Rock Climbing Fundamentals

Essential Terms, Techniques, and Tips for the New Climber

A MOJA GEAR PUBLICATION

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About

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A Brief History of Climbing

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A Brief History of Climbing

Prior to the evolution of modern rock climbing, the most daring ambitions revolved around peak-bagging in alpine terrain. The concept of climbing a rock face, not necessarily reaching the top of the mountain, was a foreign concept that seemed trivial by comparison. However, by the late 1800s, rock climbing began to evolve into its very own sport.

There are 3 areas credited as the birthplace of rock climbing:

1. Elbe Sandstone Mountains, Germany
2. Lake District, England
3. Dolomites, Italy

Italy's Dolomites were a birthplace of modern climbing.

unsplash

Meanwhile, in the United States, daring summits started trickling in by the country's early climbing visionaries. Examples include: John Muir's ascent of Cathedral Peak, Tuolumne Meadows, California (1869), George Anderson's summit of Half Dome, Yosemite, California (1875), and the first ascent of Devils Tower, Wyoming (1893).

Gear Improvements Advance Rock Climbing

Various technical developments over the upcoming decades led to far greater possibilities. These included the modern piton (1910), steel carabiner (1910), stoppers/chockstones (late 1920s), and nylon rope (1940s).

In the 1940s, climbing started gaining wider attention with feats such as John Salathé's attempt at Lost Arrow Spire in Yosemite Valley, California. During this 1946 attempt, he placed one of the first bolts in the park.

In the 1950s, John Gill led the development of bouldering, a style of rock climbing on boulders (usually less than 20ft (6m) tall), where the climber uses a pad to protect falls. Meanwhile, Warren Harding led a 1958 ascent of *The Nose* (2,900ft/880m) of El Capitan, spending 45 days on the wall to reach the summit (the record now stands at 2 hours and 23 minutes, held by Hans Florine and Alex Honnold).

The Golden Era: Yosemite

The 1960s were a period of further development in Yosemite with the predominant use of aid climbing tactics, in which climbers pulled on gear to assist their ascent. This evolved into trad and clean climbing ethics in the 1970s, which compelled climbers to shift away from the use of pitons, known to cause permanent damage to the rock. These were replaced by hexcentrics (invented by Tom Frost and Yvon Chouinard) and later, the spring-loaded camming device (simply called a *cam*, invented by Ray Jardine)—both being removable forms of protection that leave no trace on the rock.

Piton


Hexcentric

Click the underlined words to learn more about each topic.

Hint: some links won't work unless this document is downloaded to your computer or tablet. For best results, download the PDF instead of viewing online.

Yosemite continues to be one of the world's premier climbing destinations, attracting climbers from all corners of the globe.

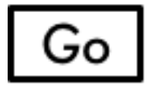
unsplash

Sport Climbing Gains Traction

Sport climbing—today's most popular form of roped climbing—was a highly controversial practice during its early inception in the 1980s. Much of the backlash was due to the impact of drilling bolts into rock, a stark contrast to clean climbing. During this time, sport climbing pioneers such as Alan Watts scoured the walls of Oregon's Smith Rock State Park to find lines that could be established using bolts drilled into crack-less rock faces.

The controversial practices of sport climbing spread quickly throughout the United States, seeing an explosion of growth in the 1990s. Meanwhile, challenging pursuits in the trad climbing realm continued—notably Lynn Hill's 1993 *free ascent* of El Capitan's *The Nose* in Yosemite … a feat previously deemed impossible by many climbers.

Lynn Hill's free ascent of *The Nose*.



A "free ascent" means using only your hands and feet to ascend, while gear offers protection in the case of a fall. This is contrary to aid climbing where a climber may pull on pieces of gear to help him or her through challenging sections of rock. Before Lynn Hill, *The Nose* had only been aid climbed.

In the late 1990s and throughout the 2000s, Santa Cruz native, Chris Sharma, achieved a series of prolific sport climbing ascents through a new, highly dynamic style of movement. Notably, Chris climbed America's then-hardest route at 15 years old, *Necessary Evil* (5.14c), and later established the first 5.15a-graded route, *Realization*. He was widely considered the world's greatest rock climber and played a key role in bringing the sport to a wider population.

Chris Sharma on *Joe Mama* (5.15a)

Go

Rock Climbing Now and Into the Future

Today, rock climbing has begun to attract mainstream attention, thanks to ascents like Tommy Caldwell and Kevin Jorgeson's Dawn Wall project, and Alex Honnold's daring free solos. Meanwhile, the gym climbing environment, which serves as a starting spot for most new climbers, has seen tremendous growth. While rock climbing is still seen as a fringe activity by many, climbers are consistently pushing the grades and limits of possibility, leaving ample room for significant breakthroughs in the upcoming decades.

2

Styles of Climbing

progress

Styles of Climbing

Rock climbing implies ascending rock faces with specialized climbing shoes and using your bare hands against the rock. This is not to be confused with mountaineering, which often involves mountaineering boots/crampons, ice axes, and hefty gloves.

There are three primary styles of rock climbing: bouldering, sport climbing, and trad climbing.

Bouldering

The simplest form of climbing, bouldering entails climbing on boulders—typically less than 20ft(6m) tall—using crash pads to protect the climber in the event of a fall. Gear is minimal, only requiring shoes, a chalk bag, and a pad. Given its small financial investment, many climbers find bouldering to be an approachable starting spot. Bouldering is typically characterized as having a few, very difficult moves rather than the sustained endurance often required for roped climbing.

Nina Williams tackles some of Bishop, California's notoriously tall boulders.

Go

Bouldering's simplistic nature is a draw for many climbers.

Michael Lim

Sport Climbing

Sport climbing relies upon pre-drilled bolts to serve as anchor points while ascending a rock wall. Whereas bouldering may consist of only a few very difficult moves, a comparably difficult sport climb may involve dozens of more moderate moves. To compare this to running, you may think of bouldering like a 100m dash—requiring explosive power. Sport climbing, on the other hand, would be more comparable to a 400m lap around a standard track—still quite powerful, but requiring excellent stamina.

