

2017

Clay County 4-H

Consumer Choices Contest

Study Guide



JEANS

An estimated 450 million pairs of jeans are purchased every year, making them a staple of the American wardrobe. Indeed, jeans are the most widely produced piece of apparel in the U.S. Jeans have long been a cyclical market being driven in the main by factors such as employment conditions, productivity, fashion trends, lifestyle factors, and celebrity endorsements. Manufacturers and retailers are constantly challenged to maintain the market by staying on top of fads, changing tastes and consumer desires for different styles of jeans.

Every brand and every style of jeans will fit a little differently, but knowing what to look for will help narrow down the selection to just those jeans that will look great on you. The type of fabric, the cut of the jean and the details can all affect how jeans fit.

Denim is denim is denim -- or is it?

You may have thought that all blue jeans were cut from the same cloth, but this isn't so. Variations in the weave, the fibers and the finishes all create differences.

Weave

- All denim is cotton twill -- a weave that has a slight diagonal to it, but that's where the similarities end. Some denim is a left-hand twill (the diagonal on the dark side runs from lower right to the upper left), which has a very soft feel. A few types of denim have broken twill (the diagonal line changes directions). All other denim is a right-hand twill (the diagonal on the dark side runs from the lower left to the upper right), which is the most common and has a durable feel.

The cotton

- The quality of the cotton the denim is made of will affect the look and feel of the jeans. Fine cotton fabric is made from longer stands of the fiber, giving the jean fabric a softer feeling and a smoother look. High-quality cotton also lasts longer because there are fewer small fibers to rub off -- this is often what you are paying for when you buy premium jeans.

Dyes and finishes

- Most jeans are made of denim that was dyed before it was woven into cloth (this is also called "yarn-dyed"); other jeans are dyed after they have been constructed into jeans. Jeans dyed after construction may have a more saturated color, but it may also fade faster. Blue jeans are dyed with the familiar indigo blue, but there are new innovations in denim dyes all the time. For example, some manufacturers layer the indigo dye with a yellow sulphur dye to give jeans an aged, dirty-on-purpose look.
- After the pants are constructed, many manufacturers put the jeans through finishing processes. A few terms you may see in product descriptions are:
 - Stonewashed: Jeans are washed with chemicals or actual stones -- usually pumice stones -- to lighten and soften the denim. Occasionally, you may even find a few small pumice stones in the pockets when you first put on your new stonewashed jeans.
 - Sandblasted: To give new jeans a broken-in appearance, the jeans are blasted with sand in areas where wear would occur naturally. This can sometimes lighten the denim, and lighter areas will draw attention to that body part. If you buy sandblasted jeans, make sure the light area is on a part you want to emphasize.
 - Whiskered: Crease lines, called whiskers, are created across the lap to look like the jeans have been sat in many times. Whiskers are printed on, sanded on or created with lasers. They are horizontal lines, so if you are worried about your legs looking too heavy, choose jeans with subtle whiskers or none at all.

Stretch

- Many people love stretch jeans, and for women with more curves, stretch denim can be very flattering. Women with flat rear ends will want to avoid stretch jeans, however, because the stretch will just emphasize the lack of curves.

What makes jeans fit differently?

Legs

- **Boot cut:** Boot cut jeans flare slightly at the bottom. The slight flare -- not a bell-bottom flare -- balances out large hips and heavy derrieres.
- **Wide leg:** With a fitted waist, wide leg jeans can be a stylish alternative to your other jeans.
- **Straight leg:** Straight leg jeans are not as baggy as wide leg jeans, but they share the same stovepipe shape that lacks any flare at the ankle. The straight line of straight leg jeans gives a long, lean look to your legs.
- **Skinny:** Skinny jeans are slim-fitting jeans that are narrow all the way to the ankle. These are the perfect jeans to wear tucked into a pair of boots because they don't have extra fabric around the ankles.
- **Boy cut:** With slim hips that sit a little higher and with straight legs. Because of the relaxed fit, these jeans can be the perfect casual jeans, or you can cuff them to your calf and dress them up.

