

# Junior 4-H Horse Project Book

(4th Year Junior)

Name: \_\_\_\_\_ Birthdate: \_\_\_\_\_

Address: \_\_\_\_\_

Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Name of 4-H Club \_\_\_\_\_

Club Leader: \_\_\_\_\_

Years in 4-H: \_\_\_\_\_ Years in Horse Project: \_\_\_\_\_



## Targeting Life Skills Model

## 4-H Motto

*To Make the Best*  
**BETTER**

## 4-H PLEDGE

I pledge my **HEAD** to clearer thinking,  
my **HEART** to greater loyalty,  
my **HANDS** to larger service,  
and my **HEALTH** to better living,  
for my club, my community,  
my country, and my world.



# My 4-H Story

Activities you did with your club

Different programs/clinics you attended

What you and your horse learned this year

Fun things you did

What part of your project you liked best

What you gained out of being in the 4-H program

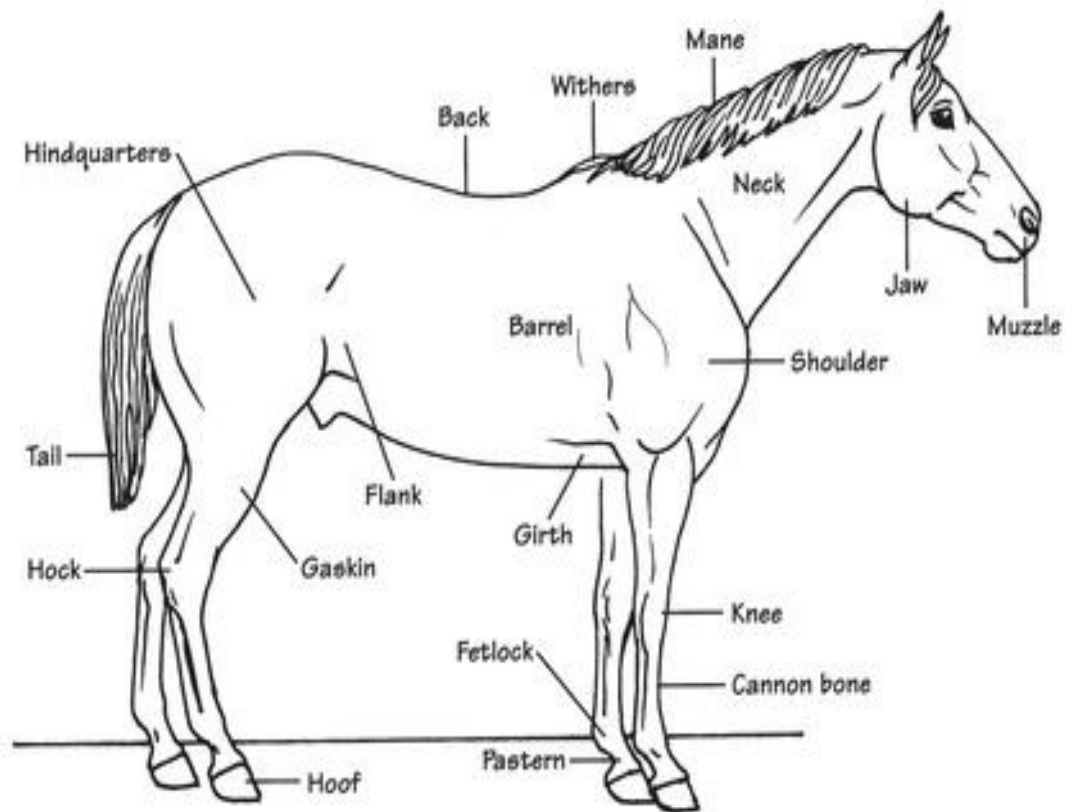
# Activities

Choose 4 Activities to do.

