

BOY SCOUTS OF AMERICA MERIT BADGE SERIES

HORSEMANSHIP

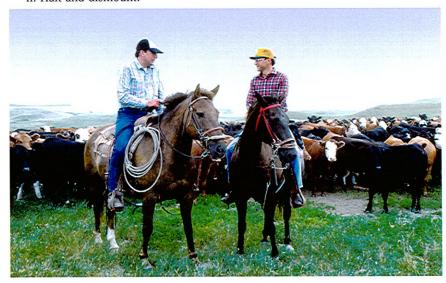


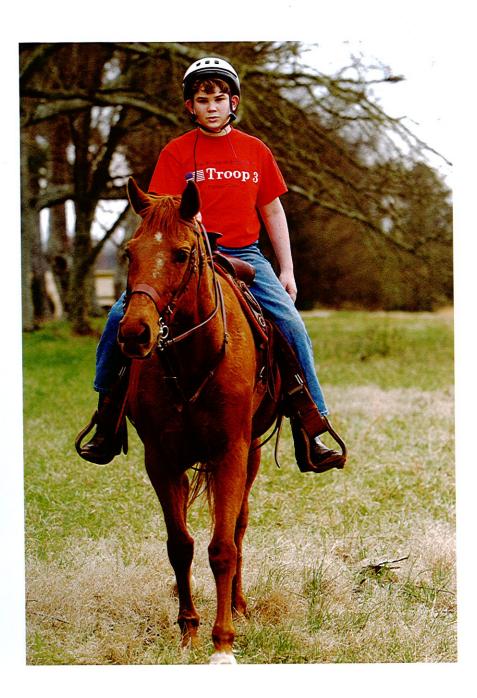
BOY SCOUTS OF AMERICA®

Requirements

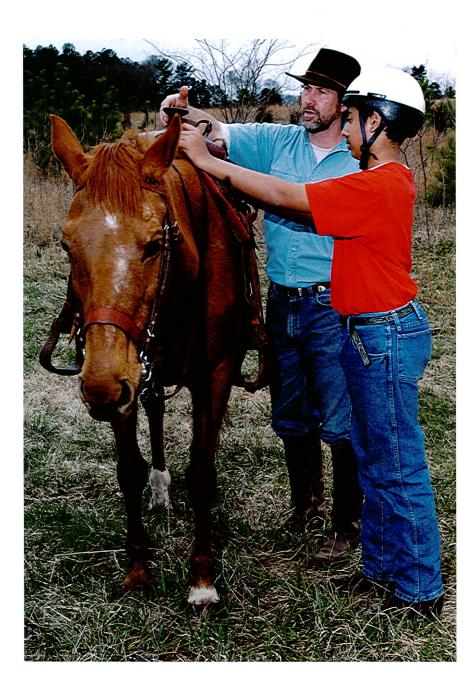
- 1. Do the following:
 - a. Describe the safety precautions you should take when handling and caring for a horse.
 - Explain and demonstrate how to approach and lead a horse safely from a stall, corral, or field and how to tie the horse securely.
 - c. Demonstrate how to safely mount and ride a horse and how to safely dismount the horse after your ride.
- 2. Name 15 main parts of a horse.
- 3. Name four leading breeds of horses. Explain the special features for which each breed is known.
- Show how to care for a Western and English saddle and bridle. Name 10 parts of the saddle and bridle that you will use.
- 5. Show how to groom, pick out hooves, prepare a horse for a ride, and care for a horse after a ride.
- 6. Describe the symptoms of colic. Describe four other horse health problems.
- Name three main conformation faults of the feet and legs, and explain how to detect them. Explain the difference between lameness and unsoundness.

- Explain how to trim and shoe a horse's foot and how to make adjustments according to its conformation, the season of the year, and the riding conditions.
- 9. Demonstrate the correct way to feed a horse. Explain how you determined what and how much to feed the horse and why the amount and kind of feed will be changed according to activity level and the kind of horse it is.
- 10. Show how to properly saddle and bridle a horse.
- 11. On level ground, continuously do the following movements. Do them correctly, at ease, and in harmony with the horse.
 - a. Mount the horse.
 - b. Walk the horse in a straight line for 60 feet.
 - c. Make a half-circle of not more than 16 feet in radius.
 - d. Trot or jog in a straight line for at least 60 feet.
 - e. Make a half-circle of not more than 30 feet in radius at a jog or trot.
 - f. Halt straight.
 - g. Back up straight four paces.
 - h. Halt and dismount.





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It's a Horse's Life

Horsemanship is the care and management of horses. A skilled horseman will know how a horse thinks—its instincts, what it senses, and what it might do even before the horse might know. While earning the Horsemanship merit badge, you will learn how to teach a horse what you want it to do in a way that makes sense to the horse.

To begin learning how to safely ride and care for horses, you must first understand the instincts that cause horses to act in certain ways.

Part of the Herd

Though they possess individual personalities, horses have a herd instinct. They do not like to be alone. Like other herd animals—animals that are preyed upon—horses are alert, timid, and insecure. Living in herds provides horses a sense of security and safety from real and perceived predators.

Horses also develop relationships within a herd. Wild herds have a leader, and the other horses are ranked behind this lead horse in a pecking order. This prevents fighting over food, water, and mates because a lower-ranked horse almost always yields to a higher-ranked horse.

One of your goals as a horseman will be to soften and improve your handling and riding skills so that the experience is calm and comfortable for you and the horse. This will help you and the horse build mutual trust.

Horsehood

- A stallion is a male horse older than 4 years that is used for breeding.
- A mare is a female horse older than 4 years.
- A filly is a female horse younger than 4 years, and a colt is a male horse younger than 4 years.
- A yearling is a horse older than 1 year but not yet 2 years old.
- A foal is a young, unweaned horse of either sex, and a weanling is a newly weaned horse.

Fossils reveal that horses have been evolving for approximately 60 million years. The first horses were no bigger than dogs and had multiple toes rather than hooves.

The leader of a wild herd usually is an older mare that the other horses respect. She leads the herd to food and safety and even settles disputes, sometimes using discipline. If a stallion is part of the herd, he protects the herd and leads it to food and water while the lead mare still leads the herd in social and day-to-day matters.

Domesticated horses also seek a leader. To practice good horsemanship, you will need to become the leader of your horse. The horse will seek direction, reassurance, food, and safety from you. If you do not become the leader, the horse will try taking the role.

Instincts, Senses, and Behavior

defend themselves.

Horses also develop habits. Some habits, such as those that you train the horse to do, are good and help foster your relationship with the horse. But some habits, such as biting,

habits, the horse will be difficult to manage.

Horses have highly developed hearing, smell, sight, taste, touch, and what many call impending danger and to detect the moods of people around them.

Large, funnel-like ears aid a horse's

Horses use their sense of smell to identify each other and other animals that could affected by smell.

Because their eyes can move independently and are positioned on the sides of the head, horses can see almost all the way around their bodies except immediately in front of and behind them, where they have blind spots.

A horse's ears point to where it is directing its attention.

One of the horse's most important instincts is defense. When startled or afraid, a horse's strongest impulse is to get away. Horses use their speed, agility, bucking, and kicking to

are bad. If you do not prevent or correct poor

a sixth sense, which allows horses to recognize

hearing. The ears can rotate in any direction to pick up sounds and vibrations. A horse's ear position also is a signal of its mood. For instance, when a horse's ears are laid back. it indicates aggression or displeasure.

be predators. Horses' sexual behavior also is

Horse Talk

Horses also see well in

the dark. But their eyes

do not focus like human

eves do; a horse must raise

Horses can detect the

and lower its head to see

same four basic tastes as

and bitter. Some people

believe horses have a

your horse likes to eat

apples or molasses, for

horse feeds have added

sweeteners to make the

horses to communicate

humans. By grooming

each other with tongue

and teeth, horses keep

ships. As you earn the

Horsemanship merit

badge, you will learn

your relationship.

clean and develop friend-

how grooming your horse

will help you strengthen

taste more appealing.

with each other and

humans: salty, sweet, sour,

sweet tooth, just as people do. You might notice that

example. Many commercial

Touch is a way for

objects clearly.

Horses communicate through body language, vocalization, smell, taste, and touch. A horse might show displeasure by pinning back its ears, baring its teeth, biting, and turning to show its hind legs. Signs of aggression or excitement include squealing, snorting, and grunting. A horse might whinny or neigh if a meal is late or when separated from its usual companions.

Humans and horses

have a long history. At

various times, horses

were a source of food

viewed in mythical or

religious ways. People

eventually learned that

horses could be domes-

ticated and ridden. The

invention of the wheel

allowed people to put

them to wagons and

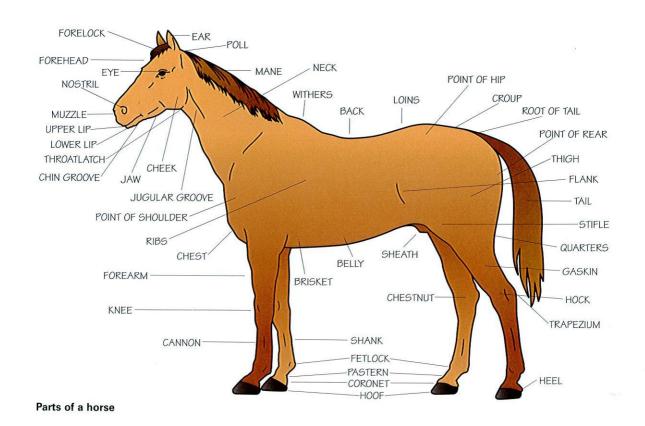
horses to work, hitching

chariots for transporta-

tion, hauling, sporting

events, and warfare.

and clothing or were



The Horse

You can learn a lot by reading about horses, but the best and most fun way to learn is to actually care for and ride a horse. Taking lessons can speed up your learning. But first, learn the parts of a horse so that you can discuss them with confidence.

Markings and Coat Colors

A variety of natural markings and coat colors gives horses their distinct looks.