Rise

- The rise is the length from the crotch to the waistband. A standard rise is about 30 inches, while low-rise jeans -- also called hipsters, hip-huggers or low-cut jeans -- have about a 20-inch rise. Low-rise jeans can elongate a short torso, but on a long torso, they can be a bit too revealing in the back.

Seat

- As long as the seat of your jeans fits well and is flattering, a tailor can fix just about everything else. Even if you prefer other pants with a loose fit in the seat, choose jeans with a snug seat. The center seam gives definition to your curves. Back pockets make or break a backside.

Understand the Washes of Jeans

- Jeans come in a number of distinct cuts and washes. Figure out which are right for you before selecting the perfect pair of jeans.
 - Stonewashed jeans: have a lighter, more broken-in appearance.
 - Dark jeans: The deep indigo color of dark jeans make them the ideal jeans for a night out on the town.
 - Distressed jeans: Holes, shredding, and crinkles create the highly worn appearance of distressed jeans.

What does a consumer look for?

Seams

- Flat fell seams have two rows of stitching and are enclosed on both the outside and inside of the jeans. Seams of this type leave no open seam allowances to unravel during wear and laundering. Make certain the seams are neatly constructed and firmly stitched. Where seams are not flat fell, they should be serged (overcast with thread) to cover the raw edge and reduce raveling. Seams that join at the crotch and in the back should meet accurately for smooth contour, comfort, and durability of the garment.

Waistband

- A waistband made of two or more layers of fabric will reduce stretching in the waist area. If the jeans have no waistband, look for interfacing (an extra layer of firm fabric sewn into the waist seam for stability).

Reinforcements

- Look for thread bar tacks or rivets at places of stress like corners of pockets, belt loops and the bottom of the zipper placket.

Zipper

- The zipper will be more durable if the fabric on both sides has been turned under and stitched. Because denim fabric is so heavy, a metal zipper offers more durability than a nylon zipper.

Select the Right Jeans for Your Body Type

With so many designer jeans on the market, it's important to do your homework and select the right pair of jeans for your body type.

- **Slim body types:** Slimmer body types look great in a variety of jeans. Look for jeans that run straight from the hips through the knee, with a slight flare at the leg opening. Low-rise jeans with a high back and lower front are another good choice. Or, if you're looking for a snug fit, choose jeans that are tight around the waist and

backside.

- Curvy body types: If you have great curves to accentuate, choose jeans that run straight from the hips through the knee with a slight or more generous flare at the leg opening. A wide boot-cut silhouette is also flattering.
- Athletic body types: If you have athletic legs and narrow hips, consider a low-rise jean with a contoured waistband. Legs that taper out to a graceful and generous boot cut are also flattering—but without giving you the retro bell-bottom look. Or, to give the appearance of wider hips and a fuller backside, choose a cigarette-style jean.
- Full-figured body types: Choose a traditional five-pocket-style jean that isn't too snug and has a little give. Many jeans woven with spandex stretch nicely to your frame. Remember also that a slight flare at the leg opening, such as a boot cut, will help to balance a wider or fuller figure, as well as make your legs look longer. Always opt for jeans in darker shades, as they'll have a naturally slimming effect.

Caring for your jeans - Here are a few ideas for denim care:

- Cold wash will keep the color darker, longer. Cold will also prevent shrinkage.
- Warm water will shrink jeans, but may get out tough stains. BEWARE: don't wash jeans with whites unless you want to turn all your clothes blue!
- Air dry jeans for the least shrinkage and the least fading.
- Use a warm iron to get out wrinkles.
- Turn jeans inside out, to preserve the dark color.
- To keep white denim looking brand new wash in warm or hot water. Pre-treat stains and re-wash if stains are still visible before the drying cycle.
- Wash and dry your denim before hemming or altering.
- Consider dry cleaning very expensive jeans. The process will remove dirt but won't affect the wash as much as a machine.

DIGITAL CAMERAS

There are hundreds of cameras available ranging from those that will easily fit a shirt pocket to very large complex cameras. Often times, these cameras are advertised with abbreviations that can be confusing for the novice consumer.