1. Visit the website for the American Quarter Horse Association, The Arabian Horse Association, another breed association, or the Jockey Club and develop a report on the history of one of these associations. Include the starting date, the location, the number of members, and any contests or events sponsored by the association.
2. Pick one of the following events: dressage, a rodeo event (bareback riding, barrel racing, calf roping and so on), cutting, polo, fox hunting, or gymkhanas and explain the event
3. Take your horses pulse resting and record it. Take it again after 5 minutes of exercise. Take it once again after 15 more minutes of exercise. What happened to their pulse rate and why?
4. Using a picture of your project horse make a list of the positive conformational traits of the horses in the pictures. Once you have completed the positive list, then compile a list of bad conformational traits of the horses in the pictures. Make sure you identify the positive traits first. Based on your evaluation of the structure of each horse, make your best prediction on how that horse might move.
5. Using Google or some other internet search engine, search the internet for an impact study of the horse industry in your state. Use search phrases like "equine industry impact" or "horse industry impact." Report the results of your search.
6. Develop a poster on the normal stages of parturition and post-foaling care for the mare and foal
7. Develop a report and drawing on the type of a building you would like to build for horses. Include the size, type of construction and some idea of a basic design.







## Parts of the Horse Word Search

J D H I N D Q U A R T E R S D F A L N P  
 A B O Z Z E G J B M A C X H P K N E E A  
 W U C M P S N R F O O H T O F I P R V S  
 X M K G A H T P J C E K Q U D E Y B L T  
 A S I Z W M A N E T A I L L I O N A D E  
 G M F Z P I O G H Y M J N D X P T R I R  
 A Q E V C A N N O N B O N E C L E R S N  
 S R T H M S B K P W S I T R L A T E L W  
 K P L A C M R U E B A C K I N S A L G I  
 I P O K L F U P G R N K R V H N J P W T  
 N B C D E K C Z F A R L P G O E G J F H  
 D A K Z U L E T Z D H M I J P C J E A E  
 J S U D A Q V O P L N C A B D K V N Q R  
 F L A N K A B S T R E N L G I R T H Y S

# Shoeing a Horse

Horses are shod to protect the hoof from excessive wear, to provide better traction, help correct defects stance or gait, and help cure disease or defected hoofs.

## **Defects include:**

Contracted heels

Thrush

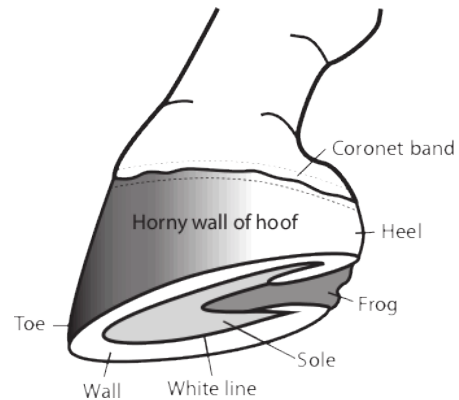
Divided tendons

## **Also can provide relief from pain caused by:**

Hoof wall cracks

Bruised soles

Tendonitis



There are some misconceptions about shoeing horses. They don't make walking easier. The added weight of the shoes don't improve agility

## **Other problems:**

Nail holes made in attaching the shoe weaken the hoof wall and may cause separation, which could provide entry for infection

Leaving the same shoes on horses too long without trimming the hoof and adjusting the shoe also can cause trouble.

The hoof wall grows perpendicular to the coronary band, the base of support actually grows out from under the hors if one leaves the shoes on too long

This puts excessive strain on the flexor tendons.

Loose shoes may bend, shift and cause nail punctures or corns

## **Horseshoes and Equipment Used**

Many types of prefabricated shoes are available that are either hot or cold-fitted to the horses foot. The most important aspect of shoeing is fitting the shoe to the horse not the horse to the shoe.

### **Picking up the horse's feet**

Pick up the front by rubbing the leg up high and gently working down to the ankle. If the horse fails to lift its foot, gently pressure on the tendon behind the cannon bone with thumb and forefinger usually will persuade the horse to cooperate.

Stay relaxed to keep the horse calm and in a comfortable position.

### **Front Foot**

Picking up the hind foot of foals and young horses can be dangerous unless done correctly.

Pick up the left foot first, since most horses are accustomed to being handled on this side.

Pull forward on the cannon until the horse yields its foot. If you feel tense muscles, go more slowly.

