

Rock Climbing... Instructional Progression!

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1 Introduction

This document presents an overview of climbing instructional practice in Troop 8. Its designed to provide the scouter who is new to the Venture program in the troop with a basic outline of the program and instructional progression, while serving as a resource for the more experienced scout or scouter in setting up instruction for a new crew.

This little addendum to the scoutmasters guide is NOT going to be able to provide competent instruction in rock climbing, especially rock climbing supervision. There's no substitute here for experience under a qualified instructor, coupled with experience under the gentle but firm instruction of a qualified rock. What this is designed to do is provide you with an overview of the system, and some things that a good troop instructor needs to be mindful of when working with young climbers.

In the spirit of internet scouting, it is provided on the net to help those units who have a climbing program, or who are looking to add one. Here again, safety comes through genuine experience and judgement; reading our curriculum and/or other books about climbing are not even remotely sufficient to set up a climbing program. Find a good climber with some instructional expertise to help you out.

1.1 Philosophy

Troop 8 started rock climbing activities about 10 years ago, a bit ahead of the popular boom in adventure sports. Troop 8 philosophy in climbing as with other Scouting and Venture activities is to serve as an outdoor education program. We want to help young men become capable and self-sufficient climbers, and ultimately to help them develop the skills and judgement they will need to responsibly lead climbing groups (of friends or perhaps young scouts) on their own. This development of skill, judgement, and character we believe is at the core of scouting. It has also sustained our program — at this point, almost all of our in-unit adult instructors are former members.

We therefore do not run climbing activities as adult-led “field trips.” While adults may take the lead in some instruction, experienced boys will be trusted to do some teaching, and all boys will participate in the hands on work required to climb safely — belaying, rappelling, rigging anchors, caring for equipment, selecting sites and routes, considering weather, etc. As boys demonstrate competence, they will be increasingly trusted to handle these things on their own or with peer supervision as appropriate to the circumstance. Safety is ensured by developing genuine skill and understanding in youth, not by adult involvement in every task from the subtle to the mundane (a protocol which, in any event, is impossible to maintain on a real climbing trip).

1.2 Instructional Style

The first rule is that when working with young people in climbing, it is vital that the instructor always be serious. To joke around in this area of instruction is to invite further joking or carelessness by the scout, as scouts will always joke more, and be less careful, than the adults they see. As a scouter, you must avoid the temptation to be as “relaxed” as you would be on a personal climbing trip as this sends the wrong signals to those with less experience and skill. They need to pay careful attention, the way a new driver needs to pay more careful attention to the road. This is not to say that you should become rules-bound or overly stern; consider it similar to gun safety; when you’re holding a firearm, loaded or not, fooling is not appropriate.

Considerable research has shown that in the medium- to long-term, we only remember well the things in which we have been over-instructed. More than regular scout activities, boys must be over-drilled in rope and rock safety. For this reason, its important to re-teach things several times in different environments, so that the boys both learn things well and see the application in different settings/locations. In the skills progression list, you will see that the instruction “spiral” — things are introduced at one session, taught again and in more depth at the next, taught again and reviewed at a third. This written spiral is in fact a minimum; in practice, the troop program does even more review and re-teaching than is listed. Don’t fall into the trap of believing that because you’ve taught it, they’ve learned it.

Think carefully about the venue in which you choose to teach. Climbing is a fun activity to watch, so doing beginning-level instruction at a gym or popular area is a sure way to make it hard for the kids to pay close attention to you. For this reason, we do basic instruction on flat land, away from active climbing.

Small groups are not just best, they’re necessary. One competent experienced person for every 2–3 beginners is a good ratio; you can use your experienced older boys in this capacity along with other adults. This gives you one experienced hand to provide hands-on coaching for each climbing team. Troop 8 rarely has more than 8 or so relatively inexperienced kids out at once, in fact 8 would be high.

