and footwear. See Page 6. Check the weather forecast for the day. Rock shoes are not required or necessary. However, if you own a pair and intend to stick with climbing, feel free to bring and use them.
- The Ten Essentials. See Page 7.
- Climbing equipment. See Page 9. All required equipment except the textbook and the helmet if BRS is supplying it.
- Lunch and plenty of water

Topics To Be Covered

- Review of equipment, ropes, and knots
- Tying into an anchor
- Belaying
- Verbal communication
- The Ten Essentials (Page 7)
- “Leave No Trace” principles (Page 20)
- Escaping the belay
- Rock climbing techniques

Field Trip 1 Skills Checklist

<input type="checkbox"/>	Put on a helmet; make sure it's positioned properly.
<input type="checkbox"/>	Put on a harness; check your buckle(s).
<input type="checkbox"/>	Stack (uncoil) the rope with a distinct top and bottom of the pile.
<input type="checkbox"/>	Know all required knots.
<input type="checkbox"/>	Know what knot each climbing situation requires.
<input type="checkbox"/>	Tie the climbing rope to the proper part of the harness.
<input type="checkbox"/>	Clip into the proper part of an anchor.
<input type="checkbox"/>	Use a locking carabiner or two standard carabiners with gates opposite and opposed in the appropriate situation.
<input type="checkbox"/>	Set up a belay to the proper part of the harness. Demonstrate the proper alignment of Anchor-Belayer-Climber ("A-B-C"). Be tight against the anchor. Know the expected direction of the pull of a fall.
<input type="checkbox"/>	Understand all verbal commands: "On belay," "Climbing," "Climb on," "Up rope," "Slack," "Tension," "Falling," "Rock," "Off belay," "Rope," "That's me," "Off rappel."
<input type="checkbox"/>	As a belayer or climber, use names with the commands.
<input type="checkbox"/>	Agree on non-verbal signals. Agree on amount of slack to give.
<input type="checkbox"/>	Know the brake position for the belay device you're using.
<input type="checkbox"/>	Understand the role of the brake hand and the feeling ("guide") hand.
<input type="checkbox"/>	Know the golden rule of belaying: NEVER TAKE THE BRAKE HAND OFF THE ROPE WHILE THE CLIMBER IS ON BELAY!
<input type="checkbox"/>	Know how to let slack out and take slack in without taking your brake hand off the rope.
<input type="checkbox"/>	Know how to belay with either hand. The rock might prevent you from using your preferred hand.

<input type="checkbox"/>	Know how to perform a sitting belay and a standing belay.
<input type="checkbox"/>	Know how to belay with your belay device and with a Munter hitch.
<input type="checkbox"/>	Pay total attention to the climber. Know the special belay actions when a leader is clipping protection.
<input type="checkbox"/>	Know the ten essentials.
<input type="checkbox"/>	Know the principles of "Leave No Trace"
<input type="checkbox"/>	Understand when and how to escape the belay if the climber is injured.
<input type="checkbox"/>	Know basic face-climbing moves: Weight over the feet, standing in balance, smooth body-weight shifts, controlled breathing, precise footwork, using legs to ascend, smearing, edging, cling holds, underclings, side pulls, laybacks, manteling.
<input type="checkbox"/>	Know how to read the rock: Ledges, edges, nubbins, crystals, chickenheads, flakes, solution holes. Dangerous holds: Loose rock, loose flakes, friable rock, lichen, loose vegetative debris.
<input type="checkbox"/>	Know how to coil the rope at the end of the day.

Practice And Review!

BRS is only three weekends, and next week is your belay test, knot test, and a multi-pitch climb. You're going to be putting all of the above to the test and into practice. So the coming week is the time to practice the knots, commands, and belay moves. Concentrate on anything you're weak on.

Different people have different learning styles and different learning rates. Please feel free to talk to your instructors individually if you're struggling. We want you to succeed!

Rescue Skill 1: Escaping the Belay

This field trip introduced you to a special skill that you might need to rescue a fallen climber. Because it requires multiple steps as well as clear thinking, use the procedure below to train and review.

1. **Catch the fall** with a belay device.
2. **Communicate with the climber.** Ask, “Are you OK?”. Evaluate the situation. The climber might need only to be lowered. A nearby party might be able to go for help. If you must escape the belay:
3. **Secure the climber’s rope** with a mule knot.
4. Remove your brake hand and **attach a prusik to the climber’s rope** with a three-wrap prusik knot. **Attach the other end of the prusik to the anchor.** This might require some creativity.
5. **Place the brake hand back on the rope. Untie the mule knot.**
6. Tell the climber to expect a slight drop. **Transfer the climber’s weight to the prusik.**
7. **Remove the climber’s rope from the belay system.**
8. **Back up the prusik.** Tie a figure-8 knot on the climber’s rope and attach it to the anchor with a locking carabiner.
9. **Unclip from the anchor** *if it is safe and if you must.* (Always consider *your* need to be anchored.)

