10-2015

Texas A&M AgriLife Extension

Texas 4-H

CONSUMER DECISION MAKING

Categories & Descriptions

Consumer Decision Making

Study Guide ~ Additional Resources

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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 gives 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 our 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.

ATHLETIC SHOES

With the many types of athletic shoes that are available, it can be hard to choose the right shoes for you. There are differences in design and variations in material and weight. The American Academy of Orthopedic Surgeons says that these differences have been developed to protect the areas of the feet that encounter the most stress in a particular athletic activity. Let's review some of the different types of sports shoes available.

Athletic shoes

- Are grouped into the following categories: running, training, and walking; they include shoes for hiking, jogging, and exercise walking. These shoes should have a comfortable soft upper, good shock absorption, smooth tread, and a rocker sole design that encourages the natural roll of the foot during the walking motion. Features of a good jogging shoe should include cushioning, flexibility, control, and stability in the heel counter area, lightness, and good traction. Whereas, cross-training shoes combine several characteristics of other types of shoes so that you can participate in more than one sport and wear the same shoe. A good cross trainer should have flexibility in the forefoot that you need for running, in addition to stability on the inside and outside of the shoe for the control needed for aerobics and tennis. Walking shoes should flex easily at the ball of the foot, which help feet to push forward.

Court sport shoes

- Include shoes for tennis, basketball, and volleyball. Most court sports require the body to move forward, backward, and side-to-side. As a result, most athletic shoes used for court sports are subjected to heavy abuse. The key to finding a good court shoe is the sole. Ask a coach or shoes salesperson to help you select the best type of sole for your sport.

Field sport shoes

- Include shoes for soccer, football, and baseball. These shoes are cleated, studded, or spiked. The spike and stud formations vary from sport to sport, but they generally are replaceable or detachable cleats, spikes, or studs affixed into nylon soles.

Track and field sport shoes

- Are very specific to the sport. The needs of the individual are most important when picking the shoe. For example, foot types, gait patterns, and training styles should always be considered. It is always best to ask a coach about the type of shoe that should be selected for the event in which you are participating.Proper-fitting sports shoes can enhance performance and prevent injuries.Follow these specially designed fitting facts when purchasing a new pair of athletic shoes:
    - Try on athletic shoes after a workout or run and at the end of the day. Your feet will be at their largest.
    - Wear the same type of sock that you will wear for that sport.
    - When the shoe is on your foot, you should be able to freely wiggle all of your toes. There should be a thumb's width from the tip of the toe to the end of the shoe.
    - The shoes should be comfortable as soon as you try them on. There is no break-in period. If they're not comfortable in the store, they won't be comfortable when you're exercising.
    - Walk or run a few steps in the shoes. They should be comfortable. The heel of the shoe should not slip off the foot as you walk or run.
    - Always re-lace the shoes you are trying on. You should lace through each top eyelet as you crisscross the lacing pattern to ensure a more snug fit and decrease slippage. Don't tie the laces too tight as this may cause injury to the nerves or tendons on the top of the foot and ankle.
    - There should be a firm grip of the shoe to your heel. Your heel should not slip as you walk or run.

Now that you know what type of shoe to buy and tips to picking out a properly fitting shoe, you need to consider its construction—how well it was made. Understanding the basics of shoe construction can help you choose intelligently from among the thousands of available styles.

- Stitching should be secure, even, and straight. There should be no rough spots, wrinkles, bulky seams, or gummy adhesives.

- Rubber around the base of the shoe should be one continuous strip, tightly attaching the sole to the upper.
- The toe box should be square for adequate toe room.
- The shoe should have side and tongue padding for extra comfort. Cushioning on the cuff around the ankle and at the Achilles tendon helps to reduce friction and irritation.
- The inner sole should be soft and resilient, with adequate arch cushions.
- The reflector should be as big as possible, especially if you will be outside at dusk or dawn.
- The insole should be removable for cleaning and, when it loses springiness, replacement.

In addition to being overwhelmed by all the choices in athletic shoes, you may be surprised at how much they cost. Slick ads and television commercials tout technological features, the latest gimmicks, and shoes named after sports celebrities. Paying more than $100 does not necessarily get you a better shoe. Good quality shoes may be pricey, but don't overlook the less expensive shoes because they can outperform their costlier brandmates. Be sure that whatever price you decide to pay for the shoes, it's because the shoe has the features that meet your needs—not because it is a certain brand or has a sports celebrity's name on it.

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ACTIVEWEAR

Activewear is clothing, worn for sport or physical exercise. Activewear uses the latest in performance fabrics and technology to ensure that apparel can stand up to the intense demands of sporting disciplines like running, cycling, swimming, and gym-work. The right activewear can enhance your training and performance. Fit is probably one of the most important factors when choosing activewear. The fit can change how you feel about what you're doing and can potentially affect your activity.

Design

Sportswear is typically designed to be lightweight so it does not encumber the wearer. Sportswear should be loose enough that it does not inhibit the wearer. Thermal insulation is important in activewear clothing. In hot situations, active wear needs to stay cool, and in cold situations activewear needs to stay warm. Activewear material needs to be able to keep sweat away from the skin. Since activewear has become more popular within the last decade it's important to make sure that your designs stand out. Take your time with the fabric by making sure you are choosing popular colors. Feel the fabric before you make a sample to ensure that it will be smooth on the skin, and do you research to see if you can find any eye-catching fabric that looks like it has texture, etc. Don't be afraid to include pockets for convenience or additional style lines for aesthetics. Be aware of where you place your pockets so that they are easy to get to, but don't irritate the skin.

Comfort

- **Wicking:** In the winter, fabric that has wicking will keep your body dry and cool. In the summer, you want the sweat to cool your body down. Wicking in fabric helps this process along and pulls the moisture from your skin and helps it to evaporate. Basically, the wicking in fabric helps keep your body at a comfortable temperature while also keeping you dry.
- **Compression:** Great for high impact activities, but has benefits that anyone can enjoy. In addition to their wicking properties, compression fabrics help keep your muscles warm while you work out. Compression properties can also help prevent muscle strain and fatigue. Other benefits of compression are that it helps prevent chafing and rashes.