Film Camera vs. Digital Camera

Here is a quick, basic comparison so you can understand the difference between the two types of technology (film vs. digital). With a film camera, an image is formed by collecting light from a particular scene or subject and focusing on film, which reacts chemically when struck by light and is said to “capture” the image. What makes a camera “digital” is that, instead of film, it has an image sensor that reacts to light by sending out electrical signals. The camera takes the information from the image sensor and processes and stores it as a collection of pixels in a digital file, usually on a memory card inside the camera.

Terminology

- **Pixel** – (short for picture element) tiny dots that make up an image. Each pixel can only be one color at a time; however, since they are so small, pixels often blend together to form various shades and blends of color.
- **Megapixels** – when you collect a million pixels, you have a megapixel. The number of megapixels tells you how many pixels the image file has. A camera that captures 8 million pixels, for example, is called an 8 megapixel camera.
- **SLR Camera** - A single-lens reflex (SLR) camera is a camera that typically uses a semi-automatic moving mirror system that permits the photographer to see exactly what will be captured by the film or digital imaging system (after a very small delay), as opposed to pre-SLR cameras where the view through the viewfinder could be significantly different from what was captured on film.
- **Viewfinder** - what the photographer looks through to compose, and in many cases to focus, the picture
- **Shutter Speed** – controls light and motion. Slower shutter speeds make the image lighter. Faster shutter speeds make the image darker. Faster shutter speeds also means the more a moving subject will be blurred in the picture.
- **Aperture** – (also called f-number or f-stops) a hole or an opening through which light travels; controls both light and depth of field. The larger the aperture opening, the more light affects the image and the lighter the image. The smaller the aperture, the greater the area of sharpness.
- **Compression** - the process of making larger image files smaller and more manageable. The less compression produces better image quality (higher resolution) which results in larger prints. However, less compression also means that you cannot store as many images. More compression produces lower quality images. These are fine for small prints, email or websites. By using more compression, you can store more images.
- **Hot Shoe** – a mounting point on the top of a camera to attach a flash unit
- **RAW files** – collection of unprocessed data. This means the file has not been altered, compressed, or manipulated in any way by the computer. This file type is often used by professional photographers.

Types of Digital Cameras

Basic Cameras – simple point-and-shoots with just the features needed for routine shots

- **Subcompacts:** small cameras that fit in a pocket, weight a few ounces, and can be carried everywhere. Most do not have manual controls or viewfinders, but some include a variety of useful features, such as touch-screen LCDs (liquid crystal display). Some have zoom lenses as long as 14x.
- **Compacts:** mainstream compacts are too big for pockets but small enough for most handbags. Many are simple to use and best for everyday events. Some don't have manual controls for exposure and composition, limiting you to the camera's assortment of preset scene modes, as with subcompacts.
- **Superzooms:** characterized by a very long zoom range – 15x or greater, which is good for sports, travel, or nature shooting. They are generally bulkier and heavier than compacts and subcompacts. Some models have zooms as great as 30x.

Advanced Cameras – feature-laden models that include sophisticated point-and-shoots and models that let you change

lenses.

- **Advanced Point-and Shoots:** these cameras have a non-detachable lens but differ from basic models in that they have lots of manual controls, a hot shoe for an external flash, and support for RAW files. It is the lightest advanced type of digital camera.
- **SLR-likes:** these cameras accept interchangeable lenses but they lack a through-the-lens viewfinder (in fact, most has no viewfinder). They are smaller and lighter than an SLR but usually larger than a point-and-shoot.
- **SLRs:** have the most features, with interchangeable lenses and the largest sensors for the best image quality in low light, and a through-the-lens viewfinder. Controls are extensive. They are also the heaviest, most expensive cameras. Most SLR's are now able to capture HD-resolution video.

Digital Cameras Features

Digital camera features vary greatly model to model. Some might be essential to you, while others might be of use only for highly specialized applications.