Reading Assignment for Field Trip 2

Rock Climbing: Mastering Basic Skills, by Craig Luebben

Chapter 10: Multi-Pitch Free Climbs – Climbing High and Free, Page 196–209

Belay Station Transition, Page 198 Rope Management, Page 200 & 201

Field Trip 2—Belay Test, Knot Test, and Multi-Pitch Climb

Date, meeting time and place:

Belay Test and Knot Test location: The “Belay Tower,” on Mapleton Avenue between 28th and 30th Streets in Boulder. The test time for each group is determined by drawing.

The meeting time, meeting place, and destination of the multi-pitch climb will be decided by your senior instructor and works around your test time.

Equipment To Bring

- Clothing and footwear. See Page 6. Check the weather forecast for the day. Rock shoes are not required or necessary. However, if you own a pair and intend to stick with climbing, feel free to bring and use them.
- The Ten Essentials. See Page 7.
- Climbing equipment. See Page 9. All required equipment except the textbook and the helmet if BRS is supplying it.
- Lunch and plenty of water

Skills To Be Tested at the Knot Test and Belay Test

- All knots, by function, including coiling the rope.
- All belaying skills, including escaping the belay

Topics To Be Covered on the Multi-pitch Climb

- Putting the equipment, ropes, knots, and climbing techniques you have learned into practice
- Actually belaying your classmates
- Restacking the rope at the belay ledge
- Keeping the anchor clip-in point neat and organized

Field Trip 2 Skills Checklist

<input type="checkbox"/>	Know all skills from Field Trip 1.
<input type="checkbox"/>	Understand belay-ledge logistics.
<input type="checkbox"/>	Know why and how to restack the rope between each pair of climbers.
<input type="checkbox"/>	Know why and how to keep the anchor clip-in point neat and organized.

Notes

Reading Assignment for Field Trip 3

Rock Climbing: Mastering Basic Skills, by Craig Luebben

Chapter 14: Climbing Safe – Avoiding and Escaping Bad Situations, Page 258–285

Ascending a Rope, Page 266

Rappelling Past a Knot, Page 281–283

Chapter 11: Getting Down – Returning to Earth, Page 212–233
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Rappelling

Climber Attachment to the Anchors

Rigging the Ropes for Retrieval

Joining Rappel Ropes

Tossing the Ropes

Rigging the Rappel Device

Rappel Backup

Before You Rappel

Ready to Rappel

Communication

Pulling the Ropes

Improvising a Rappel Device (Munter Hitch only)

Hazards

Note: BRS teaches a variation of Luebben’s “Ascending a Rope” and “Rappelling Past a Knot.” See the Field Trip 3 Skills Checklist on Page 29.

Field Trip 3—Prusik and Rappel

Date, meeting time and place:

Meeting time, meeting place, and destination to be decided by your senior instructor.

Equipment to Bring

- Clothing and footwear. See Page 6. Check the weather forecast for the day. Rock shoes are not recommended for this trip.
- The Ten Essentials. See Page 7.
- Climbing equipment. See Page 9. All required equipment except the textbook and the helmet if BRS is supplying it.
- Lunch and plenty of water

Topics to be Covered

- Ascending and descending a climbing rope with prusiks
- Backing up an ascent or descent with bights of the rope
- Preparing to rappel: Staying anchored on the ledge, threading the rope through the anchor, throwing the rope, rigging the rappel device
- Rappelling: Checking the system, the role of the brake hand, unclipping from the anchor, starting the rappel, footwork, the role of the guide hand, landing, undoing the rappel system, verbal commands
- Elaboration on rappelling: Rappelling on a Munter hitch, the fireman's belay, rappelling with an autoblock backup
- Rappelling past a knot
- Pulling the rappel rope
- The hasty-arm rappel