Fabric

Fabric is by far the one part of activewear that you need to spend most of your time learning about and dealing with. The first thing to consider is the color. Make sure that the color you chose is colorfast which means having a color that retains its original hue without fading or running. If you choose a bright color you will probably notice that the color will fade a bit after a few washes.

- **Spandex:** A type of stretchy polyurethane fabric that has a matte finish. It feels stretchy and smooth on the skin, and is often used in fitted garments.
- **Polyester:** A synthetic resin that wicks faster than cotton and feels stretchy and smooth.
- **Polypropylene:** A synthetic resin that's a polymer of propylene and feels smooth.
- **Elastane:** Often used in performance stretch apparel, it's synthetic fiber known for its exceptional elasticity.
- **Pique:** Also known as Marcella, it refers to a weaving style normally used with cotton yarn that's characterized by raised parallel cords or fine ribbing. It wicks faster than cotton and is often used in performance polos. Cotton: Cotton workout shirts are usually suitable best for a moderate exercise regimen. Cotton tends to accumulate moisture and tends to get heavy after you sweat. Cotton also tends to shrink after washing, though it is much more affordable than its competitors are.
- **Interlock:** This is a variation of rib knit construction. Similar to a Jersey knit except both the front and back of the fabric look identical. It's often blended with Lycra and has a soft feel.
- **Jersey:** A knit fabric made from cotton or a cotton-synthetic blend that feels soft and light.
- **Tricot:** Tricot fabric has a unique weave that makes it smooth on one side and textured on the other. It's often used in pocket bags, pants, short liners and key pockets.
- **Silver:** A polyester fabric blended with recycled silver that acts as a natural anti-microbial function to prevent odor. It's often used as a thermo-regulating element.

- **Cooling:** A polyester fabric that offers cooling properties in which moisture is captured at the end of an activity to cool the body temperature.
- **Crepe:** Has a lightweight property that provides coverage and is often used in liners and briefs.
- **Bamboo:** Bamboo fiber is the latest kid on the block. Bamboo is a revolutionary fabric that offers unparalleled advantages in strength and softness. It is naturally anti-bacterial and will not hold odor. Like most cellulose based fabrics Bamboo has an extremely soft hand-feel. Like most natural fibers, it allows the body to breathe as the fabric wicks the sweat away from the body. It is the premier choice for active lifestyles and a welcome alternative to stinky and scratchy polyester.

Activities

- **For outdoor winter activities:**
  Everyone has different sensitivity to the cold. The key to comfort is dressing in multiple layers. No matter what the activity, the layers need to be versatile and efficient. Wear a number of lightweight items that you can add or remove in response to changing weather conditions or activity levels.

  Layering for exercise involves wearing three different clothing types: a moisture-wicking base layer; an insulating midlayer; and a water-resistant, breathable outer layer.

    - For the base layer, look for high-tech polyester, polyolefin and spandex.
    - For the insulating layer, look for synthetic fleece or wool knit to help maintain your body temperature by trapping warm air against your skin.
    - For the outer layer, look for polyester microfibers or rip-stop nylon with a durable water-repellent finish to provide wind and moisture protection while retaining body heat and allowing perspiration to evaporate.
- **For aerobic activity:**
  Choose clothing made of breathable materials designed to wick moisture away from your body and dry quickly. This is especially important for the clothing that will be in direct contact with your skin and for exercising outdoors. Cotton shirts, shorts and sweatpants can weigh you down with the extra moisture they absorb. Runners especially want to select fitness wear that is light- weight and able to keep them cool or warm, depending on the climate conditions.

For yoga:

- Look into fitness wear that will not hinder your movements. Clothing that is designed for yoga is also a very good option for general fitness activities because it stretches and is very comfortable.

For active sports:

- Compression gear is a new type of clothing being marketed. Shirts or pants are made using seamless technology from polyolefin fabric, which draws moisture, humidity and perspiration away from the body. Garments are designed with high elasticity, fit very snugly (like a second skin) and help minimize muscle fatigue. These garments are popular for weight training, soccer and any other sport requiring a lot of running.

Consider This

- There are many factors to consider when shopping for activewear. You may be surprised at how much activewear cost. Paying the top dollar does not necessarily mean that you will get the best activewear for you. Be sure that whatever price you choose to pay for activewear that it is the right activewear for you and that it meets the needs you desire.

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COMPUTERS

Computers a integral part of our lives every day, from checking e-mail, to posting information on social networks to paying bills, or completing school assignments. Regardless of your various reasons for purchasing a computer it is important to know what you need before making purchase in order to have a computer that you can accomplish your task with. With all the options of both standard packaged computer's or a custom built computer, learning which one is best for you can save you money, and headaches, in the long run.

Key Terms

In order to understand the computer purchasing process, consumers need to be familiar with some key terms. These terms are words that can be seen at stores were computers are sold, websites of computer manufactures' and other places were computers are seen.