Common face markings include the following:

- · Star-a white mark on the forehead
- Stripe—a narrow white mark from the forehead to the nose
- White muzzle—a broad white mark that covers the muzzle





Star

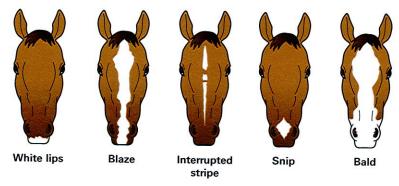


Stripe



White muzzle

- White lips—a white mark covering just the lip area
- Blaze—a broad white stripe that runs from the forehead down the nose bridge, and covers the nostrils
- Interrupted stripe—a narrow, white mark from the forehead to the nose
- Snip—a white mark between the nostrils
- Bald—a mark similar to a blaze but wider, encompassing the eyes and mouth



Leg markings include the following:

- Coronet—a white band around the coronet
- Pastern—white coloring from the hoof to the fetlock joint
- Sock—white coloring from the hoof to the top of the fetlock joint
- Stocking—white coloring from the hoof up to or covering the knee



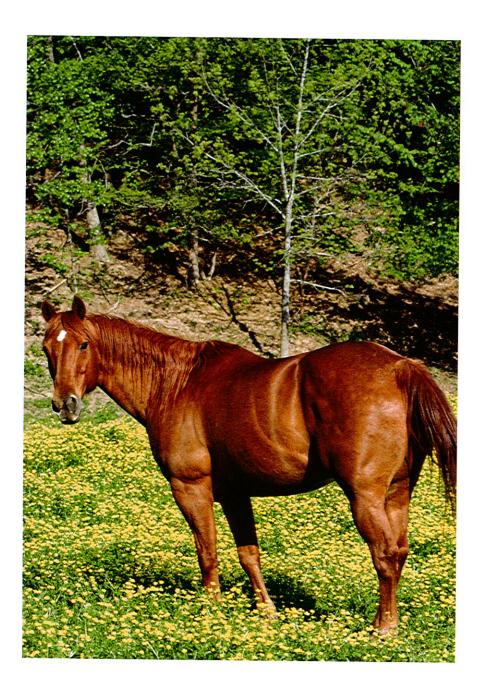
The most common colors of a horse are brown and black, but nearly any color combination is possible. Many horse colors have specific names, such as the following:

- Palomino—a golden coat with a pale tail and mane
- Bay—a reddish coat with a black mane, tail, and points
- Chestnut—various shades of gold and reddish brown, from pale to a rich red
- Strawberry roan—a chestnut color mixed with white hairs
- Blue roan—black or brown mixed with white hairs
- Spotted, or Appaloosa—a white coat with dark patches
- Pinto, or paint—two coat colors of irregular patterns, usually white and another color such as brown or black









Choosing a Horse

Because horse breeds can be as varied as breeds of other animals, such as dogs and cats, it is important to weigh the characteristics of each breed before choosing a horse. You will need to decide what factors are best for the purpose you have in mind for the horse, whether riding for pleasure, working cattle, showing, or competing. Decide on the breed, age, size, and sex of the horse accordingly.

Owning a horse is expensive and time-consuming, so first determine why you want one. Deciding whether you are able to handle the responsibility and expense takes great consideration. If you decide to buy a horse, have an experienced horseman help you select one, and have a veterinarian examine it. Buy from a knowledgeable and reputable horseman.

Equine describes anything relating to a horse or horse family.

A gelding is a castrated male horse.

Horse Breeds

A breed of horse is an equine group that has a set of characteristics that distinguish it from other horses. These characteristics are preserved through selective breeding over a period of time. With purebred horses, the pedigree, or lineage, is recorded in a stud book. A male horse used for breeding often is called a

stud. Stud stables or farms provide purebred male horses for breeding.

American Saddlebred

This breed, originally the Kentucky Saddler, was developed during the 19th century in the southern United States. Its ancestors include the Canadian Pacer, Narragansett Pacer, Morgan, Arabian, and Thoroughbred.



The American Saddlebred is an elegant and comfortable riding horse.

Gymkhana
includes
competitions
where horse and
rider compete
against others
in timed events,
including barrel
racing, pole
bending, and
stake racing.

Because of its high-stepped gait, the breed is popular for recreational riding and show competitions, faring especially well in the five-gaited, three-gaited, fine harness, park, and pleasure categories. It also is popular for farm work and riding over rough terrain. American Saddlebreds have strength, stamina, and a pleasant temperament. They usually are bay- or chestnut-colored, but they also can be gray, black, palomino, and roan. These horses usually stand 15 to 16 hands tall.

A horse is measured in hands. One hand equals 4 inches. The measurement starts from the top of the horse's withers. A pony is shorter than 57 inches, or 14.2 hands; miniatures are shorter than 34 inches, or 8.5 hands.

Appaloosa

The Appaloosa is a distinctive and popular breed in the United States. The breed was developed by the Nez Perce Indians in the 18th century using stock the Spanish conquistadors brought

to the Americas, but it was nearly wiped out in the late 1800s due to indiscriminate breeding. In 1938, Claude Thompson, a wheat farmer from Moro, Oregon, wanted to preserve the breed and established the Appaloosa Horse Club. The club has been largely responsible for the breed's rebound.

The Appaloosa has five coat patterns: blanket, marble, leopard, snowflake, and frost. The American Appaloosa stands from 14.2 to 15.2 hands, but European types can grow larger. Appaloosas are excellent to use as pleasure horses and in parades, jumping, reining, dressage, and gymkhana games.



The Appaloosa has endurance, is athletic, and is easy to train.

Arabian

The Arabian is considered the oldest and purest of all breeds. Developed in Arabia, the breed's purity has been carefully maintained for thousands of years. Arabians have been bred in the United States since Colonial times.

Its short head and dished (concave) face make the Arabian unmistakable. The nostrils and eyes are large, and the eyes are widely spaced and positioned lower on the face than in other breeds. The ears are small and sometimes curve inward. Most Arabians are under 15 hands, with the ideal height between 14.2 and 15 hands. True Arabians have solid color and can be chestnut, gray, bay, or black. They often are seen in show classes for English and Western pleasure, trail, cutting, reining, jumping, and dressage.



The Morgan was developed in the United States in the late 18th and early 19th centuries from the offspring of a horse named after its owner, Justin Morgan. The Morgan is considered a general-purpose horse.

Morgans have small ears set above a broad forehead. They have large eyes, an arched neck, a broad chest, a short back, and compact bodies. The coat usually is reddish but can be brown or black. They are usually between 14 and 15 hands tall. Morgans excel in many disciplines, including driving, carriage, park saddle, harness, hunter, dressage, cutting, competitive trail, pleasure saddle, reining, classic pleasure, and jumper.



Arabians bond well with humans and are known for stamina, speed, intelligence, and grace.



Morgans bond well with humans of all ages. Its traits include loyalty, tirelessness, reliability, and versatility.

Thoroughbred

Thoroughbred ancestry dates to three 17th-century sires—the Darley Arabian, the Godolphin Arabian, and the Byerley Turk. In England, offspring from these stallions were bred with stronger domestic horses, resulting in a horse that could carry weight with a sustained speed over longer distances.

Intelligent and courageous, thoroughbreds are a popular choice in many disciplines, including hunting, jumping and eventing, and horse trials. Thoroughbreds usually are between 16 and 16.2 hands. The head is lean, and veins can be seen underneath its thin skin. The alert eyes are big and the nostrils are large. Principal colors are black, brown, gray, chestnut, and bay. Thoroughbreds often are high-strung, nervous, and sensitive, and they can be temperamental.



Thoroughbreds were brought to the United States in the 18th century, and nearly all were bred for racing. Others were used as saddle horses and polo mounts.

Quarter Horse

The quarter horse was the first breed established and developed in the United States. It was developed from Spanish and Middle Eastern breeds that were crossed with horses from England and Ireland in the early 17th century. This combination resulted in a compact, heavily muscled horse that excelled in short-distance racing.

The quarter horse often is used for ranch work. Because of its ability to start, stop, and turn quickly, it is perfect for working cattle. It excels as a cutting horse, hunter, and pleasure horse. The quarter horse stands between 15 and 16 hands, and the usual color is chestnut.

The quarter horse got its name from English settlers in the United States who raced them on quarter-mile stretches.

Pinto

The pinto is descended from Spanish horses and is distinguished by its two-toned coat. Within the breed, the coat patterns are divided loosely into two types: tabiano, which is a mostly white coat with dark spots; and overo, which is a mostly dark coat with white spots. American Indians liked the pinto because its blotchy coat provided a natural camouflage. Western cowboys liked it because it could maintain a comfortable pace over long distances. Pintos stand between 14 and 16 hands.

Pintos have a wide range of builds and temperaments. This is because the primary feature of the



Pintos can be different breeds of horses, including miniatures and ponies. If the pinto is a purebred quarter horse or thoroughbred, it is a called a "paint horse."

pinto is its dual-colored coat. The Pinto Horse Association of America recognizes four types: stock, hunters, pleasure, and saddle. These are all suited to general Western and English riding events.

Conformation

Swaybacked horse

Horse with normally curved back

Conformation refers to a horse's build. It includes the horse's skeletal and muscular structures and all of the physical features and proportions that are characteristic of its breed. A horse's conformation is a critical indication of its soundness and ability. A well-proportioned horse will be well-balanced, which allows it to move efficiently and makes it less prone to unsoundness and strain. A well-balanced conformation will give the horse a longer working life and help it maintain a better temperament.

> As you choose your horse, keep the following things in mind.

general build. It should be muscular and the muscles should look evenly built, giving the horse a balanced shape.

will upset the balance of the slightly arched.

First, look at the horse's

Look for a well-shaped head that is proportional to the rest of the body. A head that is too big or small horse's overall appearance. Likewise, the features of the face—the ears, eyes, and nostrils-should be symmetrical and look proportional to the size of the head. The neck should be muscular, proportional to the rest of the body, and

The arch in the back should dip slightly, and the withers should be prominent, showing firm support for the neck muscles. In a mature horse, the croup will be aligned with the withers. If the arch in the back dips

too low, the horse is swaybacked. A well-aligned back and withers means a saddle will fit better.

Straight legs are important for long-term soundness. Irregularities affect how the horse moves (which might affect its rideability) and may lead to unsoundness. View a horse from all sides to assess the legs.

When viewing the forelegs and hind legs from the front and behind, the alignment of each should follow a vertical line dropped from the shoulder blades and buttocks through middle of the knees, hocks, and fetlocks to the center of the hooves.

From the side, the vertical alignment of the forelegs passes through the center of knee, cannon bone, and fetlock, and lands behind the heel. When viewing the hind legs from the side, a line dropped from the point of the buttock to the ground should touch the hock and continue down the vertical line formed by the rear of the cannon bone and fetlock.

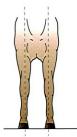
The illustrations here show some conformation faults you might see in a horse's legs:



Proper front and hind leg alignment, front and rear views



Proper front leg alignment, side view



Bench-kneedthe cannon bones are turned outward below the knee



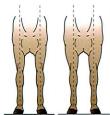
Knock-kneedthe leas are curved inward at the knees



Bowleggedthe hocks are positioned too far to the sides



Cow-hockedinwardly which can make the toes point outward



 Splay-footed—the toes are turned turned hocks, outward below the fetlock



Sicklehockedexcessively angled and weak hocks

Age Considerations

A well-cared-for horse can be saddle-mounted for about 20 years. Beware of buying or riding a horse that is ill-tempered or one that might have been spoiled or badly trained.

Sex, Disposition, and Soundness

Mares and geldings usually are the best choices for saddle horses. Geldings usually are calmer and steadier than mares or stallions. A mare might be more difficult to handle when she is in heat, which occurs for several days about once a month throughout the spring, summer, and fall.

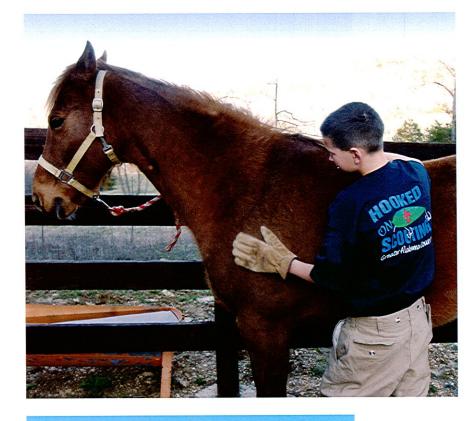


Beginning riders should start with a mature, trained horse. A beginning rider should never consider mounting an untrained or unbroken horse. Stallions should never be chosen for young or novice riders.

Owning a Horse

If you keep a horse in a pasture, the general rule is one horse per acre. A horse kept in a barn or stable will need bedding so that it does not stand on a hard surface constantly. Dust-free wood shavings make a good, clean bedding. Hemp also can be used.