Step promptly under the raised foot with the inside leg and pull the foot into your lap

Lock it in place with your elbow over the hock and your toes pointed toward each other.

Hold the foot in this position so both hands are free to work



## Hind Foot

Keep one hand near the hip and go down the leg slowly with the other. If the horse won't yield, squeeze the tendon to get the horse to yield the foot. Move the hand in front of the cannon or fetlock as the foot rises

Position foot firmly between your knees. If horse struggles to remove foot, let it do so Repeat procedure until horse learns to give foot willing

## Tools

Shoe pullers

Clinchers

Punch

Clinching block

Hoof pick

Shoeing apron

Shoes

Shop hammer

Anvil

Nails

Shoeing hammer

Clinch cutters

## Removing Shoes

- Old nails must be cut or straightened to remove the shoe using clinch cutters

Place the blade edge of the clinch cutter under the clinch and straighten

## Trimming Feet

- Remove the loose flay parts of the bard
- Trim each side of the frog just enough to open the seams on each side at the heel of the hoof; don't lower the frog
- Use the nippers starting at the heel of the hoof and trim around to the toe
- The hoof wall should not be trimmed below the level of the sole

Finish with rasping by moving from side to side across the toe

## Levelness

- Hoof should have an angle of 45 to 55 degrees, depending on conformation
- Front and Hind feet should have same angle
- Check with hoof level

Round edges with fines side of rasp (if horse is only being trimmed)

## Shaping the Shoe

- Shape to fit foot
- Begin by marking heels with white grease pencil

Shoes are shaped by hammering the shoe on the anvil and comparing it to the foot

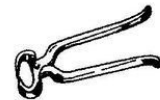
### Basic Farrier Tools



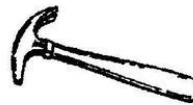
Hoof Pick



Hoof Knife



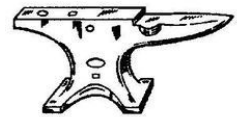
Nippers



Driving Hammer



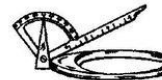
Clinch Cutter



Anvil



Clinch Block



Hoof Protractor



Rasp



Alligator clincher



Calipers



Pritchel

## **Nailing the Shoe on**

- Nails are driven along or just outside the white line on the bottom of the hoof (this marks the sensitive area)

People are afraid of "quicking"(driving the nail into the sensitive area), but is almost impossible to do unless driving inside the white line of unless the nail is turned to drift inward

Shoe should be positioned so that is flush with the toe of the hoof

After nails are driven, they must be set by placing a clinching bar or nipper under the nail stub and striking the head of the nail, which tightens the shoe on the hoof and locks the nail head in the shoe

Rasp off the burs of splintered hoof under the nails with the fine edge of the rasp

Use clinchers to clinch nails

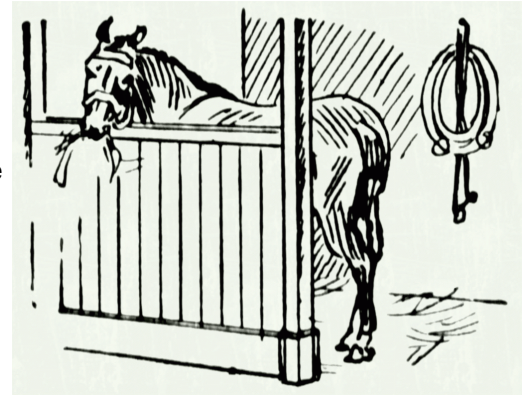
- Hoof dressing can be applied

1. Explain the importance of horseshoes
2. List the tools and equipment necessary to shoe a horse
3. In your own words describe the process of shoeing a horse

# Buildings for Horses

What are the requirements for buildings for horses?

Horses are housed in buildings primarily for the convenience of the horse owner and handlers, so human environmental needs and wants often play a major role in designing horse facilities. Human wants may be in conflict with the environmental needs of the horse. Buildings represent a major cost and can represent costly mistakes. Valuable information is obtained by forming a plan and by examining facilities designed by others to observe the good features and recognize the mistakes.