- Cable Modem – used for connecting to the Internet and is much faster than a typical dial up modem.
- Central Processing Unit (CPU) – The area of the computer that processes everything from basic instructions to complex functions.
- CDRW – A CD drive that can read write and rewrite to a CD.
- Computer – A programmable machine. The term most often is used to refer to a desktop or laptop computer.
- Desktop/Tower Computers – Commonly referred to a computer system that is not moved frequently and stays on a "desktop" for use.
- Digital Subscriber Line (DSL) – Is a medium for transferring data over regular phone line and can be used to connect to the Internet.
- Expansion Card – A printed circuit board that can be installed in a computer to add functionality to it. For example a user may add a new graphics card for 3D graphic power.
- External Hard Drive – A drive located outside of the computer for the typical purpose of the backing up of an internal hard drive or for the storage of additional/large files.
- Hard Drive - This is where you will store all your files whether it be music, movies or word documents.
- Input Device – Any device that provides "input" to a computer. Such devices include keyboard, mouse, web cameras, etc.
- Internal Hard Drive – A drive that resides inside the computer, which most times includes the operating system and pre-installed applications.
- Keyboard – A board of keys used for inputting data into the computers.
- Laptop – Also known as notebooks, are portable computers that you can take with youth and use in different environments. They include a screen, keyboard, a trackpad/trackball which serves as a mouse.
- Liquid Crystal Display (LCD) – Super-thin displays that are used in laptop computers screens and flat panel monitors.
- Memory - Memory can refer to any medium of data storage, it usually refers to RAM, or random access memory. When your computer boots up, it loads the operating system into its memory, or RAM.
- Monitor – Used synonymously with 'computer screen' or 'display.' The monitor displays the computer's user interface and open programs, and the user to interact with the computer.
- Motherboard – Main circuit board of your computer.
- Mouse – One of the primary input devices on a computer. The mouse allows for quick movement around the monitor and implementation of action based on the ability to use the buttons located on the mouse.
- Network Card - Your computer should have an Ethernet port on it. This port will allow you to physically connect to the internet or your internal network by plugging it into your router / modem.
- Operating System - This is the software that makes your computer go. You can buy a computer with the Mac OS X operating system or Windows 7 or any flavor of Ubuntu Linux as well.
- Optical Drive - The optical drive in your computer should be able to read and write CDs and DVDs.
- Processor - This is the brain of your computer. It can also be referred to as the CPU. Processors come in many different varieties. Processor speed is measured in gigahertz or GHZ. The larger the number of GHZ the faster the computer.

- **Plug and Play (PnP)** – Devices that work with a computer as soon as they are connected.

- **Random Access Memory (RAM**) - The RAM or memory is what your computer use's to store information while you are using the computer. This can also be referred to as Random Access Memory.
- **Read Only Memory (ROM)** – Not to be confused with RAM, ROM is memory containing hardwired instructions that the computer uses when it boots up, before the system software loads.
- **Serial Port** – Type of connection on PCs that is used for peripherals such as mice, gaming controllers, modems, and older printers. Sometime called a COM port.
- **Sound Card** – A component inside the computer that provides audio input and output capabilities.
- **Storage Device** – Any type of hardware that stores data.
- **Speakers** – Common type of output device that produces audio output that can be heard by the listener.
- **Universal Serial Bus (USB)** – Most common type of computer port used in today's computers.
- **Video Card** - This is the part of your computer that allows you to show what you are doing. Without a video card you would not be able to see what you are doing on your monitor.
- **Video Graphics Array (VGA)** – Standard monitor or display interface used in most PCs.
- **Wireless Network Card** – A card you will be able to access the Internet without a wire connecting you to a router/modem.

Reference: Tech Terms Dictionary, http://www.techterms.com/

Computer Purchase Options

Desktop or Laptop

Before purchasing a computer, you need to decided what type, or style, of computer is best for you. Basically, computers are categorized as desktops and laptops. The information below provides a quick overview of the different options, and which would be a best option for you.

The laptop is a great option if you:

- Live in a small space that simply cannot house you and a desktop PC at the same time
- Have an aversion to wires
- Want to take your PC anywhere including in and around your house or on adventures beyond four walls without having to bring a hand truck
- Love your PC so much that you cannot bear to part with it. Ever.
- You're a super secret agent, where smaller and mobile is indeed better

The desktop PC is a great option if you:

- Want to pay a little less and get a little more
- Don't plan to take it anywhere, or if you do (you gamers especially), you don't mind the hassle of packing it up every time
- Like the idea of upgrading the heck out of it
- Are a super demanding computer user and multimedia junkie

Reference: Intel, http://www.intel.com/learn/practical-advice/before-you-buy/evaluate/desktop-or-laptop

Factors To Consider If Purchasing A Laptop (PC World, www.pcworld.com)

Notebook buyers have to think about such additional variables as size, weight, screen dimensions, battery life, and keyboard quality--plus options such as built-in wireless.

Key Features:

- **Processor**: Intel's dual-core processors have helped laptops gain ground in the power department. In PC World tests, laptops using these dual-core processors performed considerably faster than laptops using single-core processors, particularly when multitasking. In newer notebooks you may see references to Core Duo, Core 2 Duo, and Core 2 Extreme, which represent steps up in computing power for laptops.
- **System memory**: Unless you're buying on the cheap, a new laptop generally includes 2GB of system memory. Many notebooks today are available with 3GB of RAM or more. Before electing to upgrade to more RAM than

that, be sure to check which version of Windows your new notebook uses. A 32-bit OS can't efficiently use more than 3GB of RAM. A 64-bit version can go higher. Outfitting your laptop with more RAM at the time you buy it is convenient and helps you extend its useful life.