Not all experienced climbers (kids or adults) make good group instructors; speaking ability, organizational skill, comfort, personality and other factors play a large role. In addition to an experienced coach for each climbing team, you should think in terms of one competent adult with good instructional skills for every 10-12 boys (max). This person does the lecture/demo and coordination, and sets the tone. If you’re going to have a lot of people out, though, make sure you have enough equipment so that everyone can practice immediately... better to break into smaller groups at different session times than have only one or two ropes to share among 12 people.

1.3 Climbing Issues With Young People

Rock climbing is one of those scary skill sports where a youths athletic ability and personality make a big difference in the initial sessions. You should be prepared for a wider range of instructional needs than is normal in a scout environment. A few boys may be moderately acrophobic; some strong kids with limited balance skills will be frustrated, while a few lightweight, wiry kids will fearlessly blaze up nasty climbs.

As an instructor, you need to be prepared for this range, and work out in your own mind and with your fellow youth and adult leaders how you are going to manage this. Who is going to handle “coaching” the scared, stuck climber(s)? Handle the ones who have trouble even getting started? Who is going to manage the other kids, or the accomplished kids? Everyone will follow your lead in terms of being patient with and encouraging each other, so be thoughtful in advance of how you are going to handle difficulties.

Sometimes its difficult to decide when to push a kid, and when to lower him or suggest that he “bail.” A good rule of thumb is the notion of “training ‘til failure.” If a kid is stuck on a move through 3 good attempts with no success, it does no good for him to continue to thrash; indeed, it works against developing good technique and mental fitness. Suggest (but don’t force) that he quit and rest for awhile and then come back to the climb. This helps the kid to save face (“I could have kept going, but Mr. G. suggested I take a break before I tackle it again, and that was a good idea.”). An alternative, depending on circumstances, is to have him take a break on a nearby ledge while you coach the needed technique, then let him try again.

2 Checkouts

Climbing lends itself to the Scouting model of requirements and checkouts, and segments of our climbing progression rely on this method. While everyone associated with the program knows the rules for requirement signoffs (right???), its worth emphasizing... nobody gets “signed off” until they can demonstrate the skill on their own, with no hints or prompting, in the real environment where it is used, at least one week after the last time they saw the skill taught or demonstrated.

For critical items (belaying, rappelling, climbing MB, anchor construction, etc.) the signoff is really “I am comfortable that this kid can do this activity without direct supervision.” Just because a boy belayed properly through one rope doesnt mean that hes good to go for a belay signoff. You must consider temperament, attention level, etc. Have you seen him catch several falls? Be stuck on belay with a “stuck” or hang-dogging climber?

Remember, throughout the instructional process you must be aware that kids will generally expect you to do everything for them, from tying knots to ensuring their safety. Build in exercises to work against this attitude and make them responsible for their own and each others protection. Troop 8 practice is for adults and older boys to occasionally set up improper rigs during field work to test scouts attentiveness. An example would be an adult belayer with the belay mis-rigged; if the boy does not catch the problem during his double-check of the belay system, hes “dead” and someone else gets to do the climb. This goes a long way toward breaking the spell of “magic” adult leadership taking care of them, and makes scouts remarkably attentive to each other and the safety systems.

In Troop 8, earning Climbing merit badge is used as our threshold of “this scout is now capable of doing simple things on his own.” Thus a scout with Climbing MB is permitted unsupervised belays, regular rappels, etc. At this point, they are ready to start developing real climbing skills. We make a second distinction with those who earn their “first lead” award; these boys are capable of placing protection, building anchors, making safety and route selection decisions without direct supervision. Third level for us is “trip leader,” where the person must demonstrate supervision and vertical rescue skills.

3 Equipment

For beginning climbers (everyone up through Climbing MB), it is important to keep things simple and consistent. For this group, Troop 8 standardizes on certain techniques and equipment. This helps learning by not adding too many variables when kids aren't ready for them, and gets them to actually climbing more quickly, while enhancing safety.

For belaying, we standardize on the stich plate with spring or ATC. For rappelling, we standardize on the carabiner brake. We use standard commercial alpine harnesses. We've found these to be effective and easy to teach, but other units may choose to use a different standard. What's important is that you keep it simple. Later in the progression, when individual skills are better developed, we allow and teach other variants.