Note the difference between *top rope* and *lead* climbing.

Top roping is common in gyms: the rope goes from the belayer up through the anchor and then down to the climber. Falls are generally very short.

Lead climbing is when a climber is clipping the rope into protection points (bolts or trad gear) while ascending, with potential for much bigger falls.

When sport climbing on lead, the climber clips the rope to quickdraws as he or she ascends.

Michael Lim

Trad Climbing

Short for "traditional," trad climbing requires the use of cams and nuts (frequently called *protection*) placed into cracks to protect a climber in the case of a fall. Thus, instead of clipping to pre-drilled bolts, it is the climber's responsibility to properly place removable gear into the rock that he or she clips to. This is the predominant climbing style in crack climbing destinations like Joshua Tree, Yosemite, Moab, Devil's Tower, and more.

James Pearson on trad lines in South Africa.

Go

Single vs. Multi-Pitch Climbing

For both sport and trad climbing, routes are either one or multiple *pitches*.

A single-pitch route (pictured) is one that can be completed with a single length of the rope. Most ropes are about 60m, so single-pitch routes are *often* 30m or less, allowing for enough rope to lower back to the ground.

Multi-pitch routes necessitate that climbers climb one rope length to an anchor. From the anchor, they set up on belay again for another pitch, repeating the process until they reach the top. Some of Yosemite's walls are 30+ pitches, whereas destinations like Ten Sleep, Wyoming are renowned for their single-pitch sport climbs.

Michael Lim

Other Styles

Beyond the three styles outlined on previous pages, other styles of climbing involve:

- **Aid climbing:** pulling on gear to aid your ascent rather than using just your hands and feet; the opposite of this is free climbing, which is what most of us are doing each time we climb (not to be confused with free soloing)
- **Free soloing:** rock climbing at heights beyond bouldering, but without any ropes or protection
- **Ice climbing:** climbing ice faces with ice axes and crampons
- **Alpine climbing:** rock climbing in alpine/mountainous terrain
- **Dry tooling:** using ice axes on rock, not ice

Ammon McNeely takes an aid whipper.

Go

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An Overview of Climbing Gear

progress

An Overview of Climbing Gear

The following is a simplified version of gear that you will likely encounter during your early years of climbing. Recommendations are unbiased, based on personal experience and product reputation within the community. Clicking "buy" buttons will take you to further product information.

Purchases made upon clicking the links from our website support our free content.

Links will break and gear evolves, so ensure that you have the newest version of this eBook before proceeding. Get the latest edition here.

Shoes

Climbing shoes utilize sticky rubber and a tight-fitting form to enhance your sensitivity and friction on the rock. There’s a spectrum that climbing shoes come in, generally ranging from greater comfort to greater performance. High-performing aggressive shoes tend to be stiffer and less comfortable, while the most comfortable shoes may yield less precision and/or power. Generally, you want your shoes to provide a very snug fit (when not wearing socks), slightly curling your toes.

Shoes vary in their *stiffness*. A stiffer toe box yields itself to better performance on thin edges, whereas a softer toe box is often better for friction-based footholds that don't have rigid edges. Essentially, the softer toe box better conforms to the rock, enabling more surface area of rubber to come into contact. This technique is called *smearing*. Stiff toe boxes, on the other hand, provide excellent precision and power but don't conform to the rock quite as well.

Katherine Bush

high

La Sportiva TC Pro

BUY

La Sportiva Miura

BUY

La Sportiva Testarossa

BUY

5.10 Anasazi LV / VCS

BUY

La Sportiva Katana

BUY

Scarpa Instinct VS

BUY

La Sportiva Tarantula

BUY

5.10 Moccasym

BUY

Butora Acro

BUY

low

Price

all-around

aggressive

Performance

Chalk and Chalk Bag

Sweaty hands while climbing necessitate a drying agent: chalk. Just as gymnasts chalk up for the rings, climbers use chalk to maintain dry hands while grabbing holds. You can generally purchase loose chalk, block chalk, or a chalk sock. The end result is the same, but a chalk sock is useful for conserving chalk and preventing spills. All chalk is stored in a chalk bag, which has a fastening closure, a means to attach to your waist, and a brush holder, as well. Some boulderers prefer a chalk bucket, which is basically an oversized chalk bag that does not attach to your waist.

The Moja Gear Classic Chalk Bag.

Go

Brush

While chalk works well for keeping your hands dry, too much chalk on climbing holds can make them slippery when it overpowers the hold’s texture. This limits the amount of friction you can obtain. When holds get too chalky, give them a gentle brush. Some climbers use specialized climbing brushes, but even a soft-bristled toothbrush can do the trick (just don’t use wire bristles—they’ll damage the rock!).

Crash Pad

Used for bouldering, crash pads are your cushion when you fall. It’s worth limiting the amount of sleeping, cooking, climbing-film-watching, and general hanging out you do on your crash pad in order to better preserve the foam. But, who are we kidding ... crash pads make stellar sleeping pads! Most crash pads are a fairly standard size of roughly 4ft x 3ft x 5in, but you can also find thin, small pads designed to fill the cracks between regular pads that are aligned beside each other under a climb. If you don’t mind hauling the load, oversized pads are useful to provide a larger safe landing area—especially for highball boulders!

value	custom design	big landing
		
Mad Rock Mad Pad	Organic Pads	Metolius Magnum
BUY	BUY	BUY

Jamie Finlayson bouldering in Squamish, BC.

Michael Lim

Harness

All roped climbing and rappelling requires a harness, which includes gear loops, a belay loop, leg loops, and hard points for tying into. Lightweight harnesses often have less cushion and are better suited for 1 or 2-pitch sport climbs, whereas heavier harnesses generally have more padding that makes them the ideal choice for all-day adventures where you may be on the wall for hours on end.