- **Graphics memory**: Portables can have either of two different types of video chip sets: dedicated video (which means a separate preinstalled graphics card) or integrated graphics. If you intend to use your laptop for even casual gaming, make sure that it has memory dedicated to graphics use, rather than relying on graphics that pull from main memory.
- **Screen**: Some laptop screens continue to get bigger--and most have gone wide, too, enabling you to view spreadsheets or movies with ease. But other screens have gotten significantly smaller to accommodate all sorts of road-ready computing. Price is no longer much of a deterrent for any of these choices. Even budget shoppers can afford the luxury of high-resolution color:
- **Battery**: Laptop battery life continues to improve. Keep in mind that manufacturers may improve their times by taking steps such as turning off wireless receivers, which tend to consume a lot of power. Also, check to see if the manufacturer's stated battery-life numbers are for its regular or extended-life battery--the latter kind of battery can last up to twice as long as a regular one. And remember that, in general, lighter laptops tend to have longer battery lives than big desktop-replacement notebooks do.
- **Keyboard and pointing device**: Though you can get accustomed to almost any laptop keyboard, it's best to try before you buy. Thin-and-light notebooks usually have smaller-than-average keys spaced more closely than the keys on a desktop-replacement model, and their layouts may differ from a standard keyboard's. If you have largish hands, be aware that an ultraportable's keyboard may be difficult to use. Buy a USB mouse designed for laptops. It's a small investment, and your hands will thank you for it.
- **Optical and other drives**: Most manufacturers offer laptops with rewritable DVD drives. But now that Blu-ray Disk has triumphed over HD DVD in the high-definition format wars, more notebooks are being configured with Blu-ray drives. If you need a floppy drive for some reason, you can buy a USB add-on drive.
- **Hard drive**: Even inexpensive netbooks now come with 60GB hard-disk drives (HDDs). Most all-purpose machines offer hard drives in the range of 200GB to 320GB, and ultraportables now pack solid-state drives (SDDs). Though SDDs are faster and lighter than HDDs, their capacities are considerably lower (maxing out at around 128GB) at a significantly higher cost. So, you need to balance speed and weight against price and storage capacity. Whichever choice you make, you'll find that hard-drive space fills up quickly, so you might want to consider buying a portable external drive as well.
- **Weight and bay design**: Laptops range from 15-pound desktop replacement monsters to ultraportable lightweights that rely on external drives to come in at under 3 pounds. One-bay notebooks balance features and weight. Some laptops continue to offer the optical drive as a modular device, so you can swap it out for a second hard drive or a second battery. When making a purchase, however, keep in mind that you should consider the weight not only of the laptop but also of the AC adapter, the extra batteries, any external modules, and their cables. Ultraportable notebooks have lightweight adapters, but they can weigh almost as much as a full-size notebook if you have to carry an external optical drive, too.
- **Communications**: Most laptops have at least two USB 2.0 ports; many offer four, and some up to six. A majority of notebooks include a four-pin FireWire (IEEE 1394) port for connecting an external drive or a digital-video camcorder. Others now include eSATA ports for high-speed data transfers. Built-in ethernet now comes standard on all portables, with many models carrying gigabit ethernet. Many laptops also have built-in Bluetooth.

The Specs Explained

Before shopping for a laptop, consider how you'll be using it. If your primary goal is to get some word processing or spreadsheet work done while staying on top of e-mail, a netbook (priced at less than $500) will meet your needs. But a netbook does entail some sacrifices: a smaller processor, about 1GB of RAM, not much in the way of hard drive space, no optical drive, and (at biggest) a 10.2-inch screen. On the surface not much separates the netbooks from sexy lightweight notebooks, but the specs under the hood (and a big screen inside it) can inflate an ultraportable's price to as much as $2000 more than a typical netbook.

Remember that most vendors let you custom-build and -price your own laptop by picking from a mind-boggling array of

features, which gives you a lot of control over the final product. You may be able to afford a faster notebook by accepting a smaller, less-expensive hard drive or DVD-ROM/CD-RW drive, instead of a BD-ROM.

Unlike those on desktop PCs, only some of the components (such as memory and the hard drive) are upgradable; others (such as the graphics board) are permanent once they're installed at the factory. That's slowly changing, as some manufacturers begin to incorporate upgradable graphics. But take your time and pick only what you need. Following is a rough breakout of some configuration options.

- Installed memory. The more installed memory your laptop has, the more applications you can run at once, and the better your machine will perform. Ease of access aside, upgrading memory in a notebook is a bit trickier than with a desktop, so buy as much memory preinstalled as you can afford. Laptops with 2GB of RAM are optimal. If you're running Windows Vista on a laptop, consider upgrading to 3GB of RAM (or more if your notebook uses a 64-bit version of the OS).
- Processor. The CPU determines how quickly a notebook runs applications and performs on-screen tasks. Core Duo and Core 2 Duo processors are good choices for speedy processing. Atom processors appear only in budget-friendly netbooks, so plan according to your needs
- Screen size. The specified size of a laptop's LCD screen represents a diagonal measurement. The larger the screen, the higher the maximum resolution and the more information you can view at once. The aspect ratio seen on some newer 16-inch laptop screens offers the ideal resolution for viewing high-definition movies on the go.
- Screen coating. A laptop's LCD panel is only as good as it looks when you look into it. Can you see text and images clearly when you're viewing them in broad daylight? Many notebooks that look sharp on store shelves (thanks to their extra-glossy coatings) may be tough to work with outdoors or in a coffee shop. So keep in mind not only how you plan to use your notebook, but where you want to use it.
- Hard drive. The larger the hard drive, the more data you can keep on your laptop. Most cheap netbooks offer 80GB drives at this point, so why not give yourself a little room to grow? If you plan to work with databases, spreadsheets, or digital photo or video files, opt for a large drive. Be sure to find out the hard drive's speed, too.
- Expansion bays. The more expansion bays your laptop has, the more options you'll have for switching in new optical drives or other storage drives. But switching drives takes time, and modular components aren't as common as they used to be. As laptops gravitate toward flush form factors and unibody designs, may find that your only practical option is to lug around external drives that plug in through USB ports.
- Optical drives. Most manufacturers offer laptops with rewritable DVD drives, which give you the most flexibility. Alternatively, you could purchase a notebook with a DVD-ROM/CD-RW drive, to save money.

Factors to consider if purchasing a Desktop (PC World, www.pcworld.com)
Today's modern desktop PCs offer a wealth of options: You can go for a PC with a fixed retail configuration, or you can customize your system by stepping through a sometimes dizzying array of choices from a configure-to-order vendor. The resulting array of components is no longer wrapped up in a beige box, but in a colorful shell of highly variable shape and size, differentiated by indecipherable naming conventions.