- **Exposure modes** – most digital cameras are highly automated with features such as automatic exposure control, which manages the shutter speed and aperture according to the available light. In that mode, the camera generally handles setting ISO and autofocus too. But there are other program modes that allow you to control specific settings, including shutter priority, aperture priority, and special scene modes. Some cameras include full manual controls, which let you set shutter speed and aperture.
- **Zoom lenses** – this type of lens, which is actually made up several different lenses or lens elements, allows you to vary the focal length. That provides you with flexibility in framing shots and closes the distance between you and your subject, which is ideal if you want to quickly switch to a close shot. One common feature of zoom lenses is that they generally protrude from the camera when you turn it on. But some subcompacts and a few compacts and superzooms have non-telescoping lenses.
- **Image Stabilization** – more and more cameras now come with an image stabilizer, a device that compensates for handheld camera shake. Often, the IS device lets you shoot with a slower shutter speed than you otherwise could without producing blur due to hand shake. Image stabilization is something that you should look for, especially if the camera has an optical zoom greater than 3x.
- **Face Detection & Smart Camera features** – feature that attempts to find a face in the image to set focus, exposure, and color balance so that faces appear in focus and well exposed. In some cameras, you have to turn the feature on, in others, it is automatic. Other types of smart features that are starting to be available are smile shutter mode, which shoots a photo of the subject when a subject smiles and blink warnings, alerting you to shots in which a subject might have blinked.
- **Focus** – some cameras automatically adjust the focus of the lens with autofocus features. Most advanced cameras include additional focusing functions. Be sure to look carefully at the types of additional features available on your camera, including manual focus.
- **Shooting Modes** – Most cameras have three options for shooting still images: single image, burst mode, and self-timer. The burst mode allows you to fire off a series of shots quickly, for several, dozens, and sometimes scores of shots. The self-timer mode provides a delay between the moment the shutter button is pressed and the photo is captured.
- **Playback Modes** – all digital cameras can review images on the LCD, along with exposure and other information embedded in the image file. This allows you to quickly see what the image actually looks like, and delete it if you don't like it. Many cameras have automatic orientation features that run the photo vertically or horizontally to correspond to how you shot the photo.
- **LCD Viewers** – displays on cameras that accurately display the image you will get when taking photo. Sometimes these viewers are hard to see in bright sunlight. These LCD viewers have often replaced the optical viewer on many subcompact and compact cameras. A camera with an optical and an LCD viewfinder is more versatile, especially when you shoot in bright light or need to conserve battery power. Also, some point-and-shoot and SLRs include swiveling displays, which are helpful for taking hard-to-reach shots.
- **Flash** – available on almost every digital camera, a flash allows you to illuminate subjects by using a short burst of light. Nearly all have auto-flash modes, a setting that will automatically fire a flash whenever the camera senses there isn't enough illumination for a correct exposure. Most include other flash modes, including red-eye

reduction mode.

- **Image File Formats** – the most commonly used file format is the JPEG, a compressed image format that allows you to use the file for a number of different applications. Advanced point-and-shoots and all SLR-Likes and SLRs can also capture images in a file format commonly known as RAW. RAW files can yield the best quality images and give you the most flexibility when manipulating photos with software.
- **Memory Cards** - Instead of film, nearly all digital cameras record their shots and store them on flash-memory cards. SecureDigital (SD) is the most widely used format. Other memory cards used include Compact Flash (CF), Memory Stick Duo and xD.
- **Connections** – to save images, you transfer them to a computer, typically by connecting the camera to the computer's USB port, or inserting the memory card into a special reader. Cameras can also be connected to printers, or you can insert the memory cards directly into select printers. Most cameras also include a video output that lets you view images on your TV.
- **Video** – Basic point-and-shoots have been able to capture video for many years, but SLRs have only recently included this feature. Most cameras include HD-resolution video, although some still capture standard definition, which may not look as sharp on an HDTV. Some models with HD video quality are good enough to avoid the cost and inconvenience of a separate camcorder. One convenient video feature many cameras now include is a dedicated video button, which lets you quickly record video when you are shooting still images. Also, in you are buying a basic or advanced point-and shoot, check to see whether the camera can zoom while capturing video. Not all models can.

References and Resources

Consumer Reports

<http://www.consumerreports.org/cro/electronics-computers/cameras-photography/digital-cameras/index.htm>

University of Tennessee Extension, Tennessee 4-H

<http://www.utextension.utk.edu/4h/projects/photography.htm>

FAST FOOD MEALS

Fast foods are quick and easy substitutes for home cooking, and a reality with the busy schedules many families maintain. However, fast foods are almost always high in calories, fat, sugar, and salt.