Stables and barns should be cleaned every day, sometimes more often. Remove all horse



Before you buy a horse, be sure you have a place to keep it. If you do not live on a farm or ranch, you will need to board the horse. Boarding rates will vary according to services provided.

waste and soiled bedding. Sweep and hose down the floor. After the floor is dry, add clean bedding.

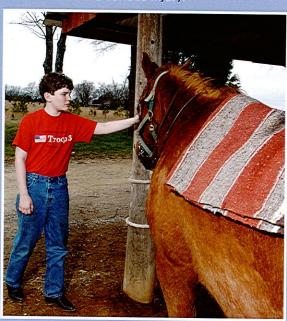
You probably will need a way to transport your horse, which means either buying or borrowing a horse trailer and having a vehicle that can pull the trailer.

Safety With Horses

Before you handle a horse, you should know a few safety rules. Because horses can sense if you are afraid, be confident yet careful around them. Prevent accidents and injuries by following these rules.

- Never startle a horse. Always speak reassuringly whenever you approach.
- While working around a horse, stay close to the front or sides so it will not be tempted to kick you and, if it does kick, you will not be struck with the full force of the kick.
- Never approach a horse directly from the rear because a horse has a blind spot directly behind it. You might startle it and cause it to kick, which could result in a serious injury.

Facing the same direction as the horse, the near side of the horse is on your left, and the off side is on your right.



- Walk beside your horse, near the shoulder, when leading it—never ahead or behind.
- Do not wrap the lead strap, halter rope, or reins around your hand, wrist, or body. Lead from the left or near side, using your right hand to hold the lead rope. Keep the excess rope in the left hand in an S shape with your fingers to the outside.
- If the horse rears, release the hand nearest the halter so that you stay on the ground.
- Never mount in a barn or near fences, trees, or overhangs. A sidestepping horse could force you into one of these obstacles.
- · Never bind yourself to the horse or saddle.
- Keep the horse under control and maintain a secure seat at all times. Horses are easily frightened by strange noises and objects.
- When a horse is frightened and attempts to run, turn it in a circle and tighten the circle until the horse stops.
- Hold your mount to a walk when going downhill or uphill.
- Slow down and hold the horse's head up when riding over rough ground or in sand, mud, ice, or snow, where there is a danger it might slip and fall.
- Avoid paved roads because a horse, especially one with shoes, can slip and fall. When you must cross a paved surface, slow the horse to a walk, or dismount and lead the horse across.
- Beginning riders should not jump a horse. If you cannot avoid a jump, give your horse a loose rein, grasp the saddle, and lean well forward with your heels down.
- If lost on a trail, allow the horse to go its own way. A horse knows where it is fed and, if given a choice, will return to that place.



Tack

You will need several pieces of *tack*, or equipment, to ride and care for a horse. The cost of equipment can be high. To save money, you might buy used tack that has been well-maintained. Whatever you buy, the tack must fit the horse. Learning to properly use and take care of equipment is important.

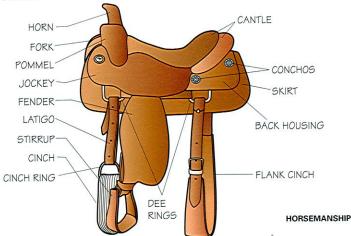
Saddles

The type of saddle you get will depend on your reason for riding the horse. Distinctive styles of Western and English saddles are available for dressage, show jumping, Western pleasure, and saddle seat classes. You might choose an English general-purpose saddle or a Western trail saddle because both can be used for several activities.

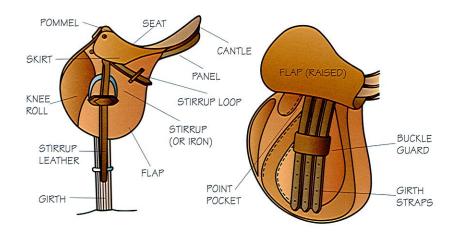
Saddles are made of leather or a synthetic material. Quality leather saddles are supple, strong, long-lasting, and costly. Synthetic saddles usually are less expensive and easier to maintain, but they might not be as durable.

Tack includes saddles, bridles, harnesses, and other equipment you use for riding or leading a horse.





English saddle



An ill-fitting or poorly adjusted saddle will make the horse's back sore. English and Western saddles have distinct differences. The Western saddle was designed for driving cattle and is also called a stock saddle. It has a higher cantle (the raised back part), a higher pommel (the raised front part), and longer stirrup leathers than the English saddle. The Western saddle also has a saddle horn, for tying and carrying rope to lasso cattle.

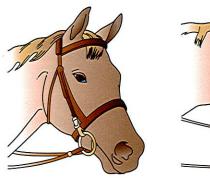
The heavier and larger Western saddle might give a beginner more security, but it is harder to handle than an English saddle, which is lighter and flatter and requires that the rider develop a surer seat, which can lead to better horsemanship. On an English saddle, the rider sits closer to the horse, which allows the rider to more easily use posture and leg movement to communicate to the horse.

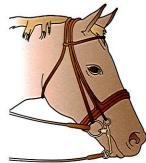
Consider the size and shape of the horse when fitting a saddle. Have an experienced horseman check the fit of the tack on the horse to make sure the saddle does not slip, rock from side to side, or pinch the horse's withers.

The main interior support of the saddle is called the tree. It can be made of wood or a hard synthetic material and is covered with leather or synthetic material. The girth or cinch is a strap of leather, cotton, wool, webbing, or nylon and is used to secure the saddle to the horse. Flaps, skirts, and fenders protect the horse's sides and the rider's legs.

Bridles

The rider uses the bridle and reins to tell the horse where to go, stop, or turn. Pulling or guiding the reins pulls on the *bit* and the bar in the horse's mouth, which applies pressure to the horse's tongue.





Single rein

Double rein

Bridle types include the single, double, and hackamore. However, only experienced riders should use the double and hackamore bridles. Parts of the bridle can include the headstall, browband, throatlatch, noseband, cheek piece, bit, and reins.

When positioning the bridle, it is recommended that two fingers fit under the browband and the noseband. The browband should allow the headstall to rest comfortably behind the ears, just below the base of the ears. The other parts of the bridle can be adjusted to fit.

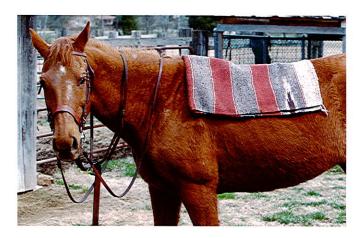
Full cheek snaffles are common bits used in both Western and English riding. The ordinary single-jointed snaffle bits should be fitted with about 1/4 inch clearance between the horse's lips and the bit ring. Double-jointed bits are fitted more closely to the width of the horse's mouth.

The bit should be placed in the toothless gap between the front and back teeth. A correctly adjusted bit should cause only one or two wrinkles in the corner of the horse's mouth. However, this might not be appropriate with horses that have an unusually long or short mouth. A bit that suspends too low will bang against the front teeth. A bit that is pulled too high will press against the molars.



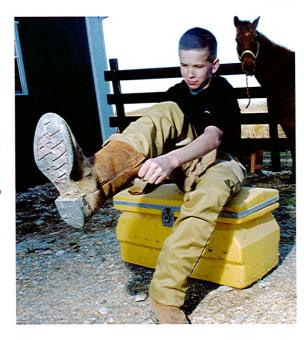
Saddle Pads and Blankets

The saddle pad, or numnah, adds comfort when the horse is wearing a saddle. When fitting the pad on the horse's saddle area, be sure to slide it in the same direction that the horse's hair grows. The pad should not be creased or wrinkled anywhere, and it should be pulled up fully into the saddle gullet.



Clothing

When you learn to ride, wear clothes that are comfortable and will not impede riding. That can include jeans, Western pants, or jodhpurs (breeches that are worn in English riding). Gloves will keep your hands clean, prevent blisters, and give you a better grip on the reins. Western boots, long riding boots, or jodhpur boots are recommended. You should not wear flexible and light shoes.



Safety Stirrups and Helmets

Horse riding can be dangerous, so take precautions to ride safely. First, make sure you have proper-fitting tack to help avoid causing the horse to become irritated and hard to control.



Wear a helmet to help prevent head injuries that could be caused by falling from a horse or being kicked. Consider using safety stirrups to ensure that your foot does not get trapped in the stirrup if you fall. Be sure the stirrups fit your footwear. Use stirrups that are 1/2 to 3/4 inch wider than the footwear.



Care of Equipment

Your safety and the horse's comfort depend on tack that is clean and in good condition. To take care of tack properly, you will need these items:

- Saddle soap
- Multiple sponges, for washing and soaping
- · Chamois cloth
- Leather conditioner such as neat's-foot oil
- Metal polish
- Cheesecloth
- · Clean towels

- · A blunt knife
- · A stiff toothbrush
- A straight stick to poke excess soap out of buckle holes, etc.
- A saddle rack to hold the saddle
- A bridle rack

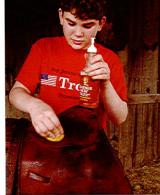
Clean the tack after each ride, especially the leather parts. If you cannot do a complete cleaning, at least clean under the saddle and wipe the reins clean using a damp sponge.



Use a chamois to help dry the tack. After the tack dries, rub a sponge with wet saddle soap and sponge the soap into the saddle using a circular motion. The sponge should be only slightly damp so that the soap does not lather. Re-soap the sponge often. Be sure to soap underneath the

the saddle of the girth and stirrup leathers and, on English saddles, remove the stirrup irons. Using a damp washing sponge, wipe off dirt or any mud on the saddle and parts you have removed. Do not forget the underside of the saddle.

To properly clean, strip

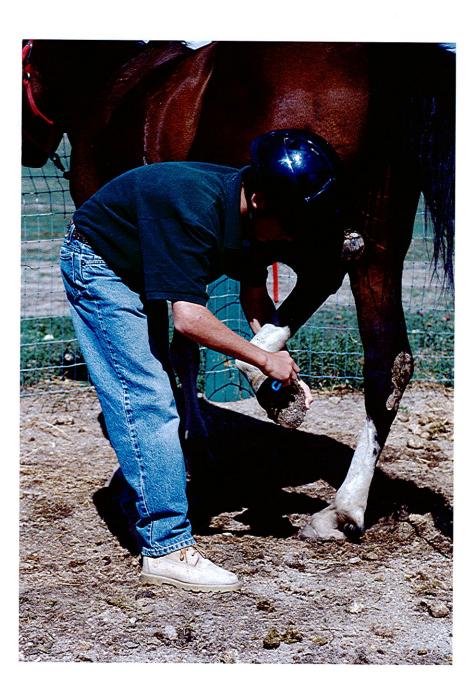


flaps, then soap the stirrup leathers, and other leathers. Clean the Western saddle stirrups, which often are covered in rawhide. Wipe off excess soap with a damp cloth. You can oil the leather parts on occasion, but use oil sparingly.

If you have a fabric girth, it can be scrubbed with a mild detergent. Rinse off the soap thoroughly and prevent rust by immediately drying and polishing the metal billet buckles or cinch ring.

Use metal polish on the metal parts. But do not put polish on the mouthpiece or wash it with soap. Wash the mouthpiece occasionally with warm water. Keep saddle blankets and pads clean, dry, and well-aired.

Store tack properly, such as in a well-ventilated storage shed—not in places such as a car trunk or dusty barn. Hang up the bridle, and put the saddle on a saddle rack or saddle horse.