Presented with so many possibilities, you need to narrow the field by considering what you want to use your new desktop for. Are you an avid photographer looking for a speedy but cost-effective platform for editing high-resolution photos? If so, you'll benefit from buying a machine with extra RAM and a discrete graphics card. If you've acquired an extensive media collection, and want an inexpensive and compact way to pipe it to your HDTV, a compact PC tailored toward media sharing and playback may be your best bet.

Desktops fall into three major categories, each with its own range of price and performance:

- compact PCs,
- all-in-one PCs, and
- classic tower PCs
    - budget
    - mainstream
    - performance

Each style of machine has different strengths and weaknesses, and choosing the one that's best for you depends' largely on how you plan to use it.

- **Compact PCs**
  As the smallest members of the desktop computer family, compact PCs often omit features to deliver computing power in a space-saving package. The combination of energy-efficient components, quiet operation, and small size makes compact PCs ideal for people who want a nonintrusive machine. A typical compact PC costs between $300 and $600, though the price goes up as you add upgrade options.

  Compact PCs tend to be equipped with notebook or netbook components, such as Intel Atom processors. This limits their usefulness in tasks that demand lots of processing power, but it makes for quiet, energy-efficient operation. Some compact PCs are configured for as low a bottom-line price as possible; others are packed to the gills to deliver optimal performance in a compact system.

  When assessing smaller PCs, keep an eye on the number of ports. The smaller the footprint, the fewer features you can reasonably expect, and that includes fewer connectivity options. Though you'll get a VGA port and (on average) six USB 2.0 ports, many compact PCs also offer HDMI--an asset for home-theater setups.

- **All-in-One Desktops**
  All-in-One PCs are self-contained: components are mounted behind a display, with screen sizes ranging between 18- and 27-inches. With no cords to manage or peripherals to juggle, setting up your new all-in-one PC can be as simple as pulling the machine out of the box and plugging it in. Some all-in-ones also offer a rather distinct perk: touchscreens.

  Many all-in-one PCs come with a wireless keyboard and mouse, Bluetooth support, and Wi-Fi connectivity. This reduces cord clutter to a minimum--an important consideration in spaces where an attractive décor or efficient use of space is at a premium.

- **Budget PCs**
  Typically these PCs are minitower systems, with fewer drive bays than a full tower has. Beware models that come equipped with AMD Sempron or Intel Celeron processors, as those CPUs' performance drawbacks will cancel the advantage of their low cost. Inexpensive tower desktops usually incorporate low-powered, integrated graphics rather than discrete graphics cards. As a result, your entertainment options may be limited. High-definition media playback suffers on models equipped with older Intel-based integrated graphics; and if you're interested in gaming, you'll be hard pressed to tackle anything more demanding than Flash-based offerings.

  Budget PCs generally offer at least 320GB of storage space and at least 2GB of RAM, but permit few upgrade options beyond adding RAM or a larger hard drive. They rarely leave much room for expandability inside their cases, either. Still, if you need a machine for nothing more than word processing, e-mail, and occasional DVDs or online videos, these machines should suit you just fine.

- **Mainstream PCs**
  up in the desktop chain, you'll find machines aimed at mainstream users. These PCs start in the vicinity of $800, and carry at least 500GB hard drives and about 4GB of RAM. Powered by dual-core and lower-end quad-core processors, they deliver better performance than budget desktops, without breaking the bank.

  Photo-editing applications stand to benefit from working with multi-core processors, and entertainment enthusiasts will appreciate the improved gaming performance and stutter-free HD media playback that a discrete graphics card helps deliver. Many of the machines in this category include a Blu-ray drive, either standard or as an optional extra. And if your video editing needs are modest, you probably can find a machine in the mainstream price bracket that has enough power to handle your creative projects.

- **Performance PCs**
  Occupying the high end of the spectrum are performance desktops. Such PCs generally start at a little over $1500. Most performance PCs are full tower systems, equipped with a slew of drive bays and expansion slots. Designed to tackle challenging tasks, they come equipped with the latest and greatest Intel and AMD dual- and quad-core processors, 6GB or 8GB of RAM, and at least one discrete graphics card. Some performance desktops include multiple graphics cards to deliver improved graphics performance.

  Performance desktops are suitable for users who need a lot of processing power to get their work done--professionals who do extensive high-resolution photography or video editing, and gamers who are willing to pay for top-of-the-line visual effects.

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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 may 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 be a very long zoom rang – 15x or greater, which is good for sports, travel, or nature shooting. They are generally bulkier ad 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.

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NUTRITIOUS SNACKS

Snacks can help us meet the nutritional needs that may otherwise go unmet if only consuming three meals per day. Nutrient intake can be improved by including healthy snacks as part of your daily schedule. Learning about proper nutrition and how to read a nutrition facts label can help you make healthy snacking choices.

Key Terms

- **Cost per Serving** – The cost of one serving of a food item. The cost per serving can be determined by dividing the total cost of a food package by the number of servings indicated on the nutrition facts label.
  Total cost / Total Number of Servings = Cost per Serving
- **Daily Values (DVs)** – The amount of a nutrient needed daily as determined by the Food and Drug Administration.
- **Fiber** – the part of plant foods that cannot be digested. Fiber is beneficial because it reduces the risk of coronary heart disease, reduces constipation and promotes a full feeling.
- **Food Group** – The basic food groups are grains, fruits, vegetables, dairy, and protein.
- **Nutrients** – Substances the body needs to grow and function. The six classes of nutrients are: carbohydrates, protein, fats, water, vitamins and minerals. Carbohydrates, protein and fats are the only three nutrients that provide calories.
- **Nutrient-Dense Foods** – Those that provide substantial amounts of vitamins and minerals and relatively fewer calories.
- **Portion Size** – the amount of food eaten at one time.
- **Serving Size** – A standardized amount of a food, such as a cup or an ounce, used in providing dietary guidance or in making comparisons among similar foods.
- **Whole Grains** – Foods made from the entire grain seed, usually called the kernel, which consists of the bran, germ and endosperm. Nutrients found in whole grains offer protective health benefits such as reducing constipation, aiding in weight management and reducing the risk of heart disease.