## FACTORS TO CONSIDER

Before building a horse facility, the horse owner must carefully consider some of the primary and secondary requirements of the building. Primary requirements of a building for horses include:

- Provide adequate space for the number and breed of animals to be housed with possible expansion.
- Offer protection from weather extremes.
- Keep horses free from drafts.
- Provide plenty of fresh air.
- Give horses a dry place to bed down.
- Keep the horses in an environment where they will not be injured.

Some secondary requirements of housing for horses should include the following:

- Meet zoning or regulatory requirements and do not be offensive to neighbors.
  - Have a convenient water supply protected from freezing.
  - Include adequate storage space for feed, bedding and equipment.
  - Include a convenient means for manure disposal and other day-to-day activities.
  - Provide a handy way of taking horses out of the stall area.
- Stay within the budget and use durable construction materials to minimize maintenance, repairs and fire risk.

**TYPE OF BUILDING AND FEATURES** Buildings can be metal frame, pole or conventional (wood frame) construction. All three are used with equal success for nearly every type of farm building. Since situations and costs vary so widely, no general rule exists as to which type is most economical. Often more variation in price can be found among similar types of construction than among different ones.

Some of the options that need to be considered in a building include windows, siding, roofing, insulation, interior finish, insulation, environmental control system, heating, electrical system, lighting and flooring.

Finally, almost every building will be modified to provide some special feature for the operation where it is located. For example, some of the following common additions should be considered:

- Bathroom
- Office
- Kitchen and eating area
- Handling facilities
- Feed storage room
- Tack room
- Special equipment

Plans for horse barns and facilities can be found many places. These can be modified, or the horse owner can have an architect draw specific plans for the individual.

**FLOORS-** Floors for horses must be made of durable material which is absorbent, easy to clean, resistant to pawing, and not slippery. Also, floors should require a minimum amount of expense and time to maintain in an acceptable condition. Some of the common flooring materials include the following.

- Clay
- Sand and clay mix
- Limestone dust
- Wood
- Concrete
- Asphalt
- Rubber floor mats

Some alternate flooring for stalls that could be considered include interlocking rubber paving bricks, fiber-reinforced polyethylene interlocking blocks, and fiber grade of polypropylene. All of the alternate flooring materials are going to add to the cost of stalls. The additional cost needs to be weighed against the benefit of the specific flooring material. Each type of flooring material offers some advantages and disadvantages. The horse owner will need to decide which type of floor is best for his or her situation.

**INSURABILITY** Farm buildings are becoming extremely complex structures and usually represent a considerable investment that must be protected with insurance. Horse owners need to make sure the structure will be eligible for the desired insurance coverage.

**SPACE REQUIREMENTS** Before building any type of a structure for horses, the horse owner needs some estimates of the amount of space required for the horse or horses to be comfortable and safe. Table 1 provides guidelines for the space required in different facilities and for kinds of horses

**Space Requirements for Horses, Measured Feet**

Type of Facility	Size	Height of Ceiling	Height of Door	Width of Door
Smaller Horse stall	12 x12	8-9	8	4
Broodmare and foaling stall	12 X 12 to 16 X 16	9	8	4
Stallion stall	14 X14	9	8	4
Barren mare barn	150 sq ft per animal	9	8	4
Weanling or yearling barn stall	10 x 10	9	8	4
Breeding shed	24 x 24	15-20	8	9
Training, boarding, riding stables	12 x 12	9	8	4

**HORSE BARNs** When building a barn, many important features must be considered. For example, the barn must be of sufficient size for the number and types of horses (see Table 1), and able to hold a uniform temperature, while being ventilated and maintaining a dry atmosphere. The floors must be dry and firm, preferably with a nonslip footing, and good drainage is necessary. Surfaces should be able to be easily disinfected. Adequate lighting is needed for moving horses around or working in the barn after dark. Horse barns can be designed for small, medium or large operations. Some variations on barns include the following:

- Broodmare and foaling barn  
Barren mare barn  
Stallion barn and paddock  
Weanling and yearling quarters
- Boarding stables  
Training stables  
Breeding shed and corral  
Riding stables