Here are our top picks for all-around, lightweight/ performance, and comfort harnesses.

	all-around value	performance	comfort
men's	 Black Diamond Momentum BUY	 Petzl Hirundos BUY	 Metolius Safe Tech Deluxe BUY
women's	 Black Diamond Primrose BUY	 Petzl Selena BUY	 Metolius Safe Tech Deluxe BUY

Rope

For most purposes, your rope of choice will be a single dynamic rope. A “single” rope implies that it’s one piece of rope (some climbers use two simultaneously, called *twin* or *double ropes*) and the term “dynamic” means the rope stretches—enabling it to absorb some of the force during a fall. Thicker ropes (generally above 10mm) provide greater durability and are an excellent choice for top rope climbing, while thinner single ropes (below 10mm) are lighter and better suited for lead climbing. Dry treatment describes a rope’s ability to wick away water; while not as important for most rock climbing (as you likely won't climb in rain), it serves as a crucial feature in alpine environments because it prevents ice from forming on the rope.

Find rope recommendations in our buying guide, on right.

Climbing Rope Buying Guide: Choosing for Lead, Top Rope, and the Gym.

Go

Belay / Rappel Device

This is used to catch your partner when he or she falls, and also used for rappelling from the top of a climb. There are two primary forms: an ATC or a GRIGRI. ATCs (short for *air traffic controller*) are simple and inexpensive. These devices have no moving parts and rely solely on your close attention to properly brake the rope when catching a fall. A GRIGRI, however, utilizes a camming design that applies high amounts of friction to the rope during a fall, assisting the belayer with braking. To put this into context, if falling rock knocks a belayer unconscious or the belayer has a sudden lapse in attention, a GRIGRI provides back-up security for the partner on the wall.

Note that you can't put two strands of rope through a GRIGRI, so you'll typically need an ATC for rappelling.

View belay / rappel gear recommendations.

Carabiners

There are far too many uses for carabiners than can be easily presented here, but at the most basic level they are used to attach things: attaching the rope to an anchor point on the wall (in the form of a quickdraw), attaching your belay device to your harness, attaching yourself directly to an anchor, etc.

Carabiners are either *locking* or *non-locking.* Locking carabiners often have a twisting component (called a screwgate) to secure itself shut. Locking carabiners are necessary for belay devices and/or setting up a top rope due to their added component of safety. Some locking carabiners are *auto-locking*, providing an added level of safety in case you forget to screw the gate shut.

Non-locking carabiners are useful for quickdraws where you need to quickly clip the for security.

Belay and Carabiner Recommendations

ATC	ATC (more versatile)	GRIGRI
		
Black Diamond ATC BUY	Petzl REVERSO 4 BUY	Petzl GRIGRI 2 BUY

screwgate locking	auto-locking	non-locking
		
Black Diamond Positron BUY	Black Diamond Magnetron BUY	Black Diamond Neutrino BUY

Another form of belay device—more popular in Europe than the US—is the Mammut Smart and Edelrid Mega Jul. While used like an ATC, these devices provide assisted braking by cinching on the rope (similar to a GRIGRI). We endorse these devices and feel that they provide added safety over an ATC when properly used.

Mammut Smart

Quickdraws

A quickdraw is two non-locking carabiners, connected by a piece of nylon webbing (other, more lightweight materials may be used as a substitute for nylon, such as Dyneema). The most common use of a quickdraw is to connect one carabiner to a bolt on the rock wall, while the rope is clipped through the other carabiner. This happens in lead climbing so that when the leader falls, the rope catches on the most recently placed and clipped quickdraw, as seen in this earlier photo.

value	all-around	top tier
		
Mad Rock Concorde 6-Pack	Black Diamond PosiWire 6-Pack	Petzl Spirit Express
BUY	BUY	BUY

Stoppers and Cams

Used for trad climbing, stoppers (also called *nuts*) are aluminum chocks placed into constricting cracks to catch a climber. They serve the same purpose as a bolt, but without damaging the rock. Cams (short for *spring-loaded camming devices*, or *SLCDs*) have multiple lobes that expand and press in opposing directions against the sides of a crack. Cams have the ability to work in parallel-sided cracks, whereas stoppers need a constriction to be most effective. Stoppers are categorized as *passive protection* because they have no moving parts, whereas cams are categorized as *active protection*.

stoppers	small cams	bigger cams
		
DMM Wallnuts	Black Diamond X4s	Black Diamond C4s
BUY	BUY	BUY

Webbing, Accessory Cord, and Runners

Tubular webbing is flat nylon material, sometimes used to set up anchors or a rappel. Accessory cord (about 6mm in diameter) is also used for setting up anchors or a rappel, but it is more compact than webbing when hanging on a harness. A useful length of accessory cord for most circumstances is 20-25ft (6-7.5m). Lastly, runners (sometimes called *slings*) are used in various circumstances, with a primary purpose being for *extension* of your protection. For example, if a route is zig-zagging left and right, short quickdraws can create excessive rope drag since the rope is zig-zagging, as well. Using a runner extends the distance between the bolt/cam/nut and where the rope is clipped, therefore creating less drag.

Accessory cord can also be used to create *friction hitches*, such as a Prusik. This is especially useful as an added safety measure while rappelling.

Learn more about using a Prusik here.

accessory cord	tubular webbing	runners
		
Sterling Cord	BlueWater Climb-Spec	Black Diamond Runner
BUY	BUY	BUY

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Introduction to Common Climbing Holds

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Introduction to Common Climbing Holds

Walking into any climbing gym, one is bound to hear seemingly nonsensical jargon when climbers describe the holds on their latest project. Rest assured that you too can speak this language upon learning the terms for these holds:

Jug

The most brilliant of holds, jugs are big ... so big that you can fully wrap your fingers over the hold to give it a solid grasp. You'll find many of these on beginner climbs, with far less frequency at higher grades.

