



Teen Treks

Be Adventurous



Great Gear Guide

ABOUT THIS GUIDE

“The wisest mind has something yet to learn”

- George Santayana

Whether you are the most experienced rider or hopping on a saddle for the first time, this gear guide is for you. To the experienced rider this guide will serve to reinforce your knowledge base. For the new rider this guide will make the complex world of bike gear as simple and clear as possible. This guide is based on the knowledge we've acquired over our many years of biking and camping. It is very likely that you will find conflicting information in other gear guides. This is because choosing gear is very much a personal decision based on what you value in gear. Are you most concerned with price, weight, or quality? Any piece of gear will force you to compromise on one of these values. This guide will present all the information you need to make a sound judgment of what gear is right for you!

As always Teen Treks is here to answer any question you may have. Please feel free to give us a call at 716.566.7908 or email us at biketrips@teentreks.com

In addition to this guide here are some great websites that we use as a great source of information:

Recreation Equipment Incorporated (REI)

<http://www.rei.com/expertadvice>

Mountain Equipment Co-Op (MEC)

http://www.mec.ca/AST/Navigation/MEC_Global/Learn.jsp

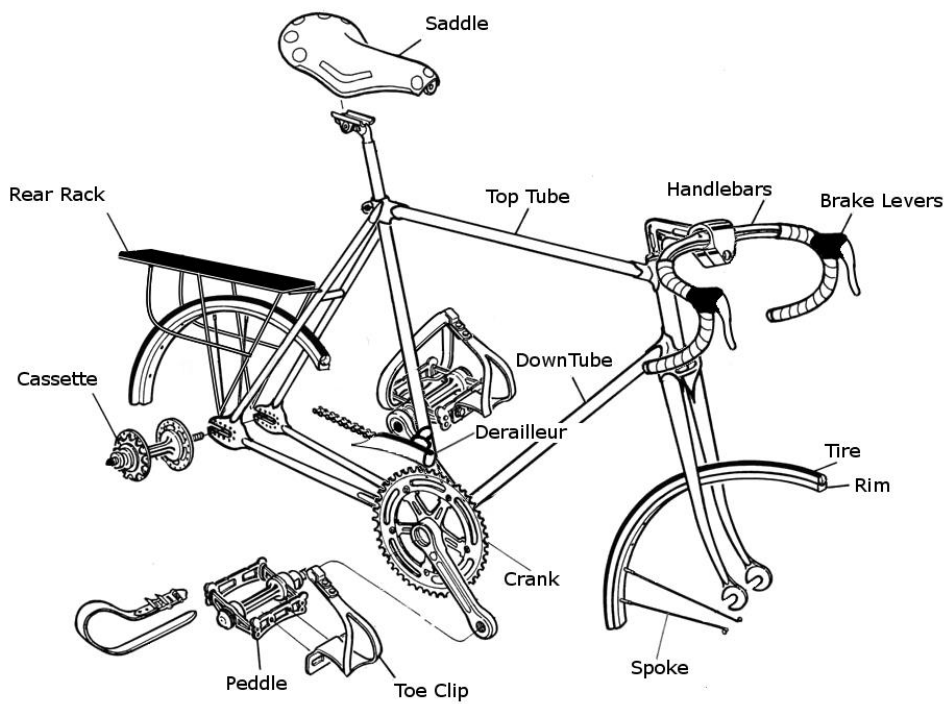


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Patch Kit
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Small Screw Driver
Nuts & Bolts
Tire Levers
Bike Multi-Tool