Grooming and Care

Proper grooming of your horse is important. Dirty coats can attract lice and ticks. Grooming gives you a chance to look for parasites and wounds. Plus, grooming will give you a sleek, good-looking horse.

Outdoor horses do not need to be bathed as often as stabled horses because outdoor horses need to build up more natural body grease for protection against the weather. Also, outdoor horses will roll in the grass or dirt to help stimulate their skin.

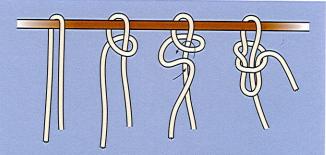
Grooming equipment you will need:

Aside from being a necessary task, grooming allows you to communicate and build a closer relationship with your horse. Talk kindly and softly to your horse while grooming.



If the horse has caked and dried mud or dirt on it, use the dandy brush to remove the dirt by working in the direction of hair growth. Wash off wet mud, or wait until it dries to brush it off.

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Before grooming, tie the horse in a safe place inside a stable or outside, using a quick-release knot like the one shown here. This knot enables you to release the horse quickly in case of emergency. Be sure the tie is level with, or slightly higher than, the horse's wither.

Step 1—Tie the free end of the horse's lead rope to a breakaway tie—a piece of string, baling twine, or leather. Then, tie the breakaway tie around a post or through a ring.

Step 2—Create a loop by bringing the free end over and around the tie end (the part of the rope attached to the horse).

Step 3—Make another loop with the free end, and push this loop through the one you made in step 2.

Step 4—Pull the tip of this loop to tighten the knot.

To undo the knot in case of an emergency, pull the free end.

Next, with the body brush in one hand, work from the front of the horse toward the rear. Work the brush in the direction in which the hair grows. Here are some other grooming tips.

- If the horse is damp from riding, gently brush the hair upward, or the "wrong" way, and let it dry while working the head.
- Take care not to bang the hard edges of the body brush against bony areas.

- Keep the hand that is not brushing in contact with the horse.
 Doing so helps to quiet the horse. It will also enable you to feel if the horse is about to turn and bite you and will warn you of any dangerous movement the horse may make.
- Use a soft brush or the body brush to gently brush over the eyes and ears.
- After every few strokes, clean your brush with the metal currycomb.
- Keep a routine of the areas brushed, starting with the near side, or left side, so that you do not miss an area. Brush firmly, but do not be too rough.
- Use the body brush on the mane, forelock, and tail. Brush gently, working through a few hairs at a time to avoid breaking the hairs. Use your fingers to untangle any knots while holding the hair in the other hand. After brushing, you can lay out the mane and tail using a damp brush to help keep the hair in place.
- Pull long, unwanted hairs from the mane rather than cut the mane.
- Brush the forelegs, paying special attention to the joint areas and the area behind the pasterns. Do not use a currycomb below the horse's knees.
- With a damp sponge, clean the dirt and discharges from the nose, lips, and eyes. With a different sponge, clean the rear, the tail, and, if you have a gelding, the sheath. Wash the sponges thoroughly after using them.
- A final polish is next. Use a dampened soft cloth or a chamois to smooth down the whole horse

Some horses might be ticklish between the hind legs and on the belly. You might need to use your hand to brush these areas.

Normally, you should not comb or brush the tail on a regular basis. Doing so can break the hair or pull it out. Over time, this would result in a sparse, thin tail.

Rasping and shoeing should be done only by a farrier.

Hoof Care

A horse's usefulness depends greatly on the condition of its hooves, which need daily inspection and attention to stay healthy. For example, rocks and other objects can lodge in the hooves and cause bruising. In addition, long-term exposure to bacteria can lead to infections.

Hooves grow continuously. Starting when a horse is about 6 weeks old, the hooves should be leveled with a rasp (file) to prevent the bones from growing crooked. Lifting, inspecting, and cleaning the hooves



Use the hoof pick to carefully clean the bottom of each hoof from heel to toe. Clean with the point working away from you.

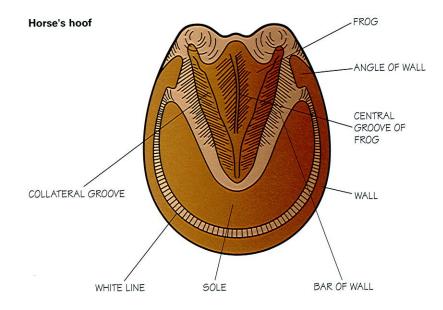
daily will prepare the horse for the possible next step of shoeing. Most horses are first shod at about age 2. Shoes help prevent

excessive hoof wear under rocky conditions. Horses with shoes need a hoof trim and reshoeing about every six to eight weeks.

Horses with conformation faults can be helped by proper shoeing. A horse that has flat soles or weak hoof walls probably will need shoes. Shoes can protect the hooves from objects, such as stones. Horses that are ridden in the winter, when the footing can be slippery, will need the added traction that shoes provide. Special cleats also can be used to enhance footing under certain conditions.

It is best to keep horses out of wet, muddy areas because these conditions can promote fungal infections.

Besides thrush and founder, which are discussed later in this pamphlet, other problems with hooves include corns, bruised soles, abscesses, cracks, splitting, and navicular disease.



A hoof pick probably will be the most important item in your grooming kit. Always clean the hooves before and after riding.

Here are the steps to help you care for the hooves.

Step 1—Put a halter on the horse and tie it to a rail or post with a quick-release knot. Make sure the horse is standing square with its weight evenly distributed.

Step 2—Stand beside the horse's left foreleg, facing toward the tail. Run your left hand down the leg so the horse is aware that you are going to do something. Many horses will lift the foot when the hand reaches the pastern (just below the fetlock joint and above the hoof), but you can encourage a horse to lift its foot by grasping the tuft of hair at the fetlock (ankle).



Step 5—Once the horse lifts the leg, hold it in your left hand. Hold the hoof pick in your right hand, and begin cleaning from heel to toe to remove debris. Pay particular attention to cleaning the cleft

Step 3—If the horse does not lift its foot, apply gentle pressure with your thumb and forefinger to either side of the fetlock, or firmly pinch the pastern with your thumb and index finger.

Step 4—If your horse still does not pick up its foot, lean against the horse slightly, pushing its weight to the other foreleg while trying steps 2 and 3 again.



A shod horse's hooves should be picked daily. This will give you a chance to check for infections, foreign objects, loose shoes, and other problems.

between the sole and the frog. Check for dampness and any dark, foulsmelling fluid oozing from the frog or sole. The frog should be firm, with no discharge. If you find problems, have a veterinarian examine the horse.

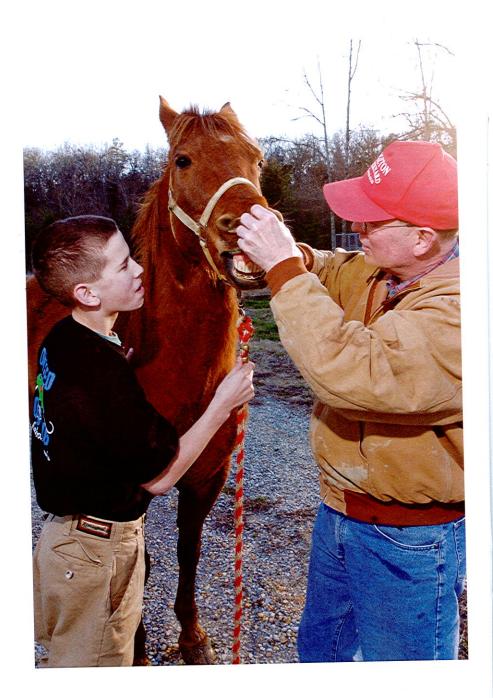
Step 6—Check the shoes for loose or missing nails. Make sure nails are crimped down so they do not pull out.

Step 7—Repeat steps 1 through 6 with the remaining



three hooves, working in order from the near hind foot, the far (right) forefoot, and the right hind foot. To pick up a horse's hind foot, stand beside the horse's flank. Place a hand on the horse's hip and run your other hand down the leg to the cannon. Pull the leg forward, binding it to the hock. Walk straight back, resting the horse's cannon on your thigh. Lock your arm over the hock so that the horse cannot kick.

Step 8—Use a paintbrush to apply a hoof dressing such as neat's-foot oil or linseed oil to dry and brittle hooves. Work from the inside of the hoof to the outside.



Health Matters

A healthy horse has bright eyes, and the membranes under the evelids and nostril are an even, pink color. A healthy horse's coat lays flat and has a glossy sheen. The skin should be clean and loose. The limbs should not have swelling.

An unhealthy horse could have many of the following signs:

- · Red, yellow, white, or purple membranes under the eyes or in the nostrils
- · A tight, blotchy coat
- · Puffiness in the limbs
- Loss of appetite
- · A cough, runny nose, or watery eyes
- Abnormal bowel movements
- · Strong-smelling manure
- · Thick and dark urine
- A protruding bone structure
- High temperature
- · Uneasiness or restlessness
- · Sweating while at rest

If your horse displays any unhealthy conditions, consult a veterinarian.

A horse's normal temperature is between 100 to 101.5 degrees. The normal pulse rate is 32 to 44 beats per minute. A horse at rest will have respiration of eight to 15 breaths a minute. The temperature is taken professionally using a rectal thermometer. The pulse can be taken by feeling the inner surface of the lower jaw, just behind the elbow and the eye. Count the pulse for 20 seconds on a stopwatch, then multiply by three.

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Keep a calendar and mark each time that your horse has been shod, vaccinated, and dewormed. and when its hooves have been trimmed and its teeth rasped.

Regular Checkups

Besides having your horse examined by a veterinarian when it is ill or lame, your horse also needs regular checkups. For example, a horse needs vaccinations to prevent serious diseases such as tetanus and equine flu. A horse's teeth should be checked once a year. Older horses might need more frequent teeth checkups.

Dangerous Plants

If your horse grazes in pastures and fields, you will need to be aware of the poisonous plants in your area. Check with a veterinarian or horse expert to learn more.

Make sure that horses on pasture have adequate hay and/or grass so that they will not resort to eating poisonous plants. Some of the more common poisonous plants include:

- 1. Ragwort, which also can be found in hay
- 2. Acorns, when eaten in large quantities
- 3. Buttercups
- 4. Nightshade
- 5. Hemlock
- 6. Bracken fern
- 7. Yew trees are extremely toxic, and all parts of the tree, whether dead or living, are poisonous.



First Aid

You will need a first-aid kit to tend to minor scratches and wounds. Any serious injuries must be treated by a veterinarian. If your horse is wounded, take the following steps

• Calm the horse by talking in a soothing voice and stroking, patting, and rubbing the horse gently, quietly, and slowly.

- Slow the bleeding if necessary. confine the horse, then clean and disinfect the wound.
- Do not attempt to treat eye, joint, or deep abdominal wounds.



A first-aid kit prepared specially for your horse (with a veterinarian's advice, if necessary) will ensure that you have the right materials available in case of an emergency. Store the first-aid items in a sealable plastic container and keep the container where you can reach it easily, such as the tack room.