Pinch

Pinches are holds that you wrap your thumb around on the opposing side of your fingers, using a pinching gesture to secure your grasp. While pinches tend to be vertical in orientation, pinching horizontal holds can be valuable at times, too. *Pinch* is used as a noun and verb in climbing.

Sloper

Slopers do not have strongly defined edges or features, so they necessitate friction to be firmly grasped. The more surface area you cover with your hand on a sloper, the more friction you will obtain.

Crimp

A hold so thin that it only allows room for the pads of your fingers (area beyond your outermost joint). Beginner climbs have few crimps, but harder grades tend to have an increasing number. As a new climber, it’s important to be cautious in grabbing crimps as they can easily cause tendon injury. While a crimp is a type of hold, it is also a verb (i.e. the action of crimping a thin hold).

Jug

Pinch

Sloper

Crimp

So iLL Climbing Holds

Other Features to be Aware Of

The four holds previously mentioned constitute the majority of hold varieties, but other terms commonly used include:

- **Arête:** not necessarily a hold, but an arête describes the corner of a rock feature or wall where one can grab
- **Chip:** common terminology for a small, thin foot hold
- **Gaston:** a hold in which the climber must face their palm outward (thumb down), then push out to the side of their body
- **Rail:** typically a horizontal hold that provides room for both hands; for example, a long, horizontal crimp
- **Side-pull:** a hold oriented in a manner that requires you to pull perpendicular to your body (thumb up)
- **Undercling:** a hold oriented in a manner requiring you to flip your hand (palm up) and pull upward to grasp; it is helpful to have high feet when pulling on an undercling

Jamie Finlayson on an arête boulder problem.

Michael Lim

5

Basic Technique for New Climbers

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Basic Technique for New Climbers

A mindset to maintain during your early climbing days is to focus on getting better, not stronger. While strength (and strength-to-weight ratio) is an important factor in climbing, solid technique will build a foundation for your climbing that will take you far beyond what can be achieved by just getting strong. Utilizing proper technique first will make you more efficient and controlled; a better climber and in the end, a stronger climber.

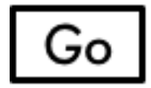
As follows are 3 basic techniques to master; doing so will drastically improve your performance.

Maintain Relaxed, Straight Arms

With sweat dripping and bent strained arms clenching, the unnaturally strong gym-rat-turned-rock-climber falls off in exhaustion after his 5th wildly unnecessarily powerful movement of the short boulder problem.

Climb at any gym and you'll see the above happen. While it may be humorous when you see this performance backed by a large ego, it points to a very simple mistake in technique: over-gripping and over-straining. As much as possible, you want to maintain long, relaxed arms while climbing. It feels counterintuitive because flexed arms seemingly provide a more powerful grip, but this leads to quick exhaustion and fatigue. So, any time you catch yourself with bent arms, pause, take a breath, and relax into a straight-armed position.

Demonstration of climbing with straight arms.



Correct breathing habits will allow for greater relaxation. Learn more in our article: How to Breathe: Techniques for Rock Climbing.

Utilize Proper Hip Technique

A general rule of thumb is this: whichever hand you're reaching with, position that hip against the wall. If you walk to a wall in the room right now (try it out!) position your right leg, right hip, and right arm against the wall. Now reach to the sky with your right arm. Note how far up the wall the tips of your fingers are.

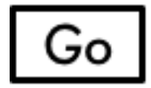
Now, from the exact same body position, drop your right arm and try to reach the same height with your left hand. As you can see, when reaching over your body in this manner (reaching left arm with right hip against the wall) you get far less extension. The same applies when climbing. For greater extension and more natural movement, turn the hip of the hand you're reaching with into the wall.

Feet First, Hands Second

It’s common practice for new climbers to just look up, with feet being an afterthought. However, only looking for the next handhold will often result in losing sight of the most efficient position, making the moves harder and draining your stamina faster.

Try this: before each time you move a hand, ask yourself: *Are my feet in the most ideal position to make this a fluid and natural movement?* At first you may not know the answer, but as you learn more about your body and its movement, you will naturally be able to ensure that your positioning is correct prior to moving each hand. If you find this challenging at first, don’t be turned off; above all it’s an awareness exercise that will drastically aid in your proprioception.

Demonstration of proper footwork technique.



Quickly improve your footwork by reading our feature about this trick: silent feet.

6

Belaying Fundamentals

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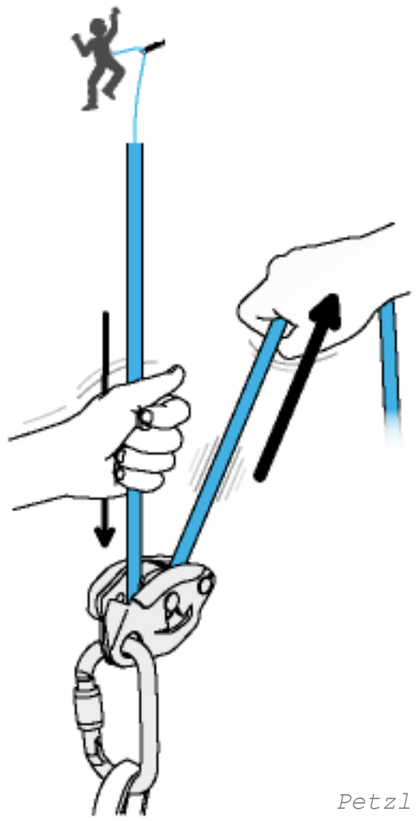
Belaying Fundamentals

We advise to get trained in belaying from a mentor or in a class. However, the essentials of belaying are quite simple and it's paramount that you perfect this form.