**STALLS** There are many different sizes of stalls. Table 1 shows space requirements for stalls. Stalls built too small often lead to sanitary problems because they must be constantly cleaned. They can also create a high risk for injuries to humans from horses and to the horse because of the limited space to move. Risk is the chance of loss or injury. A stall door must safely contain the horse within the stall. Table 1 also lists size requirements for doors. The door should open easily and close safely for both the horse and handler, and must be strong and simple to operate. Sliding doors can have a mesh in the top half for ventilation and so the horse can be observed. Overall, the sliding door is the most suitable for safety and ease of operation. Swinging doors often develop sagging hinges and latches, making them difficult to close properly. Swinging doors also can be a safety hazard when opened into alleyways or other high-traffic areas. Double doors are prone to sag, too, and they have two sets of latches, presenting a greater risk because one may not be closed. The advantage of double doors is that the top door can be left open. This allows the horse to stick its head outside and take an interest in its surroundings.

**ARENAS** Arenas and indoor training facilities are clear span structures. For exercising and training horses, arenas should be at least 36 ft. wide. Arenas for group riding or for turning carts require clear span widths of 60 feet or more. Widths of at least 60 ft. are best for group riding or driving horses inside the building. The ceiling height in an arena must be a minimum of 14 ft. for the safety of both horse and rider. A 16-ft. ceiling will allow the training of hunter/jumper horses; however, the higher the ceiling, the better the lighting of the arena must be to minimize shadows.

**SHELTERS** Shelters in pastures are common to allow the horses to get out of the sun, wind, rain or other types of weather. Some have just a top for shading. Others are enclosed on three sides. The open side needs to be away from the wind. Metal strips on all edges of the wood prevent the horses from chewing on the wood and destroying the shelter.

**VENTILATION** In enclosed buildings, horses are fine at most any temperature if the humidity can be held to a comfortable level and there is enough air movement through the building to keep the air clean and free of condensation. High moisture levels in either a hot or cold barn create conditions detrimental to a horse's health. These conditions harm the respiratory system and allow the inhalation of pathogens.

1. You want to be able to put 15 pregnant mares in stalls in your horse barn. What is the maximum number of square feet needed?
2. You are building a barn for a maximum of 20 barren mares. How many square feet will be required for the horses?
3. Horses are housed in buildings primarily for the convenience of the horse \_\_\_\_\_ and \_\_\_\_\_ .
4. Floor material should be made of durable material which is \_\_\_\_\_ , easy to \_\_\_\_\_ , resistant to \_\_\_\_\_ and not \_\_\_\_\_ .
5. The \_\_\_\_\_ door was recommended in the lesson because of its safety and ease of operation.
6. \_\_\_\_\_ doors may develop sagging hinges and latches and can be a \_\_\_\_\_ hazard.
7. An advantage to \_\_\_\_\_ doors is that the horse can stick its head outside, but a disadvantage is that they have two sets of \_\_\_\_\_ .
8. On a three-sided pasture shelter, the open side needs to be away from the \_\_\_\_\_ .

## Tips for Good Horsemanship

1. Mount Correctly from the left side. Make the horse stand still until you are properly seated in your saddle
2. Ride with your heels down, your toes turned out slightly, your head and chest lifted. Your shoulders should be square, your elbows close to you body and your ankles, shoulder and wrists flexed.
3. Avoid such habits as clacking to the horse or slapping him with the ends of the reins.
4. Warm up the horse slowly. Walk him the first half mile and then jog him slowly for another quarter mile.
5. Hold the horse to a walk when traveling over paved streets or roads.
6. Keep to the right side of the road , except when passing, give right of way courteously .
7. Never rush past riders who are proceeding with a slower gait. This startles both horses and riders and frequently causes accidents. Instead approach slowly and pass cautiously on the left.
8. Keep the horse under control at all times. Galloping a willing horse is not only a poor horsemanship, but also shows ignorance on the part of the rider.
9. Keep the proper tension on the reins; avoid either tight or dangling reins.
10. Slow the horse down when making a short turn
11. To avoid being kicked , do not ride to close to the horse in front of you. Either keep abreast or a full horses length behind other mounts
12. Walk the horse when going up or down hill.
13. Do not force the horse to maintain a rapid gait for more than a half a mile without allowing a breathing spell.
14. Walk the horse when approaching and passing through underpasses and going over bridges.
15. Bring the horse in cool; ride at a walk the last mile to the stable.
16. Never let a horse gorge on water or feed when they are hot.
17. Groom the horse after each ride.
18. Avoid walking behind any horse.
19. Wash the bit off thoroughly before hanging it in the tackroom. Remove any hair or sweat marks from the saddle and girth before putting them on the rack. Wash all leather equipment at frequent intervals with saddle soap.
20. Feed the horse a balanced ration and keep them healthy.