Reading Labels When Making Snack Choices

To know what you're getting from your snack, be sure to read the nutrition facts label. Try these tips to make smart food choices quickly and easily.

- Keep these low: calories, saturated fats, trans fat, cholesterol and sodium
- Get enough of these: potassium, fiber, vitamins A and C, calcium and iron Check for added sugars using the ingredient list.
- Use the % Daily Value (DV) column when possible: 5% DV or less is low, 20% DV or more is high

Additional items to look for on a Nutrition Facts Label include:

- Serving size: Look at the serving size and the number of servings per package. Then, determine how many servings you are actually consuming. If you double the servings you eat, you double the calories and nutrients. Remember, the serving size provided on the nutrition facts label is not a recommended amount to eat; it's a way to let you know the calories and nutrients in a certain amount of food.
- Calories: 2,000 calories is the value used as a general reference on the food label. However, the amount of calories you need each day depends on your age, gender, activity level and whether you are trying to gain, maintain or lose weight. Be sure to look at the serving size and how many servings you are actually consuming. If you double the servings you eat, you double the calories.

You can easily consume your calories on a few high-calorie food items, but you most likely will not get the vitamins and nutrients your body needs. Instead, choose nutrient-rich foods that are packed with vitamins, minerals, fiber and other nutrients but are lower in calories.

Look at the calories on the label and compare them with what nutrients you are also getting to decide whether the food is worth eating. When one serving of a single food items contains 400 or more calories, it is high; 40 calories is low.

Food packages also contain information about the amount of calories in the food, including various claim, such as:

Calorie free – means there is less than 5 calories per serving.
Low calorie – means there is 40 calories or less per serving.
Reduced calorie or lower in calories – means there is at least 25 percent fewer calories than the regular version.
Light or lite – means there is half the fat or a third of the calories of the regular version.

Remember that calories come from both food and beverages, so make your calories count!

- Sugars: Since sugars contribute calories with few, if any, nutrients, look for foods and beverages low in added sugars. The Nutrition Facts label lists how many grams of sugar the food contains, but does not list added sugars separately. The amount listed includes sugars that are naturally present in foods and sugars added to the food during processing or preparation. Although the body's response to sugars does not depend on whether they are naturally present in food or added to foods, sugars found naturally in foods are part of the food's total package of nutrients and other healthful components. In contrast, many foods that contain added sugars often supply calories, but few or no essential nutrients and no dietary fiber.
  Read the ingredient list and make sure that added sugars are not one of the first few ingredients. Some names for added sugars (caloric sweeteners) include sucrose, glucose, high fructose corn syrup, corn syrup, corn sweetener, honey, dextrose, fruit juice concentrates, lactose, maltose, malt syrup, molasses, maple syrup and fructose. These added sugars provide calories but few or no vitamins and minerals.
  The food package can also provide guidance. Sometimes the label will say "sugar-free" or "no added sugars." Even with these claims, it is important to read the Nutrition Facts label.
- Fats: Look for foods low in saturated fats, trans fats and cholesterol to help reduce the risk of heart disease. Most of the fats you eat should be polyunsaturated and monounsaturated fats. There is no % DV for trans fat, but you should aim to keep trans fat intake as low as possible. Remember, keep your total fat intake between 20% to 35% of calories (25% to 35% for children and adolescents 4 to 18 years of age). Foods that are high in fats are usually high in calories.
  Many food packages also contain various claims regarding the amount of fat in the food. Some examples of these claims are "fat free," "low saturated fat" or "light."
- Sodium: Sodium is an essential nutrient and is needed by the body in relatively small quantities, provided that substantial sweating does not occur. Reducing sodium intake can reduce one's blood pressure. Keeping blood pressure in normal range reduces an individual's risk of cardiovascular disease, congestive hart failure, and kidney disease.
  The adequate intake (AI) levels of sodium for individuals ages 9 to 50 years is 1,500 mg per day. For adolescents and adults of all ages (14 years and older), the tolerable upper intake level is 2,300 mg per day. Research shows that eating less than 2,300 milligrams of sodium (about 1 tsp of salt) per day may reduce the risk of high blood pressure. Most of the sodium people eat comes from processed foods, not from the salt shaker. Take a look at the sodium content on the Nutrition Facts label, using it to make selections that are lower in sodium. Use the % DV to determine the levels of sodium in the food product – 5% DV or less is low and 20% DV or more is considered high.
  Claims on the food packaging, such as "low sodium," can also be used to quickly identify foods that contain less salt. However, such claims should still prompt a look at the Nutrition Facts label.

Nutritious Snacking Tips

- Choose foods high in nutrients and low in fat.
- Eat snacks that include at least two food groups. For example, pair apple slices with cheese or a mini bagel with peanut butter.
- Plan ahead! Plan and pack snacks for when you are on the go so you can avoid less healthful snack choices such as chips and soda.
- Incorporate fruits and vegetables into your snacking plans.
- Aim for whole grain snacks, as at least half of your grains should be whole.
- Remember that calories come from both food and beverages. Water and milk are your best beverage choices at snack time.

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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.)

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

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COOKWARE

Having a hard time choosing the right cookware set for your home? It's not easy. The number of cookware brands seems to be growing every day and the range of pots and pans is enormous with materials varying from stainless steel, cast iron, aluminum and copper. It seems that celebrity chef's and TV Personalities have deemed their cookware the best, but is it? We'll let you decide.