Packing List

Required Gear			
QTY	Gear Item	Purchased	Packed
1	Rain Coat (Shell Layer)		
1	Fleece Jacket (Warmth Layer)		
5	T-shirts (Comfort Layer)		
5	Underwear		
5	Pairs of Socks		
1	Pants		
1	Shorts (optional: 2 biking shorts)		
1	Bathing Suit		
1	Athletic Shoes		
1	Camp Shoes		
1	Sleeping Bag		
1	Waterproof Stuff Sack or Dry bag for Sleeping Bag		
1	Sleeping Pad		
1	Towel (20" x 40" or smaller)		
1	Personal Toiletries		
1	Pocket Knife		
4-6	Sturdy Plastic Ziploc Bags (Various Sizes)		
1	Cup, Deep Plate, Knife, Fork, and Spoon		
1	Insect Repellant		
1	Sun Screen		
1	Bicycle		
1	Bicycle with 2 brand new tires (puncture resistant recommend)		
1	Helmet		
1	Rear Gear Rack		
2	Panniers (with rain covers or waterproof)		
1	Bell		
1	Pair of Toe Clips		
1	Front Light		
1	Rear Light		
2	Water Bottles and Cage		

Required Gear (Continued)

1	Bicycle Computer		
2	24" Bungee Cords		
1	Bike Pump		
1	Bike Lock		
1	Patch Kit		
1	6" Adjustable Wrench		
Extra	Nuts & Bolts		
1	Bicycle Multi-Tool		
1	Small Screw Driver		
3	Tire Levers		
Extra	Batteries (2 Sets for Flashlights)		

Do not bring the following items:

- **Cell phones**
- **Digital Music Players**
- **Portable Gaming Systems**

Here is a link to a printable version of the Packing List:

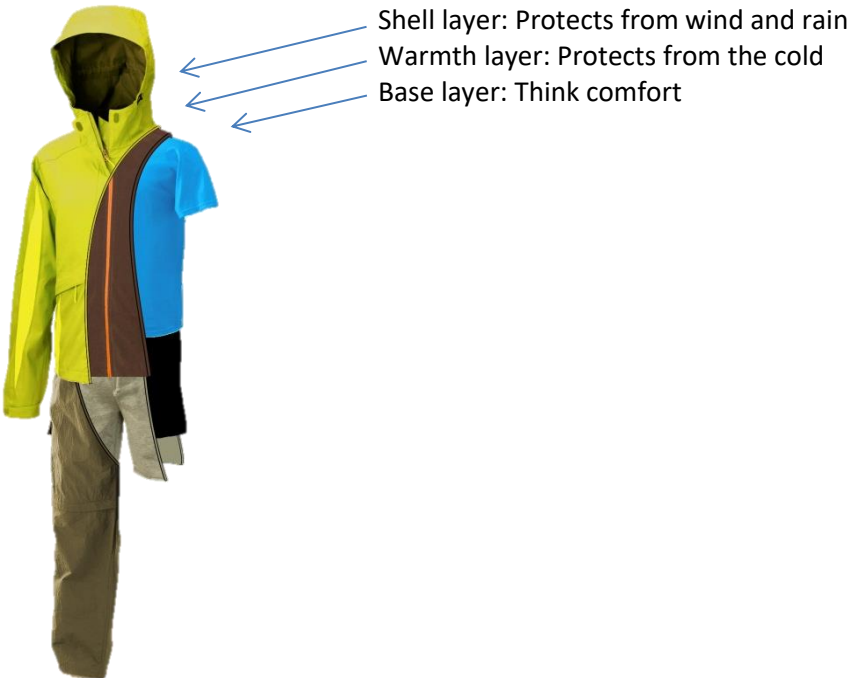
www.teentreks.com/packingchecklist

CLOTHES

How to Dress in Layers

Layering your clothing is the best way to keep you comfortable in the outdoors. Based on your activity level and changes in the weather, you can take layers off or put more layers on to keep you appropriately dressed. By choosing your clothing wisely you can reduce the number of items you must pack, reducing your pack weight and pack size.

The Three Layers



Base Layer: Think Comfort



This is your next-to-skin layer. More than any other layer, the base layer helps regulate your body temperature by moving perspiration away (also called ‘wicking’) from your skin. In our case this is just your plain old T-shirt. Synthetic fabrics are better than cotton, however because Teen Treks is a front-country adventure cotton will do the job.