# Horse Show Class Descriptions

**Conformation (Halter)** The purpose of this class is to select individuals in the order of their resemblance to their breed ideal with the most positive combination of balance, structural correctness, muscling and movement. Classes are typically divided by the horse's age and sex.

**Showmanship** Showmanship focuses on the exhibitor's ability to fit and show a horse at halter. Judges evaluate the grooming and fitting of the horse and the expertise of the exhibitor in presenting the horse to the best of his or her ability. Contestants must work a predetermined pattern consisting of maneuvers such as walking, trotting, pivoting, backing and setting up.

**Hunter Under Saddle** Hunter under saddle is the preliminary class for English riding disciplines, and judges evaluate the way of going of a hunter-type horse on the flat, at a walk, trot and canter. Horses circle the perimeter of the arena, performing each gait called at the judge's discretion.

**Hunt Seat Equitation** Hunt seat equitation evaluates the rider, not the performance of the horse. Individually, contestants must work a predetermined pattern consisting of maneuvers such as changing gaits (walk, trot, canter), traveling in a figure-8 pattern and backing up. Riders will also be judged on the rail, performing gait changes at the judge's discretion. Emphasis is placed on the rider's ability to sit in the saddle correctly, hold the correct riding posture and control the horse.

**Western Pleasure** Western pleasure horses should be as the name implies - a pleasure to ride. Contestants compete simultaneously, traveling around the perimeter of the arena. Horses are judged on functional correctness, quality of movement including consistency of their gaits, and attitude. Western Horsemanship

**Western horsemanship** is judged on the horsemanship abilities of the rider using western rack. Individually, riders must first follow a prescribed pattern consisting of maneuvers such as walking, jogging or loping in a straight or curved line, pivoting, stopping or changing leads. Exhibitors will also show their horses around the perimeter of the arena, or "on the rail." Judges pay close attention to the riders' body positions, how they sit a saddle and their ability to control the horse.

**Western Riding** Following a pattern laid out by colored cones, western riding horses are evaluated on precise lead changes using both hind and front legs. Horses must also change gaits - from a walk to a jog to a lope. There are different western riding patterns that challenge the rider to guide and control the horse through numerous lead changes.

**Trail** Just as a decathlete must train in several events, trail horses must also be accomplished in numerous obstacles such as passing through gates and crossing bridges. Trail judges focus on the skill of the horse to handle certain situations that might occur on an outdoor trail ride. Scoring is based on the horse's willingness, ease and grace in negotiating the course.

**Hunter Hack** Hunter Hack is the transitional English class between hunter under saddle and working hunter. It requires a horse to move freely and easily while jumping small fences. Horses are required to first jump two fences. After completing the jumps, the horses are then shown at a walk, trot and canter along the rail in both directions. Horses are judged on manners and way of going, both on the flat and over fences.

**Equitation Over Fences** Equitation over fences tests the rider's seat, hands and ability to control and show a horse jumping over fences. The course is similar to the working hunter class in that riders are judged on their ability to establish an even hunting pace. Judges evaluate the methods used by the rider and the effectiveness of the rider in properly influencing the horse.

**Dressage** Is another form of English riding. In this style of riding you are in a special arena by yourself on your horse. You perform a special pattern, where you ask your horse to transition into different gaits and make circles when you get to different letters around the arena. The different movements happen right at the letters or you get marked down.