Top Rope Belaying with the PBUS Method

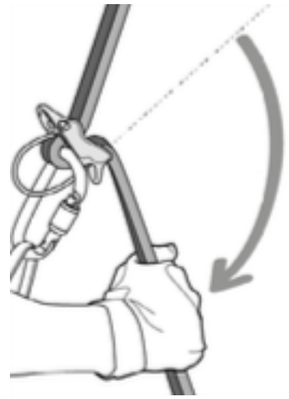
Our recommended top rope belaying technique for both GRIGRIs and ATCs is the PBUS method, which is a four-step process of **p**ull, **b**rake, **u**nder, **s**lide.



Petzl

Pull: The pull is a simultaneous action of pulling with both your *guide* and *brake* hands in harmony. If using your right hand as the brake, the pulling motion will consist of gently pulling down with the left hand and outward with the right (seen in photo). These motions are to be done simultaneously so that extra slack doesn't enter the system.

Brake: Towards the end of your pulling motion, the brake hand should immediately go down towards your hip into a brake position. This pull-to-brake motion should be fluid and in the shape of a slight curve.



Petzl

Under: With your right/brake hand in breaking position near your hip, take your left/guide hand and place it under the brake hand.

Slide: With your left hand now under your right, slide your right/brake hand back up toward the belay device, *ensuring that it never leaves the rope*. After sliding, return your left hand to the climber's end of the rope, ready to repeat the process.

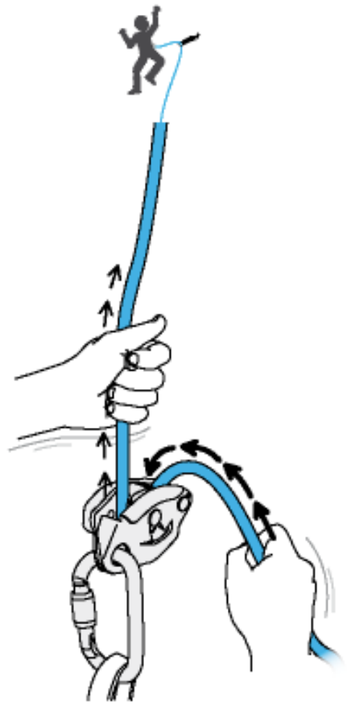
Watch the PBUS method in action.

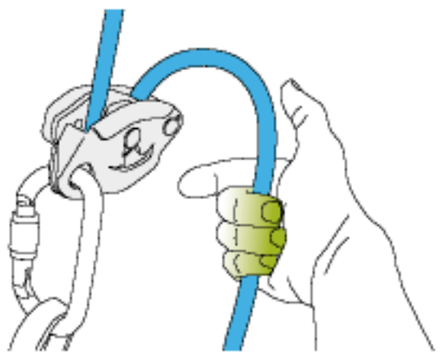
Go

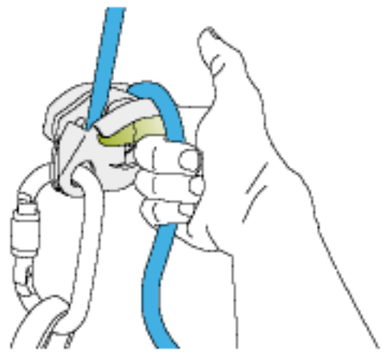
Feeding Slack

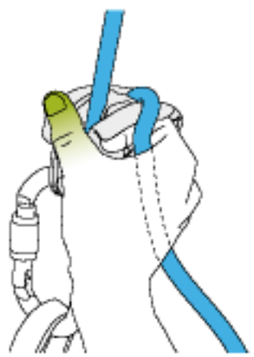
Giving out slack to your climber is sometimes necessary when top rope belaying, but more commonly it's always done while lead belaying.

In this process, your brake hand *never* leaves the rope. If using either a GRIGRI or ATC, the method for feeding out slack is the same: simply guide the rope through the belay device (seen on right). At times, you may have to feed slack very quickly which—if using a GRIGRI—may cause it to lock up. *Only when quickly feeding out slack* should you put your thumb onto the device to deactivate its camming/assisted-braking action, as demonstrated below.









Petzl

Related: get our free eBook: *Ultimate Guide to Rock Climbing Knots, Bends, and Hitches.*

Go

7

Climbing Grades, Explained

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Climbing Grades, Explained

For purposes of this guide, we will focus on the primary bouldering and roped climbing grading systems found in the United States. A translation chart for international grading scales is presented on the following pages.

Typically, the first individual to complete a route gives it a grade. Community consensus or broken holds can result in the grade of a route changing over time.

Bouldering Grades: V-Scale

Generally referred to as the *V Scale*, modern bouldering grades in North America were developed by John 'Vermin' Sherman in Texas' Hueco Tanks State Park in the 1990s. This scale ranges from V0-V16, although it is open-ended with the potential to go beyond the current V16 limit. Occasionally, the designation of *VB* will be given to climbs easier than V0, with the "B" representing "basic" or "beginner."

Roughly speaking, new climbers will spend their time in the V0-V3 range, with V4-V6 reflecting intermediate level bouldering. Advanced boulderers may climb around the V7-V11 range, with V12+ reflecting the upper echelon of the sport. It's not unusual for gym grades to be easier (termed *softer*) than what's found outside.