Warmth layer: Protects from the cold



This is the insulating layer that keeps you warm. A fleece long sleeve sweater is the ideal clothing item for this layer. Believe it or not wool is the best material for this layer. Wool keeps its shape due to the crimp in the fibers. Crimping also creates countless tiny air pockets in fabric capable of trapping air warmed by the body or buffering skin from hot external air. Synthetic insulations are also great material choices.



Shell layer: Protects from wind and rain

The shell or outer layer protects you from wind and rain. The outer shell is an important piece in inclement weather and should be bright colored to increase visibility. Your shell layer should be roomy enough to fit easily over other layers and not restrict your movement. Don't think of this layer as a winter coat!

It should be light enough to wear on a hot, rainy day. Be sure to check the zippers, as this is the most likely source for a leak. A good zipper will have a piece of fabric that covers and protects the zipper. This layer isn't the place to save money, nothing is worse than a 'leaking' shell.



Biking Underwear

Your everyday underwear is absolutely great to use on our trips. However there is a slightly better option, padded underwear. Very similar to traditional padded biking shorts, padded underwear provides all the comfort, but is meant to be worn under your shorts. For those Teen Trekkers who are concerned with style this is a great option.

While you wouldn't want all your underwear to be padded (you will spend time off of your bike) it's a good idea to include one or two pairs of these. Your bottom will thank us.



Socks

For a Teen Treks adventure your everyday socks will work great. There are special moisture wicking socks that will help keep your feet dry (your feet can sweat up to a cup of water per day while biking, Gross!) but they aren't really necessary.



Pants

A good pair of pants is needed for our trips. You aren't likely to wear them while riding but will want them for those cooler nights camping and pants can be a protective barrier from mosquitoes at buggy campsites. Pants with lots of pockets, such as cargo pants are very handy to tuck away bike lock keys and flashlights. Your standard jeans are not ideal for the trip because they are often heavy and bulky.



Shorts

Traditional padded bike shorts are the best choice (See the underwear section for a great alternative). Most teens bring average athletic shorts and they will do fine.



Biking Shorts

Many cyclists prefer the extra padding provided by biking shorts. They are easy to hand wash and fast drying. Biking shorts are not required and Teen Trekkers are typically fine with regular shorts.



Bathing Suit

Not much to say here. Bring a bathing suit that you are prepared to use often!



Athletic Shoes

Athletic shoes are ideal for a Teen Treks adventure, because they are great both on and off the bike. Cross – training style shoes are better because they are wider in the ball of the shoe, as opposed to a running shoe which is slightly narrower with less support. If possible, the tip of your shoes should have a solid strip of fabric/plastic. This just adds a little cushion between your toes and the toe clip.



‘Camp’ Shoes

‘Camp’ shoes are a second pair of light flip flops, keens, or crocs that let your feet breathe at the end of the day. They should be totally waterproof (meaning getting them wet is not a problem) because it is a good idea to wear them while swimming and in campsite showers. It is important to know that under no circumstances will you be wearing these shoes while riding.



Biking Gloves

Biking gloves can help protect a cyclist's hands from blisters, vibrations, and in the case of a fall, abrasions. Gloves with air vents are best for summer riding. Teen Trekkers typically do just fine without biking gloves.



Sunglasses

Sunglasses are great to make sure that even on the brightest day you can see the road ahead of you. Any style of sunglasses will work on a Teen Treks trip.

SUPPLIES

Sleeping Bag

The 3 Key Factors



Temperature rating: Choose a bag rated for the coldest temperature you expect to encounter. The temperature a bag is rated for is usually in the name of the bag, i.e. the Mountain Hardware Spectre20 is rated for 20 degrees Fahrenheit.

Weight vs. roominess: You want to keep weight low without jeopardizing comfort; most bags try to strike a balance between these extremes. Unfortunately there is no formula we can provide to measure how comfortable your bag needs to be. We recommend you go to a store with the mindset “as light and small as possible” but with the realization that you need to get a good night’s sleep. Don’t be afraid to actually get in a sleeping bag to see how it feels, we never buy a bag without giving it a test ride! A good rule of thumb is that the bag should be smaller than two volleyballs.