Fast food used to mean fried food. However, today there are many more healthy alternatives available at fast food restaurants. Some restaurants still use hydrogenated vegetable oils for frying. These oils contain trans fats, which increase your risk for heart disease. Some cities have banned or are trying to ban the use of these fats. Now, many restaurants are preparing foods using other types of fat.

Even with these changes, it is hard to eat healthy when you eat out often. Many foods are still cooked with a lot of fat, and many fast-food restaurants do not offer any lower-fat foods. Large portions also make it easy to overeat, and few restaurants offer many fresh fruits and vegetables.

Before heading out, it is important to know your personal calorie limit. Staying within yours can help you get to or maintain a healthy weight. Most adolescents need 1800 (girls) to 2200 (boys) calories; however, knowing how many calories one needs is based upon age, sex, height, weight, and activity level. When choosing what to eat and drink, it's important to get the right mix – enough nutrients, but not too many calories.

In general, eat at places that offer salads, soups, and vegetables. Select a fast-food restaurant that you know offers a variety of food selections that fit in your healthy eating plan. Along with that, the following tips can help you make healthier selections when dining at fast-food restaurants.

Check and compare nutrition information. Knowing the amount of calories, fat, and salt in fast foods can help you eat healthier. Many restaurants now offer information about their food. This information is much like the nutrition labels on the food that you buy. If it is not posted in the restaurant, ask an employee for a copy.

Have it your way. Remember you don't have to settle for what comes with your sandwich or meal – not even at fast-food restaurants. Ask for healthier options and substitutions. Adding bacon, cheese, or mayonnaise will increase the fat and calories. Ask for vegetables instead, such as lettuce or spinach, and tomatoes. With pizza, get less cheese. Also pick low-fat toppings, such as vegetables. You can also dab the pizza with a paper napkin to get rid of a lot of the fat from the cheese.

Keep portion sizes small. If the fast-food restaurant offers several sandwich sizes, pick the smallest. Bypass hamburgers with two or three beef patties, which can pack close to 800 calories and 40 grams of fat. Choose instead a regular- or children's-sized hamburger, which has about 250-300 calories. Ask for extra lettuce, tomatoes, and onions, and omit the cheese and sauce. If a smaller portion is not available, split an item to reduce calories and fat. You can always take some of your food home, and it is okay if you leave extra food on your plate.

Skip the large serving of french fries or onion rings and ask for a small serving instead. This switch alone saves 200 to 300 calories. Or, ask if you can substitute a salad or fruit for the fries.

Strive to make half your plate fruits and vegetables. Take advantage of the healthy side dishes offered at many fast-food restaurants. For example, instead of french fries choose a side salad with low-fat dressing or a baked potato, or add a fruit bowl or a fruit and yogurt option to your meal. Other healthy choices include apple or orange slices, corn on the cob, steamed rice, or baked potato chips.

When choosing an entrée salad, go with grilled chicken, shrimp, or vegetables with fat-free or low-fat dressing on the side, rather than regular salad dressing, which can have 100 to 200 calories per packet. Vinegar or lemon juice are also healthier substitutes for salad dressing. Watch out for high-calorie salads, such as those with deep fried shells or those topped with breaded chicken or other fried toppings. Also skip extras, such as cheese, bacon bits and croutons, which

quickly increase your calorie count. If you forgo the dressing, you can find salads for around 300 calories at most fast food chains.

Opt for grilled items. Fried and breaded foods, such as crispy chicken sandwiches and breaded fish fillets, are high in fat and calories. Select grilled or roasted lean meats – such as turkey or chicken meat, lean ham, or lean roast beef. Look for meat, chicken, and fish that are roasted, grilled, baked, or broiled. Avoid meats that are breaded or fried. If the dish you order comes with a heavy sauce, ask for it on the side and use just a small amount.

Go for whole grains. Select whole-grain breads or bagels. Croissants and biscuits have a lot of fat. People who eat whole grains as part of a healthy diet have a reduced risk of some chronic diseases.