[Outside units should be aware that there were some deliberations over rappel standardization. In general, the ATC-style devices offered smoother ride with less friction, but for beginners, the higher friction is actually helpful and reassuring. Figure 8s have a unique and dangerous failure mode, in that any cross-loading or rope twist will cause the 8 to spin in the locking 'biner and load the biner gate. If the biner gate is not fully locked, the loaded gate can release the entire rappel device. We teach these other rappel techniques to intermediate climbers, after they are comfortable on rappels with carabiner brakes.]

4 Rappelling

The advent of modern sport climbing brought with it an explosion in rappelling as a stand-alone adventure activity. Even BSA summer camps that run no climbing instruction offer rappel towers, usually to boys with no experience belaying either themselves or others.

Rappelling is dangerous. It is significantly more dangerous than climbing. During a rappel, one is entirely dependent on the system, and any errors or inattentiveness are therefore immediately life-threatening. It causes much greater wear and stress on ropes, particularly in high-speed or “sport” rappels. Reviews of climbing accidents each year include a long list of rappel incidents and fatalities.

Properly used, rappelling is a method for descending a climb when other methods of descent are not available. For that reason, and for its use in self-rescue and rescue of others, it is worth learning.

Troop 8 does not do “Sport” or “Hollywood” rappelling, and strongly discourages the practice of fixed-base rappelling (off of towers, trees, etc.) Rappels should ordinarily be reserved for their real use: getting from the top of a rock face back down to the bottom, when safe walk-downs are not available or convenient.

There are exceptions. One is for teaching the skill. The second is that some first-time scout climbers lack the balance, fearlessness, and upper-body strength to succeed at a climb on their first day out, especially given our limited areas in the midwest. It can be devastating for a kid to have the whole day be a failure — not able to even “get” a single climb! Because anyone can do a rappel, but its also exciting and scary, using a rappel at the end of a first climbing day gives these guys something to succeed at, and allows them to go home fresh from a victory. Use it for this if it fits with the instructional progression. The advent of climbing gyms has lessened our use of rappels for this purpose, because there are always “do-able” routes at the gyms.

Troop 8 practice does not ordinarily use roped top belay for rappels, except for the first one or two rappels or particularly stressed kids. A safer and less cumbersome technique is the “bottom belay” (“Army belay”), where a belayer grasps the rappel rope from below, and at any sign of difficulty pulls downward on the rope. This belay is easy and effective for everything except anchor/rappel rig failures (which with a double-check and standardized system are no more of an issue than regular climbing belays).

The Troop 8 rappel instruction procedures include “unusual attitude” and obstacle training. These are designed to get kids comfortable with all the funny things that can happen when rappelling. The sequence is dependent on whats available at the location, but includes:

1. While rappelling, have scout slide his feet down lower until they lose grip,

causing him to swing face-first into the rockface in a vertical orientation.
Recover.

2. While rappelling, have scout keep his feet planted and continue rappel until “sitting” upside-down on rock face, with feet upward and butt against rock.
Recover.
3. While rappelling, have scout move sideways out of the fall line until foot friction fails and there is a “spin and swing.” Recover.
4. While rappelling, have scout tie off part way down and wave with both hands.
Recover.
5. Rappel over an overhang to a free rappel with no rock contact.

Unusual attitude practice is of course always done on a belayed rappel. Unusual attitude practice should be repeated until the scout demonstrates comfort and confidence dealing with these situations.

5 Field Procedures

Safety is dependent primarily on knowledge, experience and judgement. When working with new climbers who lack these, it is dependent on procedure and supervision. There aren't really many parts to Troop 8 field procedure, but they are worth mentioning.