Michael Lim

Sport and Trad Climbing Grades: Yosemite Decimal System (YDS)

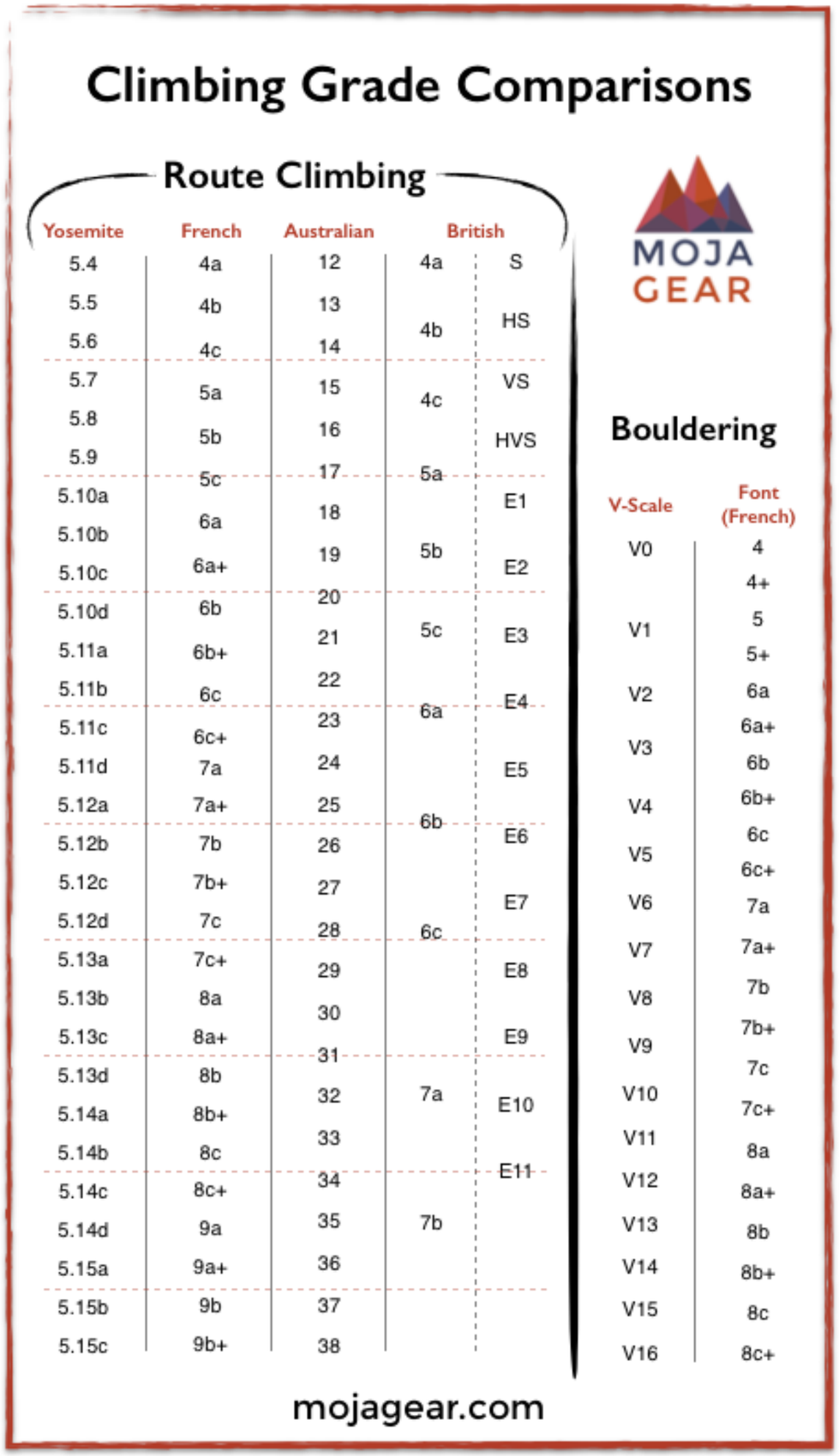
The Yosemite Decimal System is North America's primary method of grading roped climbs. This system is divided into five classes:

- Class 1: relatively flat terrain
- Class 2: simple scrambling, with hiking boots recommended
- Class 3: scrambling with greater exposure and the use of hands
- Class 4: simple climbing and some individuals may seek a rope; falls could be fatal
- Class 5: technical free climbing where a rope is highly recommended and unprotected falls are likely fatal

Our focus in this guide is class 5 climbing grades, which range from 5.0-5.15c, with the potential to develop beyond the 5.15c limit. Grades 5.0-5.9 are strictly numeric, although a plus(+) or minus(-) may be used to indicate a climb being at the harder or easier end of the grade (i.e. a hard 5.9 may be called a 5.9+ in some climbing areas).

Initially, 5.9 was to be the top of the scale. However, harder climbing required further development of the grades, and eventually the letter designations of a, b, c, and d. Therefore, grades 5.10 and above incorporate a number and letter to designate increasing difficulty.

It's important to note that grades vary greatly depending on location, and what you find indoors is likely far different than outside. Further, areas established in the early era of climbing are often stiffer in their grading than newly-developed locations (a Yosemite 5.10 trad climb is going to be far more difficult than a newly-bolted Red River Gorge 5.10 sport climb).



8

General Tips and Advice for New Climbers

progress

General Tips and Advice for New Climbers

While you're getting started, there's one key trick to progress: CLIMB … a lot! Some new climbers find themselves able to climb nearly daily, whereas other new climbers opt for 2-3 days per week. Less than 2 days per week at the gym or crag and progress will be a slower journey. As follows are tips to get the most out of your first 6 months.

Avoid Injury

As many experienced climbers can attest, injury is one of the primary restrictors from progress. It's important to listen to your body; take sufficient rest as your muscles seek recovery. Here are a few tips for staying injury-free:

- Stay away from tendon-intensive holds and training exercises in your first 6 months. Tendons take longer to gain strength than your muscles, so many newer climbers that progress to thin, powerful crimps too fast will find themselves with injury.
- Use recovery tools to relax your muscles and stimulate healing.
- Train antagonist muscle groups. Rock climbing is composed of mostly pulling motions, which put great strain on your back muscles and biceps. Your fingers, too, are always pulling into the same clenched position. Developing balance with your antagonist muscles is important to avoid injury and climb longer into the future. Try finishing your climbing sessions with a few pushing exercises, such as push ups, and by working your fingers in their opposite direction (two ways to do this: 1) put a few pounds of rice in a bucket, make a fist that you dunk into the bucket, and open up your hand so that your fingers are opening against the pressure of the rice; and 2) use a special finger training device such as the TheraBand Hand Xtrainer).