Type of insulation: There are 2 types of fill: goose-down and synthetic. While goose-down will keep you warmer, synthetic is far more cost effective and better at dealing with wet conditions. Both will work for a Teen Treks adventure.



Waterproof Stuff Sack: Make sure your sleeping bag has a waterproof stuff sack or dry sack. You don't want your sleeping bag to get wet when it rains!

Sleeping Pads

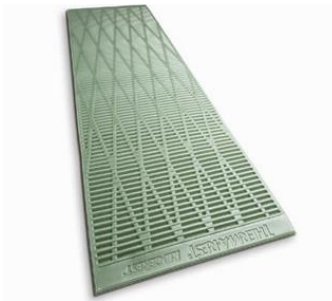
Sleeping pads provide much more than added comfort, they also insulate you from the cold ground. There are three types of pads to choose from and all have their advantages and disadvantages.



Air Pads: These pads use air for comfort and must be manually inflated. They are very comfortable and lightweight. The obvious flaw is that they can puncture leaving you without a pad. Repair is usually possible depending on the size and location of the puncture.



Self-inflating Pads: These pads offer a combination of open-cell foam insulation and air. They are possibly the most comfortable pads and they come with a price tag to match. These pads are also heavier than the other types of pads. Because they 'self-inflate' through a vacuum created when you roll up the pad, it is possible to puncture them leaving your pad permanently inflated. Repair is usually possible depending on the size and location of the puncture.



Foam Pads: These pads are the classic model that has been around forever. Modern versions are made with better materials that make them lighter, more comfortable, and easier to fold. These pads are inexpensive, and much more durable than other pad types. They are bulky and less comfortable than other pad types.



Dry Bags

Dry bags are small waterproof bags that help organize and condense your gear. The bags are very thin and are meant to be put inside of your panniers. They come in all kinds of colors and sizes which make

identifying your own gear in a group tent much easier.

Pocket Knife

Any outdoor adventurer will tell you, nothing is better than a great pocket knife. The modern pocket knife is better referred to as multi-tool because they have so many different tools included in the design. You don't need to carry the model with 100+ tools, 6- 15 tools are more realistic. Skip ahead to bike tools section below and see what the tools you should look for in your multi-tool. Remember, if your multi-tool comes with screwdriver that is one less thing to carry!



Insect Repellent

Bugs are annoying, potentially even hazardous. To keep them away, DEET is considered the most effective repellent ingredient however it has also been linked to some adverse health effects. Check the label to find the DEET content level, the higher the more effective. Insect repellents that come as a lotion rather than a spray gives you much better coverage.





Sun Screen

Choose a sunscreen that offers a sun protection factor (SPF) of 30 or higher. Sunscreens that are sweat / water resistant are better but not required. Sunscreen that comes as a lotion rather than a spray gives you much better coverage.

BICYCLE EQUIPMENT

Bicycle

A great bike can be purchased with prices ranging from \$300 to \$1,000+. For the purpose of touring, three types of bicycles are used, Road, Hybrid, and Touring bicycles.



Road bikes: Road bikes with drop-bar handlebars are lightweight and aerodynamic. They are a better choice if you want to go faster or are more concerned with efficiently transferring your energy into making the bike move forward. Compared to the flat handlebars common on hybrid bikes, drop-bar handlebars allow for a greater number of riding/hand positions. They offer a more aerodynamic riding position

(bent over at the waist) that may put more strain on your back if you are less flexible.



Hybrid bikes: These bikes combine the efficiency of drop-bar road bikes with a slightly more upright riding position. This allows you to sit up in a higher and more relaxed position so you can better see the road and potential hazards. An upright position also reduces strain on your hands, wrists and shoulders. This increased versatility comes with the tradeoff of being slightly less efficient (from an aerodynamic standpoint) than the typical drop-bar road bike.