1. No one climbs unless they can handle their part of the climbing system without assistance. This is not a guided tour. If a boy can't properly put on a harness or dress a tie-in knot or handle clipping in to an anchor, he can't climb. He needs to get those skills down first.
2. Everyone, scout or adult, must have their rigging double-checked by someone with experience before they climb or rappel. That means the belayer checks the climber and vice versa, both check the anchor, and if one or both are below the level of climbing merit badge they must be checked by someone else who has it. Anchors must be checked by someone with First Lead award. (exception is, of course, the final rappeller off a route, who will typically be an adult or lead climber).
3. Helmets are required for all climbers and rappellers, and for belayers located below a climber or rockface.
4. Beginners should be no closer than 3 feet from an exposed edge unless on belay or directed by a lead climber. No one besides the person acting as climb/rappel coach should be near the edge above a climber or rappeller.
5. All bouldering must be done with a spotter.
6. Anyone who tosses anything over an exposed edge (other than a rope) shall die a death of ten thousand screams.

6 Instructional Progression

This is Troop 8s general climbing “curriculum.” While any instructor is likely to have his or her own preferred progression, Troop 8 has established some basic outlines and traditions which may be used as guides. These are the steps for first-time climbers, though all scouts must review the basics the first time out for the season.

The first sessions are not done at a wall or site, so folks wont be distracted by other climbers. These sessions are instructional and therefore shorter, because of attention span considerations. Care should be taken to observe scouts whose attention spans are not long enough for these sessions - they should be excluded from any Venture or climbing activity until they mature.

The first set of lessons are generally done in order. By the time we’re doing field work, the progression becomes somewhat more flexible, because of the need to work with the features of the area we are using. Specific climbing techniques (finger and hand jams, mantles, chimney techniques, etc.) are not listed because they are generally introduced according to whats available in the area(s) we’re using.

Sometimes multiple sessions can be combined, if, for example, you bring some climbing gear on a regular flatland campout and have more time. Care should be taken in these cases to keep the same number of “review and re-teach” sessions at a later date, to be sure that all participants repeat the skill enough to genuinely learn it.

6.1 The General Progression

1. Basic Knots & Harness (Flat Land)

- Teach: Overhand, figure 8, figure 8 on a bight, figure 8 follow through, water knot (ring bend).
- Dressing knots, appropriate amount of tail, tying off excess tail. Fitting, putting on, checking harnesses.

2. Rope & Knots 2 (Flat Land)

- Reteach & Review: Basic knots and dressing, putting on harness and tying in.
- Teach: Characteristics & care of rope, webbing, carabiners. Stacking and coiling rope. Throwing rope. If time or some idle kids, add butterfly, double-fisherman knots.

3. Belay Signals 1 (Flat Land)

- Check: basic knots, harness tie-in; review where necessary.
- Reteach & Review: Care of rope, webbing, and carabiners; stacking & coiling
- Teach: anchor tie-in and basic belay. Signaling system.

4. Belay 2 (Flat Land)

- Test: basic knots, harness tie-in.
- Check: Care of rope, webbing, and biners; stacking & coiling. Review where necessary.
- Re-teach: Anchor tie-in, basic belay and signal system.

5. Movement 1 (Rock gym or local area)

- Test: Care of rope, webbing, and biners, stacking & coiling
- Check: Anchor tie-in, belay and signal system. Review where necessary.
- Teach: Classification system, bouldering, spotting, basic technique, lowering.
- Do first top-roped yo-yo climb on something easy, with experienced belayer and student second-belayer.

6. Movement 2 (Rock gym or local area)

- Test: Anchor tie-in, belay & signal system. Top-roped yo-yo climbs with student belayer and experienced second-belayer.
- Re-teach: Classification system, bouldering, spotting, basic movement, lowering.
- Teach: Beginning hazard evaluation, more technique suitable for climbs being done.

7. Rappel 1 (Flat Land/short building wall)

- Teach: Rappel principles & rules, carabiner brake setup, signals, bottom belay.
- Rappel with belay off short (1 story) drop.

8. Climb 1 (Local area)

- Teach: Intro to anchor systems, evaluating anchors. Hazard evaluation.