First-aid kits for horses should include most of the following items:

- Disinfectant (rubbing alcohol)
- Antiseptic ointment
- · Antibiotic ointment
- Swabs
- Sterile gauze sponges or pads (a variety of sizes)
- 3-inch gauze roll
- Adhesive tape (2-inch rolls)
- Safety pins

- Instant ice pack
- Scissors
- Tweezers or forceps to remove thorns or splinters
- Fly repellant
- · Horse thermometer
- · Petroleum jelly
- · Epsom salts, for soaking abscessed feet

To slow or stop the bleeding, place a pressure pad on the wound and apply a bandage over that. You might have to hold it in position. Hosing a fresh wound will delay clotting; however, a quick light hosing to eliminate dirt or foreign objects might be necessary. You also can clean the wound by gently swabbing it or flushing it with a mild disinfectant.

Ailments

Keeping your horse and stable clean will help prevent many of the ailments that can afflict a horse. Keep feed boxes and bedding clean, as well. Make sure your horse has access to clean, fresh water at all times.

The following common horse-related ailments require immediate examination by a veterinarian.

Colic is pain in the abdomen. Colic can be mild or serious enough to cause death. Some of the causes include moldy feeds, internal parasites, overfeeding on grain when the horse is tired, letting a horse gorge on feed or cold water while it is still hot after a workout, or riding a horse immediately after a full feeding.

A horse with colic is in great pain. The horse will be agitated, constantly moving, sweating, and trying to roll. Rolling can be dangerous because it could cause a twisted intestine, which requires emergency surgery. Halter an afflicted horse to keep it from rolling. Walk the horse until the veterinarian arrives.

Founder, or laminitis, is an inflammation of the sensitive tissue in a horse's hoof that usually causes lameness. It is one of the most serious hoof diseases. A gap forms between the hoof and the sole, pushing the coffin joint out of position. This condition causes severe pain when the horse puts weight on the affected foot.

One common cause is letting a horse eat in lush grasses. Horses are not able to cope with large amounts of lush spring grass or feed mixes that are rich in protein.

Parasites such as roundworms, stomach worms, bloodworms, or bots (botfly larvae) can infect a horse. An infected horse might suffer from poor growth, anemia, a dull coat, listlessness, and digestive problems. Strongyloides (types of parasite worms) can damage abdominal arteries. Roundworms

can cause problems for young horses and yearlings. Colts and fillies often suffer from pinworms, which cause severe itching around the tail.

In addition to giving an afflicted horse deworming drugs, regularly clean and remove manure from stables or indoor areas where the horse is kept. Do not dispose of the manure in pastures or near water or feed. Have a veterinarian screen the horse's manure for parasites a couple of times a year and two weeks after deworming.

Respiratory problems and coughing also are common horse ailments. An afflicted horse will cough and/or wheeze because of irritation in the airway. This could be caused or aggravated by dusty, moldy feed; fungal spores in hay; or being ridden in cold air.

Strangles, or equine distemper, is a fairly common, contagious disease that stems from an infection caused by *Streptococcus equi* bacteria. Young horses between 6 months and 5 years of age and very old horses are most susceptible to the disease.

Symptoms can be swollen lymph nodes in the head and neck regions, nasal discharge, lack of appetite, and high fever. Isolate any horses showing these symptoms in a clean, well-ventilated stall.

EPM, or equine protozoal myeloencephalitis, is a debilitating neurological disorder caused by a parasite that enters the horse through infected drinking water or food and settles in the spinal cord. Symptoms include lameness, weakness, loss of motor control, loss of appetite, muscle atrophy (loss of muscle), and paralysis. Tests cannot prove conclusively if a horse has EPM.

Most experts believe that the source of the parasite is opossum droppings. To help prevent the disease, protect water and feed from opossums, conduct proper grooming routines, and minimize stress to the horse.

Equine infectious anemia, also called swamp fever, is transmitted by biting flies and mosquitoes. The ailment attacks a horse's immune system, and there is no vaccine.

Symptoms include high fever, no appetite, labored breathing, pounding heartbeat, bleeding in the mouth, and leg swelling. Because this is a viral disease, no drugs can effectively treat it. Infected horses usually die within 30 days.

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Some people believe the recurrence of moon blindness coincides with the phases of the moon, thus the name.

Moon blindness, or periodic ophthalmia, is the most common cause of blindness in horses. Not much is known about the condition, which causes an inflammation of the blood vessels in the eye. It usually affects only one eye and often recurs. Thoroughbreds 2 to 3 years old are the most commonly affected, but horses of any age can become afflicted.

Symptoms include redness, increased tearing, half-closed, and painful-looking eyes, as well as swelling and tenderness of the eye or eyes.

Monday morning disease, or azoturia, is most often noticed when a horse has worked hard during the week while on full feed but gets sick when put to work on Monday (or any day) after a period of idleness during which the horse continued to receive full feed. Though eating too much while idle is the cause, azoturia is regarded as a more complex issue, involving type of diet, vitamin deficiencies, and other factors.

When being worked or exercised again after the idleness, the loins and quarters stiffen and cramps result. Other symptoms might include a high temperature, sweating, and stiffening of the legs.

Common unsoundness is linked to a horse's conformation and includes anything that inhibits or interferes with the horse's strong, natural instincts or that affects the intended use of a horse.

Lameness is the impaired movement of the legs. A horse generally is considered lame when pain causes it to alter the usual weight distribution on one or more legs. Lameness can be caused from:

- Inherited conformation faults
- Bruised soles
- · Cracked or badly trimmed hooves
- Tendon, ligament, or joint problems
- · A sore back
- Improper riding (also called "rider-induced lameness")

Problems of Unsoundness

Splints are swellings and bony enlargements on the splint bones, which are small bones located near the cannon bone of each leg. Several things can cause splints, including faulty conformation, injuries, strains, and nutrition.

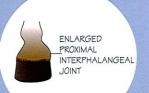
Ringbone is caused by faulty conformation, overwork on hard ground, poor nutrition, improper foot balance and shoeing, wire cuts, infections, or strained ligaments. Ringbone involves bone change or new bone growth at the pastern and/or coffin joints. The most severe condition can be life-threatening.

Lameness and an enlarged pastern are symptoms. Treatment includes complete rest for an entire season, immobilization of the affected joint for at least a month, anti-inflammatory drugs, and surgery.

Parrot mouth, also called overshot jaw, occurs when the upper incisors overlap the lower ones. Many foals that are slightly affected will grow out of it. Severe cases are unsightly and make grazing difficult for the horse. Orthodontic treatments are available.

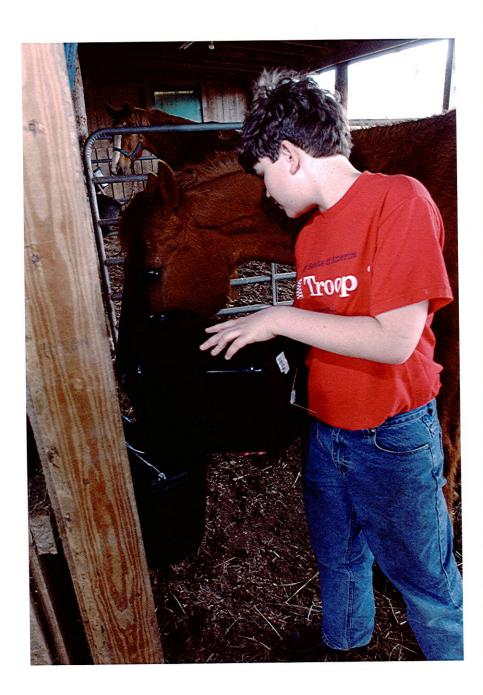
Bone spavin is joint disease, or arthritis, of the hock. Causes include strains, faulty hock conformation, mineral deficiency, injury, or working a young horse too much too early. Symptoms include the horse dragging its toe, firm swelling on the inside of the hind leg where the cannon bone joins the hock joint, a decrease in hock action, and lameness that disappears with exercise. Treatment varies; it could include complete rest, adding mineral supplements to the diet, or surgery.











Feeding Horses

Although horses are built to forage, it is not always practical to put a horse out to pasture. So, you will have to feed your horse. When feeding, there are a few rules to follow.

- Provide an amount of feed appropriate to the horse's activity level. Too much feed can cause digestive and circulatory problems. Too little feed can lead to a loss of energy, and it could harm the horse's overall condition.
- Do not feed a horse that is tired or overheated. Let a horse cool off sufficiently after exercise or work before allowing it to eat or drink.
- Water is critical for a horse's health. It helps produce saliva
 and other fluids, regulates body temperature, carries nutrients
 through the body, and is important for digestion. A horse
 can drink from 4 to 15 or more gallons of water each day,
 depending on the weather, amount of work, and its age
 and size.

Horses have small stomachs and do best when fed a little at a time and often. After feeding, allow an hour for the horse to digest the food before exercising or working it.

To determine a correct proportion between hay and grain in your area, consult a veterinarian, horse nutritionist, or horse breeder. It is generally suggested that a horse doing light work (one to three hours daily) be fed $1^1/4$ to $1^1/2$ pounds of hay and 1/2 to 3/4 pound of grain per 100 pounds of weight. It is best to feed most of the hay (approximately two-thirds) at night, and the rest in two small feedings during the day.

Horses working or exercising under saddle for five to eight hours a day need about $1^1/4$ pounds of hay and $1^1/4$ or $1^1/3$ pounds of grain per 100 pounds of weight. It is best to divide the food into four feedings during the day.

If your horse is stabled, give it clean water before feeding.



Types of feed include commercial grain mix, bran, barley, hay, oats, corn, apples, carrots, supplemental minerals and vitamins, and salt lick. Get a veterinarian's or nutritionist's advice before adding supplements.

Feed Me

Approximate amount of feed (hay and grain) per day can be determined by the size of the horse and its working conditions. If the horse is healthy, stabled, and not exercising, hay might be all it needs. Consult a veterinarian, horse nutritionist, or horse breeder to help you determine a proper feeding schedule.

Horse's Size	Amount of Feed Per Day
Under 12 hands	14 to 16 pounds
12 to 13 hands	16 to 18 pounds
13 to 14 hands	20 to 22 pounds
14 to 15 hands	22 to 24 pounds
15 to 16 hands	24 to 26 pounds
Taller than 16 hands	26 to 28 pounds

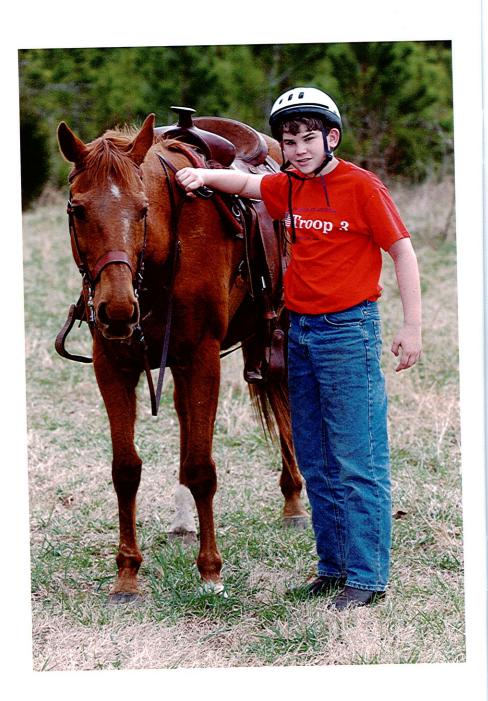
Feeding Tips

- Clean feed boxes regularly to keep them free of moldy feed.
- · Use only clean, bright, sweet-smelling hay.
- Avoid hand-feeding, which can lead to nipping and charging.
- Remember that mares with nursing foals need more protein than other mares, and young horses usually need more protein than older horses.
- Do not store more than a two-week supply of processed grain, and keep feed covered to avoid contamination with rodent feces.