Slow down on sodium. Americans have a taste for salt, but salt plays a role in high blood pressure. Everyone, including kids, should reduce their sodium intake to less than 2,300 milligrams of sodium a day (about 1 tsp of salt). Adults age 51 and older, African Americans of any age, and individuals with high blood pressure, diabetes, or chronic kidney disease should further reduce their sodium intake to 1,500 mg a day.

When eating at a fast food restaurant, pay attention to condiments. Foods like soy sauce, ketchup, pickles, olives, salad dressings, and seasoning packets are high in sodium. Choose low-sodium soy sauce and ketchup. Have a carrot or celery stick instead of olives or pickles. Use only a sprinkling of flavoring packets instead of the entire packet.

Watch what you drink. What you drink is as important as what you eat. Teenagers often drink more carbonated and caffeinated beverages and eat more fast foods. This, along with peer pressure related to eating and exercise, make teenagers particularly vulnerable to becoming sedentary, overweight, and obese. An obese teenager has a greater than 70% risk of becoming an obese adult.

Many beverages are high in calories, contain added sugars and offer little or no nutrients, while others may provide nutrients but too much fat and too many calories. For example, a large regular soda (32 ounces) has about 300 calories. Instead, order diet soda, water, unsweetened iced tea, sparkling water or mineral water. Also, skip the shakes and other ice cream drinks. Large shakes can contain more than 800 calories and all of your saturated fat allotment for the day.

Drink water. This is a better choice over sugary drinks. Regular soda, energy or sports drinks, and other sweet drinks usually contain a lot of added sugar, which provides more calories than needed. Water is usually easy on the wallet. You can save money by drinking water from the tap when eating out. When water just won't do, enjoy the beverage of your choice, but just cut back, avoiding the supersized option.

Don't forget dairy. Many fast food restaurants offer milk as an option for kids' meals, but you can request it! Dairy products provide calcium, vitamin D, potassium, protein, and other nutrients needed for good health throughout life. When you choose milk or milk alternatives, select low-fat or fat-free milk or fortified soymilk. Each type of milk offers the same key nutrients such as calcium, vitamin D, and potassium, but the number of calories are very different. Older children, teens, and adults need 3 cups of milk per day, while children 4 to 8 years old need 2 ½ cups, and children 2 to 3 years old need 2 cups.

The American Heart Association recommends some examples of healthier alternatives to common fast food picks.

Instead of...	Try...
Danish	Small bagel
Jumbo cheeseburger	Grilled chicken, sliced meats or even a regular 2 oz. hamburger on a bun with lettuce, tomato and onion
Fried chicken or tacos	Grilled chicken or salad bar (but watch out for the high-calorie dressing and ingredients)
French fries	Baked potato with vegetables or low-fat or fat-free sour cream topping
Potato chips	Pretzels, baked potato chips
Milkshake	Juice or low-fat or fat-free milk or a diet soft drink (Limit beverages that are high in calories but low in nutrients, such as soft drinks.)

References

American Heart Association www.heart.org/HEARTORG/GettingHealthy?nutritionCenter/DiningOut/Tips-for-Eating-Fast-Food_UCM_308412_Article.jsp

Choose My Plate Nutrition Education Series <http://www.choosemyplate.gov/healthy-eating-tips/ten-tips.html>

- Choose My Plate
- Make Half Your Grains Whole
- Salt and Sodium
- Make Better Beverage choices
- Enjoy Your Food, But Eat Less

Choose My Plate – Calories: How Many Can I Have?

<http://choosemyplate.gov/weight-management-calories/calories/empty-calories-amount.html>

Mayo Clinic

www.mayoclinic.com/health/fast-food/MY01268

National Institutes of Health – Medline Plus

www.nlm.nih.gov/medlineplus/ency/patientinstructions/000105.htm

US Department of Health & Human Services - Office on Women's Health

www.girlshealth.gov/nutrition/fsatfood/fastfood_tips.cfm –

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OUTDOOR BACKPACKS

The following is a general guide for which pack sizes (measured in liters) typically work well for backpackers during warm-weather hikes of varying lengths. Colder-weather trips usually require a larger pack, while ultralight backpackers may choose to go smaller than the recommendations here. (For more information, see our Expert Advice article on Ultralight Backpacking.)