Key Terms

- Heat conductivity – Some metals are better heat conductors than others. For instance, copper is a particularly good heat conductor whereas stainless steel is not. What this means in terms of cookware is that the better the heat conductivity the better and the more evenly your food will cook. It also means that when you turn the heat up or down the copper cookware will react a lot quicker to the temperature change than stainless steel cookware.
- Price – The amount you pay for your cookware will most likely be a determining factor in what you end up buying. The rule of thumb with cookware is to buy the best you can afford.
- Durability – Some types of cookware will maintain their good looks and last longer than others. Stainless steel is considered to be one of the best in this respect.
- Reactivity – Some metals react with certain foods. Aluminum for instance has a tendency to react with tomato and other acidic dishes. This means that your food can actually absorb some of the metal, so take care with your cookware choices and ensure that you are aware of the reactivity of each product.
- Maintenance – If you would prefer to not to have to shine your cookware every night just to keep it looking good then you will need to consider the amount of maintenance required to keep it in tip-top shape. Copper and cast iron cookware generally require quite a bit of work to keep it looking pristine whilst stainless steel is normally a little easier to look after.
- Clad Style Cookware - cookware made up of two or more different metals.

Factors To Consider When Purchasing Cookware

- Consider your cooktop - Flat-bottomed pans are essential for a smoothtop range. (Nearly every set out there is flat-bottomed, but double-check with a straight edge.) If you have an induction cooktop, magnetic stainless steel is your best bet (bring along a magnet: If it sticks to the bottom, it'll work with an induction cooktop).
- Choose your pieces - You'll want an assortment of skillets and pots, a stockpot, and lids. Manufacturers count a lid as a piece, and it might fit more than one piece of cookware in the set. Don't overbuy. A set that contains more pieces might not be the smartest choice if you use only a few and the rest gather dust in your cabinet. And note that utensils and even a cookbook can count as pieces of a set.

Stainless Steel Cookware	Cast Iron Cookware	Aluminum Cookware	Copper Cookware
Stainless steel would have to be the most common type of cookware materials. You will probably find it in most households. Stainless steel is actually an alloy of metals including steel, carbon and chromium. The reason stainless steel is called 'stainless' is because of its ability to resist corrosion. Stainless steel is an excellent choice for cookware BUT because of its inability to conduct heat well it is important that you choose stainless steel cookware that has an aluminum or copper core. Without it you will find that you will get hot spots on the cooking surface and foods will cook unevenly.	Cast iron is a material that has been used to create cookware for hundreds of years. Those that use cast iron cookware absolutely swear by it for its exceptional cooking ability. Nevertheless, cast iron cookware is not an easy to maintain product. It requires a little effort to keep it working the way it should. It is extremely durable and it is not uncommon to find cast iron cookware that has been passed down through the generations.	Aluminum is used in approximately 50% of all cookware manufactured today because of its excellent heat conduction. Aluminum is a soft metal and can scratch and dent easily. It can also react with certain foods which is why it is generally sandwiched between other metals. You will often find stainless steel cookware with a layer of aluminum offering the benefits of both materials. Aluminum is also often treated through a process known as anodization. This process places a layer of aluminum oxide onto the surface making it scratch resistant as well as ensuring that it doesn't react with foods. Aluminum cookware is often finished with a nonstick coating to ensure food remains unburned.	Copper cookware is commonly used amongst professional chefs because of its excellent heat conduction. Copper cookware on its own is generally quite expensive so it is not often seen in many home kitchens. Copper is also often found sandwiched between layers of other materials like stainless steel. Copper cookware is the cookware of chefs and for good reason. It conducts heat extremely well which means it heats quickly and adjusts to changes in temperature just as quickly. This allows greater control over your cooking.
Advantages Relatively inexpensive Durable Scratch resistant Keeps it shiny look for a long time Doesn't react with foods Warp resistant	Advantages Relatively inexpensive Durable Scratch resistant Keeps it shiny look for a long time Doesn't react with foods Warp resistant	Advantages Excellent heat conduction	Advantages Excellent heat conduction Relatively expensive
Disadvantages Not a good conductor of heat	Disadvantages Reacts with foods unless seasoned High maintenance; requires regular seasoning Is heavier than most other types of cookware Can rust unless seasoned	Disadvantages Reacts with acidic foods Scratches and dents easily	Disadvantages Reacts with acidic foods Requires regular polishing
			

Resources

http://whatscookingamerica.net/Information/ChoosingCookware.htm
http://www.goodhousekeeping.com/product-reviews/cooking-tools/cookware-reviews/shopping-for-cookware
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OUTDOOR EQUIPMENT

Tents, Sleeping Bags, and Camp Stoves

In 2011, an estimated 42 million Americans went camping. Those campers spent a staggering 534.9 million days camping! There are many different types of camping experiences, each varying in time, terrain, season, and purpose. Properly preparing for a camping trip is probably one of the most important aspects of making the experience enjoyable. With this many people and time spent in the outdoors, it is important for each person to equip themselves with the best and most appropriate equipment available.

Three essential camping equipment items presented in this study guide are tents, sleeping bags, and camp stoves. With advances in technology over the last century, each item has improved in construction and purpose and is no longer a "one size fits all" product. To ensure a fun camping experience, consumers should become familiar with the many differences in the equipment before making purchases.

TENTS

A tent is a portable shelter constructed of a fabric and supported by poles, with lines securing the structure to the ground. Today's tents are built in/for a variety of shapes, seasons, sizes, weights, features, and purposes.

Seasons

- Three-Season Tents are designed for spring, summer, and fall. These have a variety of ventilation options and are typically made of thinner, less durable material than four-season. It is best used in mild to hot climates.
- Four-Season Tents are built to provide better protection from snowfall and wind. Venting is minimal and the material is tougher than three-season. The season type is a bit misleading in that these tents are really designed for one season, winter. This type of tent may not be suitable for hot climates due to its limited ventilation.

Size and Weight

One of the biggest factors in selecting a tent is its size. Size is usually quantified by how many people can sleep on the floor. This is typically depicted by a "person" rating. As an example, a tent may be described as capable of sleeping 4 people. Keep in mind, this rating does not take into consideration any gear that may also need to be stored in the tent. An alternative means of determining the best tent size is to estimate the amount of floor space needed by the camper(s) and match that to the floor space (noted by dimensions or square footage on the packaging) of the tent being purchased.