Touring bikes: Touring bikes are designed for long multi-day rides and are built to carry gear (rear and front racks can easily be attached). Touring bikes often have drop-bar handlebars and are similar to road bikes however touring bikes are built to accommodate wider tires for use on non-paved surfaces. These bikes are usually heavier and more expensive than road bikes. As the name implies, touring bikes are the best to use while bike touring however most road and hybrid bikes do well on a Teen Trek.



Bike Frame Materials

Chromoly (Chrome Molybdenum)

Steel: A workhorse of the industry, chromoly is light, strong steel. When it is butted and shaped to take off excess weight, it can deliver a fairly light frame that will last through years of hard use. Chromoly is responsive and offers good flex while maintaining its form.

Aluminum: Having come a long way from the oversized tubes of old, aluminum is now less expensive and very widely used on today's bikes. It's light, strong and stiff. With proper design it can give a solid ride for climbing, or lively handling in tight situations.

Do not purchase a Titanium or Carbon Fiber frame. These frames are not meant for touring.



Gear Systems

Derailleurs: Derailleurs push or pull the chain from one gear ring to another. There are two derailleurs on most bikes. The front derailleur is located above the crank (the gears attached to the pedals) and the rear

derailleur hangs below the cassette (the gears on the rear wheel).



Gears: Changing the gear ratio, or how far the bike travels per crank revolution, allows you to get the most from your peddling. For a Teen Treks adventure you should have 14 -27 gears to choose from. To figure out how many gears a bike has, count the number of rings on the crank and multiply them by the number of rings on the cassette. For example, a crank with 2 rings and a cassette with 7 rings means you have 14 gears to choose from. Of course the size of the ring (the amount of teeth) determines exactly how much of a mechanical advantage the gears create. Any bike with two or three rings on the crank is a good sign that the bike is geared for touring.

Brake Systems

With any brake, the braking force is applied by pulling the brake lever which is attached to the handlebar. There are two major types of brake levers, both are mechanically identical but they attach differently to the handlebar. Modern drop down style brake levers commonly can act as both brake levers and gear shifters. This allows you to shift gears without ever having to remove your hand from the brake lever.



Five common brake styles

There are 5 common brake styles that are used. Center-pull, Side-pull, Cantilever, and V brakes apply pressure to the rim of the wheel with rubber pads that slow the bike. The fifth style, Disc brakes, are relatively new to the biking world and work just like the disk brakes on your car.



Center-pull brake



Side-pull brake



Cantilever brake



V brakes



Disc brakes: This type of brake is becoming common on most types of bikes. They have excellent stopping ability and are good in wet conditions. A major drawback to disc brakes is that they are difficult to service on the road and too often require expensive bike store attention.

Bike Tires

We Require Brand New Tires



How to Choose a Bike Tire

Step 1: Find Your Size

Every tire has the tire size printed on the side of the tire. Normally they are the same color as the tire, which can make them a little hard to find. The number will be formatted as first number 'X' second number, i.e. "27 x 1 1/4" (inches) or "700 x 23" (millimeters). The first number is the diameter of the tire and the second number is the tire width. Teen Treks recommends tire widths ranging from 23 – 36.

Step 2: Choose a Tread

More tread typically means more grip—but also more rolling resistance. So you'll need to balance your need for speed with your desire for grip.



Slicks: These tires appear almost smooth, with a barely perceptible tread pattern. Slicks are designed for smooth surfaces. V-shaped grooves on some improve cornering on rain-soaked roads.



Semi-slicks: Somewhere between knobbies and slicks, these tires are designed with a smooth center, for minimal rolling resistance and faster acceleration, and aggressive treads on the side to help with cornering.



Knobbies: These tires are designed for off-road situations; they are not good for touring.

Tubes

How to Choose Tubes

Step 1: Find Your Size

See how to find your bike tire size.

Step 2: Bike Valves

Always make sure to get the correct type of valve—Presta or Schrader—for your wheel rim.



Schrader valves: They are wider than Prestas, with a valve like those on car tires. These are found much more commonly on bikes. The only disadvantages of a Schrader valve are they can only handle pressure up to a limited point.