Length of trip	Pack capacity (liters)
Weekend (1–3 nights)	35–50
Multiday (3–5 nights)	50–80
Extended (5+ nights)	70+

Weekend (1–3 nights; 35–50 liters)



Efficient packers using newer, less-bulky gear can really keep things light on 1- to 3-night trips by using a pack in this range. Be aware that packing light requires self-discipline and careful planning. If you can pull it off, though, the light-on-your-feet rewards are fantastic.

Multiday (3–5 nights; 50–80 liters)



These are the most popular backpacking packs sold at REI, and they're an excellent choice for warm-weather trips lasting 3 or more days. 50–80 liter packs are also used for backcountry skiing, for day trips, overnights and sometimes 2-night trips.

Extended-trip (5+ nights; 70 liters or larger)



Extended trips of 5 days or more usually call for packs of 70 liters or larger. These are also usually the preferred choice for:

- Winter treks lasting more than 1 night. Larger packs can more comfortably accommodate extra clothing, a warmer sleeping bag and a 4-season tent (which typically includes extra poles).
- Adults taking young children backpacking. Mom and Dad wind up carrying a lot of kids' gear to make the experience enjoyable for their young ones.

Climbing Packs



REI also carries packs designed primarily as climbing packs. Most have modest capacities that are appropriate only for day trips or overnights. Common features include:

- The ability to strip down the pack to its minimal weight (removing the lid, framesheet and possibly the hipbelt) for use during a summit push.
- A narrower, sleeker, sometimes higher profile than a usual packbag, permitting unencumbered arm movement.
- Several lash-on points for external tool attachment.
- A daisy chain—a length of webbing stitched to the outside of a pack—to provide multiple gear loops for attaching a helmet or tools.
- A reinforced crampon patch (to prevent crampon points from gouging holes in the packbag).
- Gear loops on the hipbelt or low on the pack body, useful as clip-on points for gear or possibly as attachment points for skis.
- Shop REI's selection of backpacks.

Backpack Fit

Once you've chosen the type of backpack you want, the next step is to work with an REI sales specialist to expertly fit you to your pack.

The right fit is one that offers:

- A size appropriate for your torso length (not your overall height).
- A comfortably snug grip on your hips.

If you're unable to work with a fit specialist in a store, you can enlist a friend and follow the directions provided in the REI Expert Advice article on Finding Your Torso and Hip Size.

Torso Length

Some packs are available in multiple sizes, from extra small to large, which fit a range of torso lengths. These ranges vary by manufacturer and by gender. Check the product specs tab for size details of a specific pack.

Other packs may feature an adjustable suspension, which can be modified to fit your torso, especially if you're in between sizes. The drawback: An adjustable harness adds a little weight to a pack.

Waist Size

The majority of a backpack's weight, 80% or more, should be supported by your hips.

Backpack hipbelts usually accommodate a wide range of hip sizes, from the mid-20 inches to the mid-40 inches.

People with narrow waists sometimes find they cannot make a standard hipbelt tight enough and need a smaller size. Some packs offer interchangeable hipbelts, making it possible to swap out one size for another.

Women-Specific Backpacks

These are engineered specifically to conform to the female frame. Torso dimensions are generally shorter and narrower than men's packs. And hipbelts and shoulder straps are contoured with the female form in mind.

Youth-Specific Backpacks

These typically offer smaller capacities and include an adjustable suspension to accommodate a child's growth. Women's backpacks, with their smaller frame sizes, often work well for young backpackers of either gender. So do small versions of some men's packs.

Additional Backpack Fit Adjustments

Load lifter straps

Are stitched into the top of the shoulder straps, and they connect to the top of the pack frame. Ideally, they will form a 45° angle between your shoulder straps and the pack. Kept snug (but not too tight), they prevent the upper portion of a pack from pulling away from your body, which would cause the pack to sag on your lumbar region.