Field Trip 3 Skills Checklist

<input type="checkbox"/>	Know how to rig and use the short ("waist") and the long ("foot") prusik to ascend or descend a rope.
<input type="checkbox"/>	Know when and how to pull up a bight of the climbing rope and clip it to your harness to back up an ascent or descent.
<input type="checkbox"/>	Know how to stay safe on a ledge before rappelling.
<input type="checkbox"/>	Know how to thread, knot, and throw the rappel rope.
<input type="checkbox"/>	Know how to rig your rappel device.
<input type="checkbox"/>	Know how to check the rappel system.
<input type="checkbox"/>	Know how position the brake hand and the guide hand.
<input type="checkbox"/>	Know when to unclip from the anchor.
<input type="checkbox"/>	Know the foot and body position for starting the rappel.
<input type="checkbox"/>	Know how to deal with an overhanging start.
<input type="checkbox"/>	Know proper footwork and how to rappel smoothly.
<input type="checkbox"/>	Know how to use the guide hand to keep loose items away from the rappel device or fend off a rapidly-approaching rock face
<input type="checkbox"/>	Know how to undo the rappel device when you land.
<input type="checkbox"/>	Know the verbal commands.
<input type="checkbox"/>	Know the fireman's belay.
<input type="checkbox"/>	Know how to rappel on a Munter hitch.
<input type="checkbox"/>	Know how to rig and use an autoblock to back up the rappel.
<input type="checkbox"/>	Know how to stop the rappel with a leg wrap or an autoblock to free the hands to deal with a problem or rappel past a knot.
<input type="checkbox"/>	Know how to pull the rappel ropes when everyone is at the next rappel station or on the ground.
<input type="checkbox"/>	Know when and how to use a hasty-arm rappel.

Rescue Skill 2: Rappelling Past a Knot

This field trip introduced you to a special skill that you might need to get past a knot in a rappel rope. Because it requires multiple steps as well as clear thinking, use the procedure below to train and review.

1. **Start the rappel** with a belay device and an autoblock.
2. **See and evaluate the obstruction.** (Sometimes you can undo a knot with your free hand.)
3. If you can't undo the knot with your free hand, **rappel to a few inches above the knot.** Stop and make sure your autoblock holds this position.
4. Pull up a few meters of both strands of the rappel rope from below the knot. Tie a figure-8 or overhand knot in both strands, and **clip the rappel rope to your harness** with a locking carabiner.
5. **Attach a waist and a foot prusik to the rappel** rope above the rappel system. Clip the waist prusik to your harness with a locking carabiner.
6. **Ascend the rope** until the rappel system is unweighted.
7. **Disassemble the rappel system.** Remove the belay device and the autoblock.
8. **Reassemble the rappel system just below the knot.** Reattach the belay device and the autoblock. Check your work.
9. **Descend the rappel rope on the prusiks.** Stop when the rappel system has your full weight and the prusiks become unweighted. Verify that the autoblock is holding.
10. **Remove the prusiks from the rappel rope.**
11. **Unclip the figure-8 knot from your harness and untie it.**
12. **Place your brake hand back on the rope, release the autoblock, and continue the rappel.**

Onward

If you've decided you like climbing, this is only the beginning! Keep climbing. Sign up for CMC Boulder Group climbs. Even if you're a beginner, you're now qualified to sign up for Group I climbs. Check the Boulder Group web site (cmcboulder.org), the e-newsletter *Compass*, or the email newsletter "GPS".

And while you're out there, stay safe! Keep your eyes open. You'll see all kinds of techniques "in the field," some dangerous and many good. Evaluate, read, and ask experienced climbers about what you see. Don't overly complicate your well-learned system without a good reason.

Most importantly, remember that the more you climb, the greater the danger of complacency. Some day, you or your partner will forget to clip into an anchor, double-buckle a harness, complete a knot, or lock a locking carabiner. Never forget the danger of such a mistake. Always check yourself and each other.

And, if you liked this course and want more of this atmosphere of camaraderie and adventure, consider being an instructor. Again, you don't have to know it all, just be willing to continue learning. Talk to your instructors about this.

Additional Reading

In Rock Climbing: Mastering Basic Skills

Now read anything in your textbook that interests you. We'd especially like to draw your attention to the appendixes and the glossary.

- **Appendix A: Climbing Rating Systems**, Page 286
- **Appendix B: Suggested Reading**, Page 288
- **Appendix C: Climbing Resources**, Page 289.
Note that the web site "www.climbingboulder.com" is now called "www.mountainproject.com." If you type the old name, for now there is a link to the new one.
- **Glossary**, Page 290

In Mountaineering: The Freedom of the Hills

For its entire history, this book has been considered the definitive text on mountaineering. The 8th Edition continues the tradition of excellence and relevance to today's techniques and equipment. You could crack this book open anywhere and find enlightenment. Of particular interest to beginning rock climbers:

- **Chapter 9: Basic Safety System**
- **Chapter 10: Belaying**
- **Chapter 11: Rappelling**
- **Chapter 12: Alpine Rock-Climbing Technique**

But then, how could we ignore First Steps, Clothing and Equipment, Physical Conditioning, Navigation, Wilderness Travel, Leave No Trace, Stewardship and Access, Leadership, Safety, First Aid, Alpine Rescue, and Mountain Weather?!

Your BRS Group Members

Record the names and contact information for your instructors and fellow students.

Senior Instructor: _____

Phone: _____ Email: _____

Assistant Instructor: _____

Phone: _____ Email: _____

Assistant Instructor: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____

Student: _____

Phone: _____ Email: _____



**Colorado Mountain Club
Boulder Group**