View our recommendations for the best recovery tools for climbers.

Go

Get Better, Not Stronger

According to Rock and Ice, *"Dani Andrada, a Spanish crusher and one of the best climbers in the world, was rumored to have redpointed 50 5.13b's before he even considered getting on a 5.13c."*

While the grades 5.13b and 5.13c may not be on your current horizon, the message is simple: focus on getting better, not stronger.

Related article: *How to Climb Harder by Climbing Smart and More Efficiently*

Go

Practice Proper Etiquette

Climbers tend to be easy-going. However, there's definitely a code of conduct that's easily overlooked. If you'd like to fit in and not push any wrong buttons, it's important to understand proper etiquette. Here are a few tips:

- Keep the beta to yourself! You shouldn't provide unsolicited tips on how to do the moves of a climb. Many climbers approach their climbs as puzzles, wanting to figure out the moves for themselves. Unless requested, keep the beta to yourself or politely ask the climber: *Would you like some beta?* before speaking.

- Stay aware of whose turn it is to climb. If someone is chalking up near the base of a climb, don’t beat the individual to the wall or hop on an adjacent route that would interfere. Likewise, if someone is brushing the holds of a climb, provide the courtesy of allowing him or her to go next.
- Always climb with your shoes on! This is primarily for gyms, where climbing barefoot is nasty.
- When on ropes, be efficient and allow others to get on the climb. This is particularly true if setting up top ropes: don’t set up the rope and hog the route for hours—give others a turn!
- When outdoors, it's not advised to top rope off the rappel rings at the top of a climb. Instead, use your own quickdraws/carabiners attached to the anchor so that excessive wear isn't placed on the permanent gear.
- Don't climb unsafe—you're smarter than this and your parents wouldn't be happy. It also makes for an uncomfortable situation for everyone else at the crag. Be aware that in many areas, permission to rock climb is on shaky grounds and one bad incident may ruin climbing access for everyone. Be safe out there!

Mix Up Your Climbing Sessions

As a new climber, it's important to get exposed to a lot of different movements and styles of climbing. If you perform best on powerful climbs, consider spending extra time on delicate, technical ones while you develop your climbing skill base. It's also useful to mix up the structure of your climbing sessions: climbing hard and pushing your limits some days, while climbing easy and going for mileage on others. Other ways to mix up your climbing are by getting experience on both ropes and bouldering, or by incorporating various climbing games that keep climbing sessions fun and communal. Which brings us to the most important recommendation …

Michael Lim

Have a Blast

If you're not having fun and contributing to a positive environment, it may be wise to take a few days, a couple weeks, or even more time off while you regain your psych. Many climbers (professionals included) experience climbing in cycles of ups and downs, ensuring to take time off and try something else when motivation plateaus. If climbing isn't feeling right, try getting on a bike, running, practicing yoga, or pursuing another activity. Your body and mind may need a healthy break from climbing … and that's okay! Put simply, follow your intuition and have fun out there.

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Your Responsibility as a Climber

progress

Your Responsibility as a Climber

Migrating from the gym to the crag is a proud moment for many climbers. The feeling of real rock and nature yield a realness ... a connectivity that's harder found in an artificial environment. But, in this transition from plastic to rock, there is often a void of understanding in ethical codes and responsibilities. As you begin in this sport, please set an example for responsible behavior.

Being a responsible rock climber isn't hard—it is simply a matter of being mindful of our core integrity. Below are 3 simple, actionable strategies to be a better steward and climber at the crags.

Pack It Out

Follow Leave No Trace principles and ensure that the environment you're in isn't altered by your visit. Consider this: if everyone packed out just one piece of trash (assuming they don't leave any), we wouldn't have such obstructions at our destinations. This goes for food waste, as well. A simple act is to always pack out one additional piece of waste.

Be Appreciative

The great trails at our crags and clean walls with well-placed bolts don't happen by magic. Countless hours are committed by local climbers throughout the world to make climbing accessible and fun for others to enjoy. Be thankful for the hard work of others.

Give Back

Climbing is built on community and it’s because of the selfless efforts of community members throughout the world that we have rocks to climb on. You can give back by getting involved with a local climbing organization and participating in their events.

On a grander scale, join the Access Fund, the foremost organization for conserving and protecting climbing destinations in the United States. The annual membership fee is nominal—probably less than the gas you buy for your weekend trip.

10

A Simplified Climbing Glossary

progress

A Simplified Climbing Glossary

For a more extensive glossary, visit our online climbing dictionary. In getting started, however, the terms outlined below are some key must-knows for communication, outside of what we have already discussed:

Beta: the specific moves (technique and sequence) necessary for a climb. Example: *I'm having trouble getting past the crux; could you help me out with the beta?*

Crag: a generic term for an outdoor technical rock climbing area. Example: *Will I see you at the crag this weekend?*

Crux: the most difficult section of a climb. Example: *I always fall at the crux!*

Dyno: a dynamic climbing move in which the climber leaps for a hold, completely releasing him/herself from the rock face. Example: *Since he was short, he had no choice but to do a dyno for the next hold.*

Edge: 1) a very thin, rigid hand or foothold; 2) to place the outside or inside edge of the climbing shoe on a thin foothold. Example: *1) The climb is extremely technical because it only has thin edges for your hands and feet. 2) Because my shoes are so soft, they're not as good for edging.*

Flag: a footwork technique in which the climber extends a leg for counterbalance. Example: *To do this move, turn your left hip against the wall, put your left foot on that chip, and you can just flag your right foot.*

Flake: 1) a large piece of rock separated from the wall, creating a crack; 2) to uncoil a rope into an organized stack so that knots or snags do not develop while belaying. Example: *1) After the second bolt, head left and start heading up that flake. 2) Since this is our first time using the rope today, let me flake it to ensure there aren't any knots.*