Sternum strap

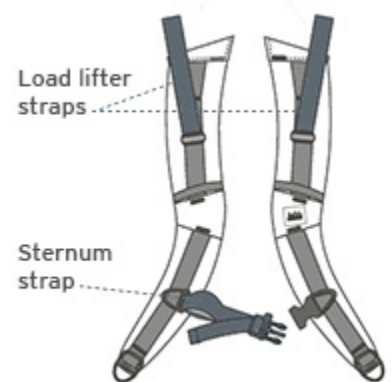
This mid-chest strap allows you to connect your shoulder straps, which can boost your stability. It can be useful to do so when traveling on uneven cross-country terrain where an awkward move could cause your pack to shift abruptly and throw you off-balance.

For tips on pack loading, see the REI Expert Advice article on How to Load a Backpack.

Backpack Frame Type

Internal-frame backpacks

The majority of packs sold at REI today are body-hugging internal frame packs that are designed to keep a hiker stable on uneven, off-trail terrain. They may incorporate a variety of load-support technologies that all function to



transfer the load to the hips.

External-frame backpacks

An external-frame pack may be an appropriate choice if you're carrying a heavy, irregular load. Toting an inflatable kayak to the lake or heading out to the backcountry with surveying tools? An external frame pack will serve you best. External frame packs also offer good ventilation and lots of gear organization options.

Frameless backpacks

Ultralight devotees who like to hike fast and light might choose a frameless pack or a climbing pack where the frame is removable for weight savings.

Backpack Features

Main compartment access:

- Top-loading openings are pretty standard. Items not needed until the end of the day go deep inside.
- Some packs also offer a zippered front panel that folds open exposing the full interior of the pack, or a side zipper, which also makes it easier to reach items deeper in your pack.

Sleeping bag compartment

- This is a zippered stash spot near the bottom of a pack. It's a useful feature if you don't want to use a stuff sack for your sleeping bag. Alternately, this space can hold other gear that you'd like to reach easily.
- Top lid: Many packs offer a zippered top lid where most backpackers store quick-access items: sunscreen, insect repellent, camera, snacks, map. Some lids detach from the main pack and convert into a hipbelt pack for day trips.

Pockets

Typical offerings:

- Elasticized side pockets: They lie flat when empty, but stretch out to hold a water bottle, tent poles or other loose objects.
- Hipbelt pockets: These accommodate small items you want to reach quickly—a smartphone, snacks, packets of energy gel, etc.
- Shovel pockets: These are basically flaps stitched onto the front of a packbag with a buckle closure at the top. Originally intended to hold a snow shovel, they now pop up on many 3-season packs, serving as stash spots for a map, jacket or other loose, lightweight items.
- Front pocket(s): Sometimes added to the exterior of a shovel pocket, these can hold smaller, less bulky items.

Ventilation

This can be a drawback of internal-frame designs. Much of the pack rides on your back, cutting airflow and accelerating sweaty-back syndrome. Designers have addressed this in a variety of ways—ventilation “chimneys” built into back panels, for example.

A few packs have engineered a suspended mesh back panel, sometimes called “tension-mesh suspension.” This is a trampoline-like design where the frame-supported packbag rides along a few inches away from your back, which instead rests against the highly breathable mesh.

Padding

If you're using a lightweight pack with a fairly minimalistic hipbelt and lumbar pad, you can encounter sore spots on your hips and lower back. If this is the case for you, consider using a cushier hipbelt.

Attachment points

If you frequently travel with an ice axe or trekking poles, look for tool loops that allow you to attach them to the exterior of the pack. Rare is the pack that does not offer at least a pair of tool loops.

Backpack Accessories

Raincover

Pack fabric interiors are usually treated with a waterproof coating. Yet packs have seams and zippers where water can seep through, and the fabric's exterior absorbs some water weight during a downpour.

The solution is a raincover, which could be a plastic garbage bag (cheap but clumsy) to a more customized packcover. If you expect rain on your trip, this is a good item to carry. An alternative: bundling gear internally in waterproof "dry" stuff sacks. Lightweight dry sacks can be a better option in windy conditions; strong gusts have the potential to abruptly peel a cover right off a pack.

Hydration reservoir

Nearly all packs offer an internal sleeve into which you can slip a hydration reservoir (almost always sold separately) plus 1 or 2 "hose portals" through which you can slip the sip tube.

Reference:

REI, <http://www.rei.com/learn/expert-advice/backpack.html>