With size also comes weight. Factors that affect weight are the size of the tent itself, the type and amount of material used, and the tent's features. Weight is an extremely important factor to consider when camping in more remote locations (i.e., backpacking or wilderness camping) and the camper is hauling the gear on foot to the campsite. Weight is less of a factor if the camper is "car camping" (parked close to the campsite) or using a horse or ATV to haul the gear.

Features

Today's tents come with a variety of available features that help make your living space more enjoyable and comfortable.

- Rain fly: a removable, water-resistant outer wall made of cloth that helps protect the tent from rain. Rain fly's come in two categories: full-length and partial. Full-length extends almost completely to the floor and provides the most protection. Partial covers the mesh panels at the top of the tent and offers more ventilation than the full-length.
- Vestibule: a floorless "porch" usually created by an extension of the rain fly. Its purpose is to provide a semi-protected transition area between the tent and the outdoors. It is often used as an area to remove wet or muddy shoes.
- Door: a cloth door panel that is often secured by a zipper. Some tents have multiple doors to allow easier movement in and out of the tent.
- Poles: a rod made of aluminum, fiberglass, or carbon fiber that helps provide shape and structure to a tent. Fiberglass poles are found on inexpensive, light-duty tents (cheaper, heavier, and less durable than the other two). Aluminum poles are strong, light, and inexpensive. Carbon fiber poles are found on high-end tents. These are very light and strong, but are the most expensive to replace.
- Panels/Walls: the inner cloth canopy that is made up of a solid and/or screened (mesh) material. A solid, waterproof wall can provide protection from rain, but provides less ventilation inside the tent. A screened wall allows for better

airflow in and out of the tent, but does not prevent rain from entering the tent. A hybrid design that uses a mixture of solid and screened material helps reduce condensation inside the tent.
Tent fabrics usually have a waterproof rating associated with its polyurethane-coated fabric. Higher values are associated with better waterproofing capabilities. For example, a rain fly with a rating of 2,500mm is more waterproof than 1,000mm. Keep in mind, the higher the rating (more coating), the heavier the tent will be also.

- Windows: typically made of screened (mesh) material; it allows air to flow in and out of the tent while also minimizing entry of insects or other critters
- Floor: a fabric component of the tent that is made of more durable material than the walls. The floor must hold up against the weight of its occupants and contact with the ground.
- Footprint: a durable material (also called a ground cloth) that is placed under the tent to provide extra protection from abrasion and moisture. A footprint will also help extend the life of the tent.

SLEEPING BAGS

Camping is all about enjoying the great outdoors, but while you're fast asleep in your tent, comfort is probably the number one priority. Having the right sleeping bag can make all the difference in getting a restful sleep. Below are three of the most important factors to consider when purchasing a sleeping bag.

Temperature Rating

The temperature rating indicates the lowest ambient temperature that the average user would still remain comfortable at inside the sleeping bag. For example, a rating of +35°F means that the average person would remain comfortable inside the sleeping bag at 35°F or higher. In selecting the ideal bag, select one that is rated for the coldest temperature expected.

Insulation Type

Most sleeping bags are insulated with either a synthetic polyester fill or goose down.

Type	Advantages	Disadvantages
Synthetic	Insulation when wet Dry fairly fast Easy to clean Less expensive Non-allergenic	Heavier Bulkier Shorter age Doesn't conform to body as well
Down	Warmer ounce for ounce Lightweight Highly Compressible Longer age Wicks moisture	Useless when wet Slow to dry Requires special cleaning May contain allergens More expensive

Source: http://wildbackpacker.com/gear/sleeping/buyingguide.html

Shape and Size

The most common shapes (in order of largest capacity to smallest) are rectangle, semi-rectangular, and mummy. Of the three, mummy shapes are smaller and typically lighter weight, ideal for backpacking. To compare sizes when purchasing, check the shoulder and hip girth specifications. Lengths come in "regular" or "long". Long is recommended for individuals 6' 6" or taller.

CAMP STOVES

Size and weight

Camp stoves come in a variety of arrangements, fuel types, and accessories. Stoves can range in weight from a few ounces to several pounds. Select a stove that minimizes weight and volume when backpacking. Be sure to factor in the weight of the stove's fuel. If car-camping, size and weight are less of a factor.

Burners

Stoves are designed with single or multiple burners. Single-burners are best for simple meal preparations such as boiling water, or a single can/pot of food. Multiple burners are ideal when preparing large meals that require more than one burner going at a time. Single-burners weigh less, and are the burner of choice for most backpackers.

Fuel Type – Cartridge vs. Liquid Fuel

- Cartridge Stoves use compressed gasses such as propane, butane, or iso-butane that come in their own container. These are typically lighter in weight, require less maintenance, and burn cleaner. Butane does not perform at temperatures below freezing (32°F). Stoves are sold as a burner that attaches to the top of the cartridge, and the cartridge serves as the stove's base. Canisters cannot be refilled.
- Liquid Gas Stoves have a refillable fuel tank that is typically filled with white gas or kerosene. These stoves work better in cold and windy conditions than cartridge stoves; however, they are more difficult to use and require more maintenance. Liquid fuels are heavier than the compressed gas fuels.

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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, overnighters 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 overnighters. 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.

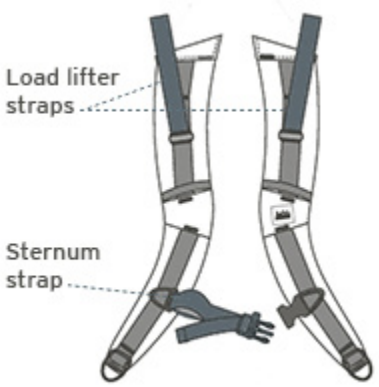
People with narrow waists sometimes find they cannot make a standard hipbelt tight enough and need a smaller size. Some packs offer interchangeable hipbelts, making it possible to swap out one size for another.

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