Presta valves: These are narrower and have built-in valve caps that you loosen to pump up the tire and tighten afterwards. This valve allows you to have much higher pressures in your tires which are better for touring.

Ways to Reduce Flats

While no tire is completely puncture-proof, there are some options that greatly reduce your likelihood of getting a flat. The downside of these solutions tends to be the small amount of added weight.



Puncture Resistant Tires (Strongly Recommended)

These tires won't feel as speedy as standard bike tires, but they experience flats much less frequently (reportedly up to 7 times less) when using these tires. The reason? Many tire makers employ a durable belt of aramid fibers (such as the well-known Kevlar® brand) to resist punctures; others simply increase the tread thickness. These tires are marketed by a variety of proprietary names: the Serfas Flat Protection System, the Continental Safety System, the Panaracer Protex Shield and so on.



Tire Liners (OPTIONAL GEAR)

A tire liner is typically a thin strip of extruded-plastic that fits between the tire and the tube to reduce the chance of puncture flats from

thorns, glass or other sharp objects. These add 6 oz. or more to the weight of your tires.

Helmet

Helmets are required on all trips! In the past bike helmets were heavy, hot and not exactly fun to wear, but things have changed. Now you have so many choices that it's almost overwhelming. For our purposes there are two types of helmets that will work well for a Teen Treks adventure; Road helmets and sports bike helmets.



Road bike helmets: Their appeal lies in their low weight, generous ventilation and aerodynamic design. They are ideal for touring.



Sport helmets: These models that work well for commuter bikers. The solid design offers much more protection than road bike helmets. The tradeoff is the few vent holes can make for hot head!

Gear Racks

Some bikes, especially touring bikes will already have these racks attached to the bike but most road & hybrid bikes will not.



Rear Rack

A rack provides a stable framework to hold gear on your bicycle. This provides you with a secure and balanced way to carry your gear in all conditions. The best way to judge how good a rear rack is by the number of support bars. Two is ok, but three is much better. This third support bar is great for keeping your bag out of your wheel.

Saddlebags/ Panniers



Saddlebags or Panniers are basically backpacks for your bike. They hold all of your gear. They attach to your bike by the rear rack. The ideal size for a Teen Treks adventure is 2300 cubic inches for both panniers. **When packing, remember that 1/4 of your pannier space should be kept empty to carry group gear.** If you are finding that you can't fit all of your gear in that size, it is time to reconsider taking some of that gear. We recommend purchasing waterproof panniers or rain covers for your panniers. Alternatively trekkers may choose to pack their clothes in Ziploc bags or dry sacks inside of panniers that aren't waterproof.

Other Types of Bike Bags



Seat Bag (OPTIONAL GEAR): This fits under your bicycle seat and usually attaches to the rails of the saddle itself. Most hold small items like a multi-tool, spare tube, tire levers, a patch kit or an energy bar. Larger models can carry a few extra items.



Handlebar Bag (OPTIONAL GEAR):

This attaches to your handlebars with clamps or straps. It offers easier access and often more room than a seat bag, so it's perfect for a camera, sunscreen or snacks. Some models feature a clear plastic sleeve on top to display a map. Be sure the bag does not affect your ability to operate the brakes or shifters on your bike.



Horn or Bell

It may seem a little silly to strap a little bell to your super touring bike, but it is a great way to alert others of your approach. Passing a runner with their back to you is much safer when you give out a few rings of warning. Any bell model will work.



Toe Clips

Toe clips are small frames that attach to the front of a platform pedal and surround your toe. They allow you to pull up with your foot in the pedal stroke as well as pushing down, effectively doubling your efficiency.



Clipless Pedals

Another form of a pedal is clipless pedals. If you don't already know what these are, they are not for you. Serious injuries can result from using these pedals on a bike carrying 35+ pounds of gear with a light weight rider. Parents should use their discretion

Bike Lights

Bike lights keep getting lighter and smaller while delivering brighter illumination for riding safety. Lights are not just for you to see the road but also for the road to see you.