- Top-roped climbs with scout belay and experienced second.
 - Re-Teach: Rappel principles & rules, carabiner brake setup, signals, bottom belay. Rappel with belay.
 - Check: Classification system, bouldering, spotting, lowering.
9. Rappel 2 (Short building wall or climbing area)
- Check: Carabiner brake, rappel principles and signals, bottom belay.
 - Teach/Practice: Rappel tie-offs, rappelling overhangs, unusual attitudes.
10. Climb 2 (Local area)
- Test: Carabiner brake, rappel principles and signals, bottom belay
 - Check: Basic hazard evaluation; review as necessary.
 - Re-teach/practice: rappel tie-offs, overhangs, unusual attitudes.
 - Re-teach: anchor system principles, evaluating anchors.
 - Teach: Single-rope rappel.
 - Regular top-rope climbs with scout belay & backup.
11. Climb 3 (Local area or weekend)
- Test: Basic Hazard Evaluation
 - Check: Rappel skills / unusual attitudes, anchor evaluation.
 - Reteach/check: Single-rope rappel.
 - Teach: Alternate brake systems/devices for belay & rappel.
12. Climb 4-6 Local area or weekend day 2
- Test everything! Checkout for Climbing MB.

[Scouts who pass the checkout for Climbing Merit Badge, including all of the Troop 8 expectations, are “basic climb certified” for us. That means they are approved for unsupervised belaying without a second belay & rappels without belay, and are generally trusted to handle themselves & watch out for others on a climbing outing. They may be used to help teach basic skills. They also proceed to the next level.]

Tyrolean Traverse/Ascending Not taught as a specific part of the climbing progression, we teach the Tyrolean to Venture scouts with a climbing background

for things like river crossings on non-rock outings. It is useful to have scouts do one or two Tyroleans prior to the in-sequence work on Rescue/self rescue.

Similarly, ascending may be taught as part of caving technique or glacier travel before it is reached in Rescue/Self Rescue.

6.2 Progression Toward Leading

As scouts continue climbing, we gradually introduce/allow more alternate methods for belay/rappel, including munter hitches, hip belay, and even dulfersitz rappels under carefully controlled circumstances.

1. Protection Placement 1 (cliff base with variety of cracks of various sizes)
 - Teach: types of pieces and uses, characteristics, and eccentricities. Principles of placement, direction of pull. Examining pieces for integrity. Practice placement.
2. Protection & Anchors 1 (top rope area, or perhaps as a flat-land intro)
 - Re-teach: Piece placement.
 - Teach: Use of webbing slings, cords, girth hitch, selecting & checking natural anchors and bolts, independence of anchors. Hazard Evaluation. Introduce equitensioning. Practice.
3. Anchors 2 (top rope area)
 - Check: Piece placement
 - Re-Teach: Webbing, natural anchors, anchor rules, hazard eval.
 - Teach: Equitension, backup, opposing anchors, vector forces. Practice.
4. Climbing Practice (top rope area)
 - Test: Piece Placement
 - Check: Webbing, natural anchors, anchor rules, hazard eval.
 - Re-Teach: Anchor construction science & art
 - (Troop 8 scouts will typically have a fair bit of practice at this level, perhaps with Tyrolean or ascender system experience, before moving on to basic lead climbing)
5. Lead Climbing Mechanics (flat land)
 - Review: Anchor rules (use J. Long's anchor problems from book)

- Teach: Mechanics of leading & following, rope management, use of slings, quickdraws, problems of traverses.
6. Lead tryout 1 (top rope area)
- Test: Natural anchors, anchor rules, hazard eval.
 - Check: Anchor construction
 - Re-teach: Mechanics of leading.
 - Teach: Rappels with rope retrieval.
 - Fake lead climb up good crack while tight top-roped to practice piece placement. (Must be an easy route). Rappels on anchor to bottom.
7. Following 1 (2-3 pitches)
- Supervisor lead, scout(s) follow. Quiz & teach along the way.
 - (Note: Doing an introductory multi-pitch climb set at this point assumes: 1) the adult leader is using pitches well below his/her ability, and 2) you are operating in a 3-person team, where at least one of the followers has had basic rope rescue training & practice, in case the leader gets into trouble. Otherwise, you'll need to move rescue items up ahead of this.)
8. Rescue 1 (flat land/climbing gym)
- Teach: Rescue knots, belay escape. Practice.
9. Following 2 (multi pitch)
- Supervisor lead, scout(s) follow. Quiz & teach along the way. Rappel out.
 - Test: Anchor construction, if possible
 - Check: mechanics of leading/following.
10. Lead Tryout 2 (top rope area)
- Test: Anchor construction
 - Check: Mechanics of leading, rappels with retrieval
 - Fake lead climb & follow with top-rope belay. Mid-station anchor construction by scout.
11. Rescue 2 (flat land/trees or top-rope area)