Horses need a constant supply of salt, which can be provided by a salt lick block or by spreading loose, trace mineral-type salt in a shallow box. If you need to change the horse's diet, do so gradually to give its system time to adjust.

Horses left to pasture spend much of their time grazing on grass. They often have to eat a lot of grass to gain enough nutrients. If the pasture grass is poor in nutrients and vitamins, concentrated feed mix can help provide a more balanced diet.





Ready to Ride

Learning how to handle a horse is just as much a part of riding as being in the saddle. A good horseman needs to learn how to catch, lead, turn, back, saddle, and bridle a horse.

Catching a Horse

When you first try to catch a horse, have a more experienced person help you. Walk slowly toward the horse at an angle while talking gently to let the horse know you are there.

Consider renting a good lesson horse by the hour to learn how to ride and perform other merit badge requirements.

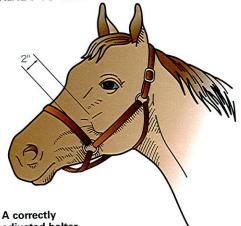
Do not chase the horse if it runs. Continue walking slowly toward the horse without looking directly at it, keeping your halter or lead rope draped over your left arm. If the horse does not let you get close, try standing still. It might get curious and come to you. Approach from the left because that is where you will always saddle the horse and mount it.

Haltering

Before approaching a horse, unbuckle the halter and attach the rope to it. Lead ropes are about 5 feet long and ³/₄ inch in diameter with a spring or trigger clip on one end, which attaches to the halter.

Never approach a horse from behind or unannounced.

Never enter a field of horses alone. READY TO RIDE



adjusted halter should fit snugly, with the noseband 2 inches below the bony point of the horse's cheek. If the noseband is too low, it could damage fragile nasal bones and tissues. If the halter is too loose, it will slide around and could come off. You should be able to fit two fingers between the horse and the noseband.

Step 4—Position the noseband so that the horse's nose will slide into it. Then raise the halter into position.

Step 5—Position the halter strap over the horse's head, just behind the ears, then fasten the buckle. Remove the loop of rope from around the neck.

To remove the halter, release the buckle. The halter then can be slipped forward over the nose and removed. When storing the halter, do not let it dangle near the floor where you or the horse might trip on it.

Step 1—Approach the horse from the left shoulder. Talk to the horse gently and reassuringly.

Step 2—Rub the horse's shoulder, then slip the lead rope under the horse's neck with your left hand. Put your right hand over the horse's neck and take the rope from your left hand.

Step 3—Hold the rope together in your right hand to help restrain the horse. Have the rope and halter strap in your left hand and the halter buckle in your right hand.





Leading

Once the horse is haltered, stand on the near side. Take the lead rope in your right hand, right beneath the jaw. Hold the slack folded in your left hand with your fingers around the outside of the rope.

Position yourself at the horse's shoulder and face forward. Now you can guide the horse forward using the lead rope. With your right arm near or against the horse's shoulder, you can feel its actions and anticipate its moves. Look where you are going (not at the horse) and keep a decent pace, but do not rush the horse. If the horse tries to get ahead of you, tug lightly a couple of times on the lead rope to slow it down. If the horse tries to charge ahead, circle the horse around you, using your elbow in its neck if necessary.

Walk calmly but decisively. When you change directions, always turn to the right. A trained horse might need only a touch on the neck to move to the right. Otherwise, you might have to straighten your right arm and push the horse's head or neck. Always maintain your position at the horse's shoulder. Slow your pace when you want the horse to slow down, and gently pull on the lead rope.

Before entering a narrow opening such as a doorway, stop the horse. If necessary, increase the tension on the lead to increase your control. Walk through the door in front of the horse. If the horse starts to rush through and you cannot hold it back, do not try to pass it. Stand still. Turn to face the horse's shoulder, even if you have to let the horse loose. To avoid this situation, be sure you have trained long enough so that you can control the horse before trying to lead it through a door or gate.





English saddles

girths, stirrup

do not come with

leathers, or stirrup

irons. These are

sold separately.

on the other

hand, always

and cinches.

include stirrups

Western saddles,

To prevent rope burns and pinches, wear gloves when working with your horse.

Tying

When you tie a horse, use a strong lead rope; do not use reins. Make sure to tie the horse in a safe place away from other horses, barbed wire, machinery, movable equipment, and other such objects. Use a quick-release knot so that it can be undone with one tug of the free end in case of emergency.

The tying point should be as high as the horse's head and above the height of its withers. If the tie is low or slips down a pole, the horse could get tangled in the rope. Also, do not use a long rope; the horse could step on it, trip, or get tangled. Mind the saying, "Eye high and arm long," when tying a horse.

Saddling

Whether saddling a horse with a Western or an English saddle, you will follow certain procedures. You might need help controlling the horse the first few times you attempt saddling.

Halter the horse and tie it using a quick-release knot. Then brush the horse to remove any caked dirt, remembering the belly and girth area. Talk to the horse reassuringly.

Step 1—Shake out the saddle blanket or pad. (Because they are easily frightened, do not do this with the horse nearby.) Inspect it carefully, removing any objects that might cause discomfort, such as burrs.

Step 2-

Approaching the horse from the side, place the blanket or pad well up on the withers and then drag it back a few inches to smooth down the hairs.



Step 3—Balance the blanket or pad evenly on the horse. Make sure there are no wrinkles.

Step 4—Before placing a saddle on the horse's back, lay all of the dangling pieces such as the stirrups, cinch, and latigo over the top of the saddle to prevent them from banging on the horse's side and startling it. On an English saddle, run the stirrup irons up the stirrup leathers, or cross them securely over the top of the saddle. On the Western saddle, lay the cinches, the right stirrup, saddle strings, and other rigging over the seat.

Step 5—Place your left hand in the saddle gullet and the right hand on the rear skirts. On English saddles, and on Western saddles with a Cheyenne roll, grasp the cantle with the right

hand. Lift the saddle slowly and high enough so that the flaps do not brush against the horse, and place the saddle gently near the horse's withers.

Step 6—Slide the saddle backward until it sits just behend the withers Be careful to properly place the saddle on the horse's back, because if it is too far back over the soft part of the horse's back, it can cause kidney problems or back pain. If it is too far forward, it will restrict the horse's shoulder movement.



Step 7—Reach under the pommel and lift the edge of the blanket slightly to give the horse some working space over the withers. An inch of blanket or pad should lie in front of the saddle.

Step 8—Slide both the pad and saddle into position, and make sure the saddle is level. Lift the pad well into the gullet or fork of the saddle. If the saddle pad has any tabs or straps to secure it to the saddle, attach them. Go to the right-hand side of the horse and secure the saddle pad on that side also. Then gently drop the girth or cinches, making sure they are not twisted. Pull out any saddle strings from under the saddle. On a Western saddle, gently put down the right stirrup. On an English saddle, leave the stirrup irons up until you are ready to mount.

Be sure to line up the clinch slightly behind the front legs.



Step 9—Return to the near side to cinch the horse. Do not fasten the girth too tightly at first because the horse will breathe in and puff out its chest when you first put on the saddle. After a couple of minutes, when the horse breathes out, you can tighten the girth more securely. The girth should fit snugly under the chest or "barrel," behind the horse's elbows. You should be able to just slide your hand between the girth and the horse's skin.

If the horse's skin wrinkles under the girth, move the left foot forward with your toe. Or, pick up the left front foot firmly and pull it forward to get rid of the wrinkes. Some saddles will have a buckle guard fitted to the girth. Pull the buckle guard over the girth buckles to prevent rubbing.

Latigo Knot

On a Western saddle, the cinch is formed with a latigo knot.

Step 1—Loosely loop the latigo, or cinch strap, through the cinch ring and Dee ring twice.

Step 2—Pull the latigo out to the side, cross it over the looped latigo, put it up under the Dee ring and then out through the Dee ring.

Step 3—Place the latigo under the crossed-over section and pull it down.

Step 4—Pull up on the cinch and pull down on the end of the latigo to take up the slack and tighten the cinch.











To make sure the Western saddle fits, have an experienced rider mount the horse. With the horse mounted, three fingers should fit between the arch of the pommel and the horse's withers. To make sure that the saddle tree is the correct width, put three fingers with a flat hand sideways between the saddle and the top of the horse's shoulder. If your hand fits too loosely, the saddle tree is too narrow. If you have to squeeze your fingers, the tree is too wide.



With an English saddle, have someone sit in the saddle with their feet in the stirrups. Again, slide your fingers under the pommel. Three fingers should fit comfortably between the horse's withers and the arch below the pommel. The saddle should not inhibit the horse's shoulder movement. Then stand behind the horse and look under the saddle. You should see some light between the horse and the saddle when the horse's head is down.

After you have checked that the girth is secure, adjust the stirrups before riding. An experienced horseman can show you how to adjust the stirrups to fit you.

Bridling

Bridle a horse after saddling. Although the Western and English bridles differ somewhat, the procedure for bridling is basically the same.

Step 1—Gently talk to the horse while you approach from its left.

Step 2—Unfasten and reposition the halter around the horse's neck. This way, the horse remains tied while you work. Keep the reins over your left arm to keep them out from underfoot. Unbuckle the throatlatch and noseband, then put the reins over the horse's head and neck.

Step 3—Slide your right arm under the horse's jaw and pass the bridle over the nose so that you are holding the two cheek pieces in your right hand just over the nose.



Step 4—Hold the bit in your left hand and guide the bit in the horse's mouth. You might need to gently press the horse's gum at the gap between the teeth to get it to open its mouth.

Step 5—Gently pull the bit over the horse's tongue by lifting the cheek pieces with your right hand and guiding the bit with your left hand.



Never force the shank of the bit between the horse's teeth. If you hurt the horse's gums, the horse might resist the next time you try inserting the bit.

Step 6—Use both hands to position the

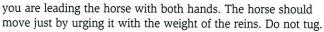
headpiece. Slide it over the horse's ears, one piece at a time, over the left ear first. Be careful not to pull on the ears.

Step 7—Pull the horse's forelock over the browband, and then check from the front to make sure the bit, noseband, and browband are level and not twisted. Check again to make sure the bit is over the tongue.

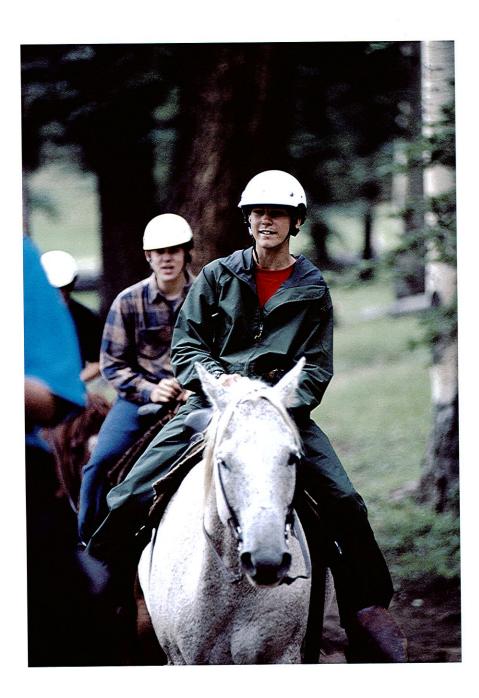
Step 8—Fasten the noseband so that it fits snugly and inside the cheekpieces. You should be able to slip four fingers in the space between the throatlash and the horse's jaw. You should be able to place one finger between the noseband and the horse's nose, and two fingers under the browband.