Flash: to complete a route without falling on the first try with information (beta) about the necessary moves prior to climbing (as opposed to an onsight). Example: *I saw the videos of Joe doing the moves, so when I showed up to do the climb it was an easy flash.*

Lead: to be the first climber up a pitch, clipping bolts or placing protection while ascending. Example: *Would you like me to lead this pitch?*

Onsight: to complete a route without falling on the first try without any information (beta) about the necessary moves prior to climbing (as opposed to a flash). Example: *I love walking up to a climb, knowing nothing about it, and going for the onsight.*

Pitch: one rope-length of a climb. Example: *My friends prefer multi-pitch trad climbing, but my favorite style is hard single-pitch sport climbing.*

Project: a climb one is currently working on; projects may last one day or many years! Example: *I'm heading out this weekend to get a few more tries on my project.*

Pump: the swelling and tightness that occurs in a climber's forearms when reaching points of fatigue. Example: *I find overhanging routes challenging because I always get so pumped.*

Redpoint: to complete a route without falling, placing protection along the way, and without resting on gear; contrary to a flash or onsight, this does not imply that it's the climber's first try. Example: *After a few tries, I successfully redpointed my first 5.11!*

Related article: *How to Avoid and Manage Getting Pumped While Rock Climbing*

Go

Runout: a section of the climb where protection options are limited and there is large spacing between bolts and/or cracks to place gear. Example: *Be careful between bolts two and three because falling during that runout could land you on the ground.*

Sandbag: to grade a route lower than deserved; sandbagged routes can cause a climber to get in over his/her head. Example: *I had to bail halfway up; the route was so sandbagged.*

Send: slang for "ascent;" a common term used when a route is completed. Example: *I just sent my project!*

Slab: a rock face that is less than vertical (leaning slightly away from you), typically with few hand and foot holds, and requiring friction climbing techniques. Example: *Because I'm so used to gym holds, my first outdoor slab climb was horrifying!*

Smear: to use merely the friction of one's climbing shoe on a poor or non-existent foothold. Example: *The slab had no obvious footholds, so I just smeared and my feet magically stuck!*

Stem: to counter-press two widely spaced footholds. Example: *Since the walls come to a corner, you can stem your way up with one foot on each wall.*

Stick clip: tool used to clip the initial bolt(s) of a climb, preventing a ground fall. Example: *A stick clip is recommended because the first bolt is 20ft high!*

Top rope: a style of climbing where the rope supports the climber from above in the case of a fall; this is generally the opposite of lead climbing. Example: *I can top rope about 5.10 but I'm too scared of falling to begin lead climbing.*

Traverse: to climb horizontally rather than vertically. Example: *I was having trouble with the crux, so I managed to traverse a few moves left and found an easier option.*

Undercling: a climbing hold that requires the climber to grasp it with a palm-up orientation, pulling up and/or toward oneself. Example: *To get past the crux, grab the undercling with both hands and get high feet … then dyno to the glorious jug!*

11

Useful Bonus Materials

progress

Useful Bonus Materials

Here are some of our favorite things:

Books

When the climbing bug bites, it can be hard to get enough. Enjoy:

- *The Rock Warrior's Way* - Excellent book for the mental side of climbing.
- *Climbing Free* - A true legend, Lynn Hill writes about rock climbing's Golden Age, the Stonemasters, and free climbing Yosemite's *The Nose*.
- *Freedom of the Hills* - In print for over 50 years, this is a time-tested classic covering knots, outdoor fundamentals, emergency response, and much more.
- *Self-Coached Climber* - One of the best books available on the topics of training and technique, complete with detailed illustrations and exercises.

Find a full list of recommendations in our article, *25 Books Every Climber Should Read*

Go

Additional Free eBooks

We have several free, downloadable eBooks. Join our mailing list to be notified when new eBooks are available.

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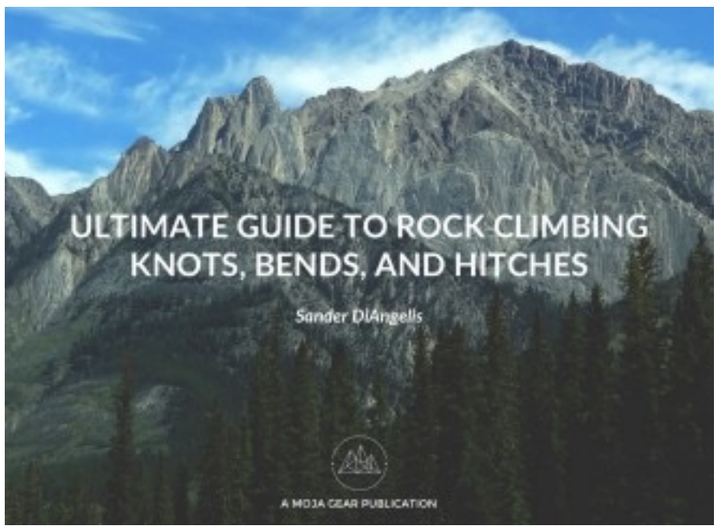

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Your Weekly Climbing Beta

Get a curated selection of community news and updates by subscribing to our weekly email newsletter.

Videos

We add 1-2 new videos to our collection each week. You can explore them here. For technical information, Canadian Mountain Guide Mike Barter has a brilliant YouTube channel, filled with a steady dose of humor.

Social

Tie in by following us on Facebook, Instagram, Twitter or Tumblr.

A Special Thanks...

To Michael Lim for his generous photo contributions. Most of this eBook's imagery is from a one-year road trip Mike took with his brother—his very first year of shooting climbing images. You can follow Mike's work by checking out his website and Instagram, @murkytimes.

Now Get Out There

Thank you for reading our first full-length eBook. We would like to ask for your help in making it better. If you spot any errors, have suggestions for improvement, or simply have a word to say—please share by shooting us an email at hello@mojagear.com.

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