- Re-teach: Rescue knots, belay escape.
 - Teach: backing up rappels with locking knots; rescue psychology
12. Following 3 (multi pitch)
- Test: Rappels with retrieval, mechanics of leading/following
 - Check: Rescue knots, belay escape
 - Re-teach: backed up rappels
 - Supervisor lead, scouts follow.
13. Rescue 3 (flat land/trees)
- Test: Rescue knots, belay escape
 - Teach: Prusik ascending system
14. Following 4 (multi pitch)
- Test: Rescue knots, belay escape
 - Check: Backed-up rappels
 - Supervisor lead.
15. Lead Tryout 3 (top rope area)
- Test: Backed up rappels
 - Re-teach/Review: Prusik ascending
 - Fake lead climb while on top rope belay. Belayer should introduce penalty slack so that top rope is only backup to the primary piece in a lead fall, or to guard against ground/ledge impacts.
 - If a rope is available that is near age retirement but is in otherwise good condition, it is a worthwhile exercise to rig a good anchor and have climbers do a deliberate low-force lead fall, to practice safe falling technique and cut down on unnecessary fear.
16. Following 5 First Lead
- Two-person team; supervisor leads first pitch. If he/she feels scout is ready, switch leads. (Best on a route the scout has already done).
17. Following 6 First Lead
- Same as above
18. First Lead Supervisor follows.
- Scout leads from ground. Supervisor follows as 2nd or 3rd on team.

6.3 Supervision Sequence

For climbing supervision skills and boys who have earned their first lead award, we use David Fasulos Self Rescue book, part of the Chockstone “How to Rock Climb” series. This provides a relatively complete set of skills and exercises for handling technical climbing rescue in a manageable format. We’ve found that actual practice of these skills is a bit of a rope management nightmare (in part because of additional safety lines), and best done with more than the usual amount of deliberate caution.

To that we add basic instructional techniques and supervised teaching practice. Since one of our number teaches in the Universitys education school, we rely on that and dont have any specific “how to teach field skills” materials generated in-troop. (OK, OK... one of these days we’ll write this up...)

7 Appendix A: Signal System

This short section is just to outline the official Troop 8 belay and signal system. Our system is based on the NOLS system developed originally by climber Paul Petzoldt. It differs slightly from other North American systems.

As any experienced climber knows, the equipment, when well-placed, is not a problem. Carabiners and ropes used properly can take shock loads well in excess of what a human body is able to withstand. The critical link is the human one — everything depends on the skill and attention of the belayer, who controls the flow of rope to the climber. Good communication based on standard signals is critical to guiding the belayers actions and ensuring the safety of the climber.

7.1 The Start Sequence

Because the belayer is the key to safety, the belayer starts the sequence. The climber can encourage him to begin (“You set?”) but must wait.

Everything in our signal system is based on syllables. This is important to safety, because in real multi-pitch climbing (or real top-roping) sounds don’t carry well. Making the signals syllable dependent helps increase the safety margin when shouting from a mountain top in a strong wind.

The signal system is also based on an “answer-back” for the same reason. The climber or belayer is expected to answer “THANK YOU” to all signals his partner gives — IF he understands them. If the signaller does not hear a THANK YOU, he knows he was not heard and must repeat the signal.