Step 9—When putting on the bridle, keep your head clear to avoid being hit if the horse throws back its head. Before you fasten the buckles, check to see that the bit fits the horse's mouth. If there are two or three wrinkles at the corners of the horse's mouth, the bit is too high.

After the horse is saddled and bridled, lead the horse by holding the reins under the bit with your right hand. Hold the other end of the reins in your left hand so that







Riding

Riding is basically a matter of balance and control. You will learn balance with practice, and control will come as you learn the proper riding techniques. Learning to ride correctly requires time and patience.

A good rider keeps arms and hands quiet, moving them only back, forth, or sideways—never up and down. Do not jerk the reins, and do not pull or tug very long or you could hurt the horse's tender mouth.

Develop a soft, relaxed, give-and-take grip on the reins to help maintain easy contact with the horse's mouth. When first learning to ride, let your hands follow the bobbing of the horse's head by keeping your shoulders and elbows loose so they can "open" and "close" with the horse's movements.

Even though a horse's mouth is tender, it will resist your pull on the reins. Because a horse can pull harder than you can, it can develop a hard mouth—one that becomes insensitive—if you pull too hard or too long on the reins.

When learning
Western and/or
English riding,
you will use aids
such as your
voice, legs, hands,
weight, and
reins to control
your horse.

Western Horsemanship

Western riding probably originated with the arrival of Spanish conquistadors in the Americas in the early 1500s. But Western riding as it is practiced today developed on cattle ranches in the Western United States and Mexico.

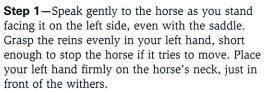
As Western horse shows grew more popular, the style became standardized. Western-style riding includes trail; show classes, such as pleasure and reining; and competitions that include rodeo, cutting, barrel racing, and pole bending.

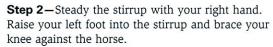
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The obvious difference between Western and English riding is that in most Western show events, the reins are held in one hand only—the left hand. However, in classes for junior horses, rules allow for two hands with certain bits and bridles. Also, Western riders generally do not use their legs to maintain a gait. Judges look for slack in the reins, which makes it important to learn how to control your horse without tugging on the reins.

Western riders should sit tall in the saddle with head up, back straight, shoulders level and square, and feet deep in the stirrups with heels below the toes and knees slightly flexed. Ride relaxed, but alert.

Mounting





Step 3—With the foot well into the stirrup, take hold of the saddle horn with your right hand and spring straight up with your right foot until you are standing with your right foot even with the

left. Lean forward just enough to keep your balance. Your left hand can rest on the horse's neck.

Step 4—Swing your right leg over the saddle, being careful not to kick the horse. Ease lightly into the saddle.

Step 5—Place your right foot in the right stirrup. If the horse tries to move, hold it in check with the reins using your left hand. Hold the reins in your left hand just in front of the saddle horn. Rest the right hand on your thigh.





Dismounting

Step 1—Place your left hand, holding the reins, on the horse's neck and grasp the saddle horn with your right hand. Lean slightly forward and shift your weight to the left stirrup.

Step 2—Swing your right leg backward over the saddle, again being careful not to hit the horse.

Step 3—Lean into the saddle, remove your left foot from the stirrup, and slide down on your right hip. This way, you will avoid falling under the horse.

Practice so that you can mount and dismount in a smooth, easy movement.

The Gaits

Horses have four natural gaits—walk, trot, canter, and gallop—plus some specialized ones.

The **walk** is a four-beat gait in which the horse's feet touch the ground in even intervals. To move into a walk, lean slightly forward in the saddle, from the hips up. Shift a little more of your weight to the stirrups and urge the horse forward with leg pressure. Hold the reins lightly and do not pull on the horse's mouth. Keep your thighs and upper calves in close contact with the horse. Ride more forward and not with your seat on the cantle.

The **trot** is a two-beat diagonal gait where the opposite front and hind feet touch the ground together. To put your horse into a slow trot, take the slack out of the reins to prevent the horse from starting too fast, and lean a little farther forward. Putting a little more weight in the stirrups will help keep you from bouncing. To go to a fast trot, urge the horse to the desired pace by squeezing the horse with your legs and heels.

The jog or slow trot is ridden by absorbing the slight jar through your knees and back. With your legs slightly bent and your heels down, your knees and ankles act as shock absorbers. The fast trot is ridden by standing slightly in the stirrups and resting your free hand on the saddle horn, if you need to, for balance.

The **canter** is a rhythmical three-beat diagonal gait: (1) one hind foot hits the ground, then (2) the opposite front foot and the other hind foot hit the ground together, followed by (3) the other front foot. To canter from a walk, gather the horse slightly in the reins. Pull on the reins slightly to one side

Beginning English riders must learn to post while the horse trots. Posting is an up-down movement that makes the trot more comfortable.

and press with the leg on the same side, then release the head. The sudden release and shifting your weight cause the horse to shift its weight and step out on the foot you have indicated.

To ride a canter, lean forward from the hips up without slumping in the saddle. Give your horse some slack in the reins but do not let them flop. Keep your elbows near your body at all times and not flapping up and down. Always keep your heels low.

The **gallop** is a series of four beats, but the sequence of footfalls will vary according to the speed. When the right foreleg leads, the sequence will be left hind leg, right hind leg, left foreleg, right foreleg. This will be followed by a full suspension when all four hooves are off the ground. In a gallop, lean slightly forward from the hips up and raise your seat slightly. Keep the reins loose and your weight in your heels. Be sure the horse is in the correct lead, then squeeze the horse with both your legs at the same time. This is a typical cue used to prompt a gallop.

Reining

In Western riding, horses are taught to turn by the weight of the rein against the neck. To turn left, move your rein hand to the left so that the right rein falls against the horse's neck. To go right, move your rein hand to the right.

English Horsemanship

The basics of riding are the same whether the style is Western or English. However, the styles have different traditions, equipment, and purposes. Also, English riding techniques involve coordinating the legs, reins, and balance to control the horse. The rider might not feel as secure in an English saddle as in

In *dressage* (pronounced dress-AHGE), horse and rider must perform a series of designated movements in an arena before judges. The goal is precision and harmony in movements. The *hunter* jumper course is an obstacle course over fences that the horse and rider must complete as faultlessly as possible. *Eventing*, or combined training, is a three-day triathlon for the horse-and-rider team. It combines the skills of dressage, cross-country, and jumping.

the wider Western saddle, which has a saddle horn and a raised cantle and pommel.

Among the events in which English riders can participate include dressage, hunter or jumper, and eventing or combined training.

English riding clothes include breeches, which usually are made of stretch material and worn with riding boots; a sweater or thick shirt in cold weather; jodhpur boots, which are worn with jodhpurs (pants made from two-way stretch materials that are longer than breeches); a hacking jacket; a tie or stock for hunting or hacking; a shirt with collar for showing; string or wool gloves; and a protective cap. English riders also carry a jumping, cross-country, or keeper whip to guide the horse using a slight tap; it is never used to discipline or hurt a horse.

Mounting

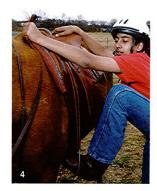
Step 1—Hold the left rein in the left hand. With the right hand, pull the right rein to take up the slack on the off side.

Step 2—With the left rein in the left hand, bring the hand up until it meets the right rein on the horse's neck just in front of the withers. Take both reins in the left hand. The leftover reins should drop neatly alongside the shoulder of the horse, and where they will not catch in the stirrup.

Step 3—Open the fingers of the left hand enough to grasp a handful of the horse's mane to help pull you up. Do not pull on the reins when you mount; it will hurt the horse's mouth.

Step 4—Take the stirrup in your right hand and turn it toward you. Place the ball of your left foot in the stirrup, keeping your heel down.

Step 5—Grasp the cantle with your right hand. In a springlike movement from your right leg, push yourself up and stand straight with the right foot even with the left and your weight balanced over the horse's back. Be sure not to jab the horse with your toe.





Step 6—As you stand in the left stirrup, your weight should be on your arms and left leg. Lean on your left arm and move your right hand from the cantle to the right-hand side of the pommel. At the same time, swing your right leg over the horse's back, taking care not to kick the horse. Gently settle into the saddle.

Step 7—Place your right foot in the right stirrup and take the reins in both hands.

Dismounting

Step 1—Gather the reins in your left hand on the horse's neck.

Step 2—Place your right hand on the pommel, then take your right foot from the stirrup and pass your right leg over the horse's back without touching it.

Step 3—Shift your right hand to the cantle.

Step 4—Keeping your weight on your hands, take your left foot from the stirrup and drop lightly to the ground, sliding down the horse's side.

Position and Reining

Keep your head up and eyes ahead. Your back should be straight, but not stiff. Keep your arms and hands flexible, and your elbows bent. The reins should be held evenly in each hand in front of the horse's withers and about 2 inches apart.

Sit in the deep part of the saddle, not on the cantle. There should be enough space behind you for the width of your hand. Place the ball of each foot on the inside of the stirrup iron so that your feet are turned out slightly and your heels hang below your toes. Use your calves to apply pressure to signal the horse. Keep your elbows close to your sides.

Both hands hold the reins in English riding, and horses are trained to respond to direct pressure on the mouth. When using two reins (one pair), let them pass between the last two fingers of each hand, up from beneath your hands, and out between the thumb and first finger. Your thumbs should hold the reins in place. The loop that is formed falls over your hands, down to the horse's right shoulder.

You can carry a crop, an English riding whip, when trotting or cantering. It is held in the right hand along with the rein. To use it, take both reins in your left hand and tap the horse briskly behind the girth.

Turning

When riding, always look in the direction you want to go. This includes turning. The slight change in your weight in the saddle helps the horse understand your requests. To turn left, move both hands slightly sideways to put pressure on the right side of the horse's neck. Move the hands in the opposite direction to turn right. While walking the horse, practice turning in both directions, then circle the horse to the right and to the left.

Stopping

Learn how to stop your horse without jerking back or pulling too hard on the reins. This action can hurt your horse's mouth, and it will cause the horse to begin resisting you.

To stop while Western riding, sit deep in the saddle and pull back on the reins just hard enough to stop the horse.

To stop while English riding, sit down firmly in the saddle, and set your hands while not yielding to the horse's head motion. Be firm on the reins, but gentle.



Correcting Poor Habits

To prevent a horse from developing and keeping poor habits, correct them as quickly as possible.

Do not let the horse head for the barn, stable, or its "home" every time it is near. Practice riding the horse in front of the stable or barn without letting it stop there. When you are ready to dismount, ride away from the barn, stop, dismount, and lead the horse back to the stable or barn.

When a horse attempts to bite, push it away and say "No!" in a firm voice. Praise the horse when it does not try to bite. If a horse bites, you need to find out why. It could be that the horse expects a treat. Restrict or quit giving treats, if this is the reason. A horse might bite during grooming or cinching if you are careless or too rough.

If a horse ever attacks with its teeth, do not attempt to deal with it. Seek the advice of a horse expert.

Never back a horse by pulling or jerking on the mouth!

Backing While Mounted

Backing while mounted is helpful when you need to back up a few steps to get out of a tight spot on the trail. Walk your horse forward, gently but firmly restricting the motion so that your horse lifts its leg forward then drops it back because it cannot go forward without straining the rein. The horse should only back one, two, or three steps. Keep your horse quiet, calm, and straight while backing.