Front Light: There are two things that you should look for in a front bike light. First, look for one that offers maximum illumination while using as little battery power as possible. Most lights that fit this quality well are LED Lights. Second, look for a light that can easily detach so that you can use it as a campsite flashlight.



Rear Light: The three things you should look for in a rear light are that it is red, bright, and flashes. These will insure that you will be seen by anyone behind you.



Bike Pump

A small bike pump is needed to give your tires a few pumps throughout the day. Two features that you should look for are a gauge that measures the pressure in the tire, and a flexible hose that won't put pressure on the valve. Also important is that the pump is compatible with the type of valve on your tube (see bike valves).



Computer

Bike Computers can get complicated and expensive quick. For a Teen Treks adventure all you need is a computer that tells, time, distance and speed.



Bungee Cords

Two 24 inch bungee cords are needed to help strap down your gear to your gear rack. No need to get anything fancy, just be sure that they can hook on to your gear rack.



Water Bottles

Water bottles are as varied as the trekkers who drink from them. What is most important in selecting a water bottle is finding one that you are likely to use, and use often! Mounting a water bottle to bike can be done with screws if your frame can accept them, but Velcro straps are also available.



Camelbaks (OPTIONAL GEAR): Some riders swear by them and others couldn't imagine using them. Camelbaks allow you to carry water in a backpack with a straw for easy access. The downside of wearing any kind of backpack is that they can make your back hot and sweaty while riding. If you decide to take a Camelbak you can substitute it for one of your two required water bottles, but not both.

Locks

After spending hundreds of dollars on bikes and gear, we always get asked if a cheap lock is ok to bring on our trips. Bikes have been stolen in the past, and always it is due to a sub-standard lock. No lock is ever theft proof. The idea is to make it so hard to steal your bike that the thief will move on to the less protected bike.



Steel U-Lock: A big heavy steel U-lock is the best choice for keeping your bike safe. They are heavy but this is one area where you shouldn't be concerned with weight. Most of these locks come with two keys, please bring both and give one to your leader to carry on the first day of the trip.



Cable (OPTIONAL GEAR): The only lock better than a Steel U-lock is a Steel U-lock with a cable. This cable gives you a little more flexibility when locking up your bike, including locking up your front wheel.



Patch Kit

A bike tube patch kit comes in a small plastic container about half the size of a deck of cards. Inside are patches which are small rubber or plastic discs for covering the hole in the tube, sandpaper or a metal scrapper to clean and rough up the surface of the tube, and glue to attach the patch. Don't worry if you don't know how to patch a tube your leaders can teach you!



6" Adjustable Wrench

This tool can fix most of the problems you are likely to face on a trip. No need to buy something special, whatever is in the tool drawer is fine.



Small Screwdriver

A small screwdriver that can adjust your derailleurs or tighten up any loose screws is needed for the trip. No need to buy something special, whatever is in the tool drawer is fine. This tool could easily be replaced if you make sure your bike multi-tool or pocket knife has one.



Extra Nuts and Screws

While most nuts and screws are common and interchangeable between bikes, you might have that one unique screw that the only bike shop in town doesn't have. To avoid that, bring along a few extra assorted nuts and screws that will work for your bike.



Tire Levers

Tire levers are used to take the bike tire off and put it back on the rim. You should have three of them to make the job easy. This tool could easily be replaced if you make sure your multi-tool has one.



Bike Multi-Tool

A good bike multi-tool can replace a lot of your other tools. You don't need to get the fanciest model but a full Allen wrench set is a must!



Teen Treks

Be Adventurous

Hi Teen Trekkers & Parents,

We hope this guide has helped answer many of your gear related questions. As you probably already know, at Teen Treks we love to talk about bicycles and gear! If you need further explanation, or just want to check to make sure you are buying the right product, please give us a call at 716.566.7908, or write us an email at biketrips@teentreks.com

Have a great ride!

-Teen Treks Team