- Belayer: “ON BELAY!” (3 syllables)
- Climber: “THANK YOU” (if not yet ready) (2 syllables) “CLIMBING” (when ready to climb) (2 syllables)
- Belayer: “CLIMB!” (1 syllable)

Note that the North American system used by OB finishes with CLIMB ON or CLIMB AWAY, which can be confused for other two-syllable signals and which should not be used in Troop 8 scouting.

It is important that the seriousness of belaying be conveyed repeatedly. Once a person says “ON BELAY” he is responsible for the other persons life; his brake hand can never leave the rope no matter what.

7.2 While Climbing

While climbing, most signals come from the climber. One syllable signals indicate a request for releasing rope, while two-syllable signals indicate a request for taking in rope.

- Climber: “SLACK!”
- Belayer: “THANK YOU!” (belayer then releases 3–5 feet of rope and stops — if climber needs more, he’ll ask again).
- Climber: “UP ROPE!”
- Belayer: “THANK YOU!” (belayer then takes in rope until he “feels” the climber on the end)
- Climber: “TENSION!” (this is an “Oh No!” signal usually given right before a fall)
- Belayer: “THANK YOU!” (belayer takes in rope, pulling hard to remove all stretch and actually support a bit of the climbers weight, then secures in belay position).
- Climber: “FALLING!” (sometimes “OH SHIT!”)
- Belayer: (secures climber in belay position) “THANK YOU!”
- Climber or belayer: “ROCK!”
- Partner: (getting out of the way of any falling object) “THANK YOU!”

“ROCK!” is the universal signal used whenever anything — rock, tree, human, etc. comes free-falling off the cliff. The size and danger posed by the object is proportional to the panic in the signalers voice. rock may mean a small twig. “ROOOCCCCCKKK!!!!” may signify a small boulder. Person(s) below should get out of the way intelligently. The direction depends on circumstances, but avoiding falling objects only requires a step or two, not a frenzied run. Often, plastering oneself close to the cliff is a good choice, because falling items tend to bounce off of protrusions and end up several feet from the cliff at the bottom.

The exception is “ROPE!” which is used while tossing a rope from above when setting up a system.

7.3 Ending A Climb

If you are using a Yo-yo belay, so that the belayer is at the bottom of the cliff, when a climber reaches the yo-yo carabiners hes “made it.” He then calls

- Climber: “TENSION!”
- Belayer: “THANK YOU!” (pulling tension to take climbers weight)
- Climber: “LOWER ME!”
- Belayer: “THANK YOU!” (belayer then lowers climber slowly back down rock face as a controlled rappel).
- Once a climber is totally safe — back on the ground, or on the cliff well away from the edge (usually behind the belayer), he ends the sequence:
- Climber: “BELAY OFF!”
- Belayer: “THANK YOU!” (belayer then releases brake hand, undoes system)

Belayers should be cautious about accepting a “Belay Off” command from a new climber, and should make sure the climber is in a very safe location (away from the edge!) before acknowledging the signal.

7.4 Rappel Signals

If a belayer is used, the signals for this are the same as a regular climb — ON BELAY, CLIMBING, CLIMB — even though the person is really rappelling rather than climbing. This is done for a roped belay, or for a bottom belay (a person standing with his hand on the rope at the bottom, who is able to stop the rappel by pulling downward on the rappel rope). Often adults or older boys will provide a bottom belay out of habit or for extra safety, even when the rappeller is experienced and one would not be required; this will typically be done without the on belay signal. BELAY OFF finishes at the bottom. When there is no belayer but the rappeller is above others, a shout of “RAPPEL ON” alerts the folks below to the descent (and the possibility of rocks or other falling objects being kicked off by the rappeller). For both belayed and unbelayed rappels, there is an additional signal, used to indicate that the rope is now ready for the next person to come down. This is OFF RAPPEL AND ALL CLEAR, and is used only when the rappeller is off the rope and well away from the cliff face (otherwise he could be hit by rocks dislodged by a new rappeller). If he cant get clear (as with a rappel to a mid-station on a multipitch route), the signal is simply OFF RAPPEL.