Backing Up Straight

As you teach your horse to move backward with a halter, remember that horses dislike moving backward. Your horse's first reaction might be to raise its head and plant its hind feet. However, there is an effective way to teach your horse to back up.

Step 1—Stand on the left side of the horse, near the withers, with the lead rope in your right hand. Use the rope to bump the horse's forefeet back while using your left hand to keep the horse's nose straight. You might need someone else to help. Just move the horse back a step at a time while saying "back."

It might help to have the horse facing a wall so that it can't go forward.

Step 2-If the horse won't move, push the horse at the chest, where the muscles join. Apply pressure until the horse steps back. Then release and repeat.

As the horse learns to move back, touch it lightly on the chest less and less often until it backs with just the pressure from the halter rope or when you say "back."



Remember, horses have blind spots directly in front of and behind them.

Unsaddling

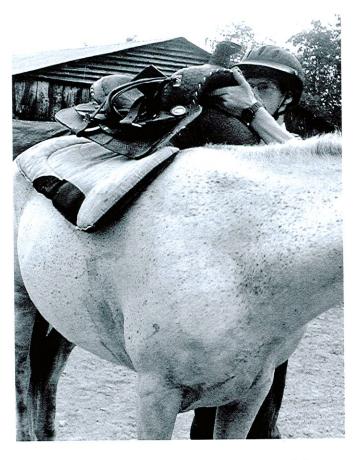
After your ride, make sure the horse has cooled off and relaxed before taking it to the stable or barn. When you have stopped the horse, pat it on the neck. Now dismount to the left, and lift the reins over the horse's head.

After dismounting an English saddle, run the stirrups up the leathers, making sure they do not flop. On a Western saddle, lay the right stirrup over the

saddle or hook the stirrup on the horn. Unbuckle the girth on the left side of the horse and lay it over the seat. Place one hand on the pommel and the other hand on the cantle. Lift the saddle off the horse's back and set the saddle on the ground. It is usually best to prop it against a wall with the pommel down.



As you remove the bridle, do not pull the bit from the horse's mouth—you might hurt the horse. Let the bit fall out as you remove the bridle.



Before taking off the bridle, strap a halter around the horse's neck so that you can maintain control. Undo the noseband and the throatlatch from the bridle, and lift the headpiece and reins together over the ears. The bit will drop from the horse's mouth when you do this.

Next, fasten the halter and tie the horse while you put your tack away.

There are two ways to carry a saddle. One way is to place it on your right arm with the pommel in the crook of your elbow and the cantle end in your left hand. The second is to put the headpiece of the bridle and the reins on your left shoulder. This will leave your hands free to carry the saddle.

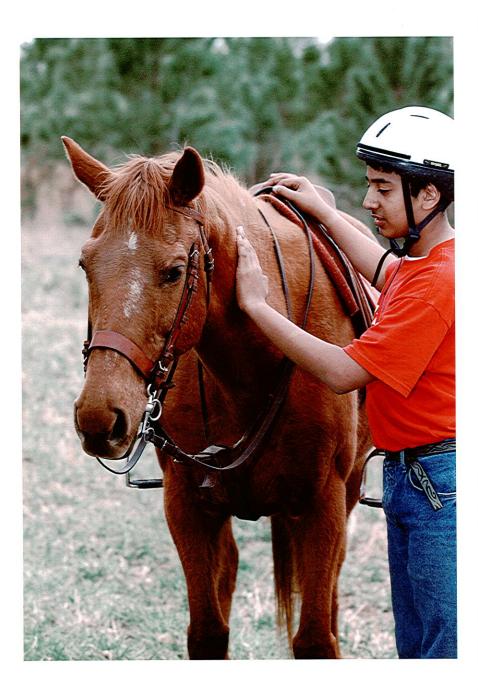
Lastly, groom your horse and clean the tack.

Stable Safety

In case of an emergency, it's important to keep certain items handy in the stable. Spotlights, flashlights, fire extinguishers, and ropes with easily loosened knots or snap fasteners all are items that may be necessary in an emergency.

Fire Prevention Tips

- Stable horses in a building separate from machinery, fuel, lubricants, paint, and fertilizers.
- Store feed and bedding in a building separate from where horses are stabled.
- Keep matches and flammable materials outside the stable area.
- Pile manure away from the stable because manure builds heat.
- Buy or store only well-cured hay and bedding. Damp grass is a hazard because it builds heat and might ignite by spontaneous combustion.
- Do not allow smoking in the stable area.



Horsemanship and You

By now you know what it takes to be a kind and responsible horseman. Just remember to practice your riding and handling skills slowly and methodically. As you do, you will notice that you become more comfortable and many of the skills will become second nature. If you are consistent with your handling and riding skills, you will be able to work with any kind of horse.

It is important to be respectful of horses' nature. Remember that they do not think like people do, but if you communicate with them in ways they understand, they make wonderful companions and riding partners. One of the most rewarding things about horsemanship is the deep and lasting trust you can have with your horse.

You might discover that you enjoy horsemanship enough to own your own horse or to compete in rodeos or jumping events. Whether you use your horsemanship skills for pleasure rides or competition, horsemanship is more than just riding a horse; it is a practice of respect for horses and your relationship with them.

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Horsemanship Resources

Scouting Literature

Fieldbook; Animal Science, Mammal Study, and Veterinary Medicine merit badge pamphlets

Visit the Boy Scouts of America's official retail Web site at http://www.scoutstuff.org for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

Books

Bennett-Talbot, Betty. *Games on Horseback*. Storey Books, 1999.

Edwards, Elwyn. *The New Encyclopedia* of the Horse. DK, 2001.

Haas, Jessie. *Safe Horse, Safe Rider*. Storey Books, 1994.

Harris, Susan. United States Pony Club Manual of Horsemanship: Basics for Beginners. Howell Book House, 1994.

Hayes, Karen. *Hands-On Horse Care*. Trafalgar Square Press, 1997.

Henderson, Carolyn. *The New Book of Saddlery and Tack*. Sterling, 2002.

Hill, Cherry. Horse Handling and Grooming. Storey Books, 1997.

Ramey, David. Concise Guide to Nutrition in the Horse. Hungry Minds, 1998.

Rodenas, Paul. Random House Book of Horses and Horsemanship. Random House, 1997.

Vogel, Colin. *The Complete Horse Care Manual*. DK, 1995.

Magazines

Horse Illustrated
3 Burroughs
Irvine, CA 92618
Telephone: 949-855-8822
Web site:
http://www.horsechannel.com/horse-magazines/horse-illustrated

Horse & Rider
Primedia Inc.
745 Fifth Ave.
New York, NY 10151
Web site: http://www.horseandrider.com

Practical Horseman
Primedia Inc.
745 Fifth Ave.
New York, NY 10151
Web site:
http://www.practicalhorsemanmag.com

Organizations and Web Sites International Equestrian News Network

P.O. Box 227 Marshfield Hills, MA 02051 Telephone: 781-834-7137 Web site:

http://www.equestriantimes.com

The United States Pony Clubs

4041 Iron Works Parkway Lexington, KY 40511 Telephone: 859-254-7669

Web site: http://www.ponyclub.org

National Reining Horse Association

3000 NW 10th St.
Oklahoma City, OK 73107
Telephone: 405-946-7400
Web site: http://www.nrha.com

United States Dressage Federation

4051 Iron Works Parkway Lexington, KY 40511 Telephone: 859-971-2277 Web site: http://www.usdf.org

United States Equestrian Foundation

4047 Iron Works Parkway Lexington, KY 40511 Telephone: 859-258-2472 Web site: http://www.uset.com

United States Eventing Association

525 Old Waterford Road NW Leesburg, VA 20176 Telephone: 703-779-0440 Web site: http://www.useventing.com

Pony of the Americas Club

3828 South Emerson Ave. Indianapolis, IN 46203 Telephone: 317-788-0107 Web site: http://www.poac.org

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We appreciate the Quicklist Consulting Committee of the Association for Library Service to Children, a division of the American Library Association, for its assistance with updating the resources section of this merit badge pamphlet.

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- John McDearmon—all illustrations on pages 10–12, 20–21, 27–29, 36, 38–39, 49, 56, and 60
- Brian Payne—cover (bridle); pages 34 and 64

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If a Scout has already started working on a merit badge when a new edition for that pamphlet is introduced, he should continue to use the same merit badge pamphlet to earn the badge. He should fulfill the requirements listed in the pamphlet he was using when he began. In other words, the Scout need not start all over again with the new pamphlet and possibly revised requirements.

Merit Badge Pamphlet	Year	Merit Badge Pamphlet	Year	Merit Badge Pamphlet	Year
American Business	2002	Engineering	2000	Photography	2005
American Cultures	2005	Entrepreneurship	2006	Pioneering	2006
American Heritage	2005	Environmental Science	2006	Plant Science	2005
American Labor	2006	Family Life	2005	Plumbing	2004
Animal Science	2006	Farm Mechanics	1997	Pottery	2002
Archaeology	2006	Fingerprinting	2003	Public Health	2005
Archery	2004	Fire Safety	2004	Public Speaking	2002
Architecture	2004	First Aid	2007	Pulp and Paper	2006
Art	2006	Fish and Wildlife		Radio	2001
Astronomy	2004	Management	2004	Railroading	2003
Athletics	2006	Fishing	2002	Reading	2003
Auto Mechanics	2000	Fly-Fishing	2002	Reptile and	
Aviation	2006	Forestry	2005	Amphibian Study	2005
Backpacking	2007	Gardening	2002	Rifle Shooting	2001
Basketry	2003	Genealogy	2005	Rowing	2006
Bird Study	2005	Geology	2005	Safety	2006
Bugling (see Music)		Golf	2002	Salesmanship	2003
Camping	2005	Graphic Arts	2006	Scholarship	2004
Canoeing	2004	Hiking	2007	Sculpture	2007
Chemistry	2004	Home Repairs	2002	Shotgun Shooting	2005
Cinematography	2001	Horsemanship	2004	Skating	2005
Citizenship in the		Indian Lore	2003	Small-Boat Sailing	2004
Community	2005	Insect Study	2002	Snow Sports	2007
Citizenship in the Nation	2005	Journalism 2	2006	Soil and Water	
Citizenship in the World	2005	Landscape Architecture	2002	Conservation	2004
Climbing	2006	Law	2003	Space Exploration	2004
Coin Collecting	2002	Leatherwork	2002		2006
Collections	2003	Lifesaving	2001	Stamp Collecting	2007
Communications	2003	Mammal Study	2003	Surveying	2004
Composite Materials	2006	Medicine	2002	Swimming	2002
Computers	2005	Metalwork	2007	Textile	2003
Cooking	2007	Model Design and Building			2005
Crime Prevention	2005	Motorboating	1992	Traffic Safety	2006
Cycling	2003	Music and Bugling	2003	Truck Transportation	2005
Dentistry	2006	Nature	2003	Veterinary Medicine	2005
Disabilities Awareness	2005	Nuclear Science	2004	Water Sports	2007
Dog Care	2003	Oceanography	2003		2006
Drafting	1993	Orienteering	2003		2005
Electricity	2004	Painting	2002		2007
Electronics	2004	Personal Fitness	2006		2006
Emergency Preparedness	2003	Personal Management	2003	Woodwork	2003
Energy	2005	Pets	2005		

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