## Judging Horse Events - Showmanship at Halter

The "Showmanship at Halter" event is also known as "Fitting and Showing." In this class, exhibitors are judged by how they present the horse while performing a specific pattern. As the first class of a day of events, it sets the tone for the day.

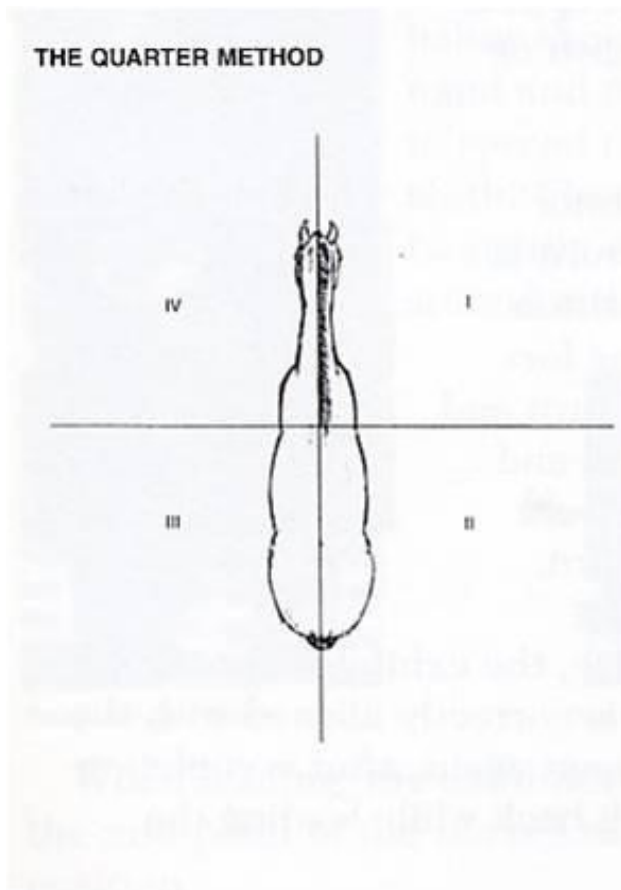
The **ideal performance** in this class has:

- a poised, confident, and neatly attired exhibitor
- an exhibitor and a horse that quickly and efficiently perform the pattern in the following ways:
  - promptly
  - smoothly
  - precisely



### "Quarter Method"

- The exhibitor must always be one quadrant away from the judge
  - Example:
- When the judge is in quadrant I, the exhibitor should be in quadrant IV.
- When the judge moves to quadrant II, the exhibitor should move to quadrant I.
- When the judge moves to quadrant III, the exhibitor should move to quadrant IV.
- When the judge moves to quadrant IV, the exhibitor should move to quadrant I.





# How does the equine skeletal system relate to function in the horse?

Conformation is the physical appearance of an animal determined by its arrangement of muscle, bone and other body tissue. Each breed organization has identified its "ideal" horse. Therefore, the breed "ideal" is the place to start when evaluating horses. The purpose of judging or evaluating horses is to find the horse most typical of the breed ideal within a group of horses. It is important to establish a systematic approach to evaluating conformation. A system that works for many people includes three basic steps:

1. Begin by initially tracking the horse for soundness, structural deviations and way of going.
2. Secondly, the evaluator should view the horse from the profile, starting with the head, throat latch, neck, shoulder and front column of bones, top line, hindquarters and rear column of bones. This profile view should be done at a distance in order to visualize the entire horse.
3. Finally, the horse should be viewed from the front and rear.

## ELEMENTS OF CONFORMATION

**Head:** Various breeds have certain characteristics that help define breed character or type, but there are variations even within breeds. However, attractive, well-conformed heads for most breeds have common characteristics. These characteristics include short, well-set ears; large bold eyes; short distance from eye to muzzle; large nostril; refined muzzle with a shallow mouth; as well as sex characteristics and "breediness" of the head.

What makes a head attractive? Certainly the set of the ears, shape of the eye, size of the nostril, depth of the mouth and overall proportionality of the head is important to our concept of beauty. It is important that the ears sit squarely on top of the head, that they point forward and have an attractive, alert appearance.

When a horse is measured from the poll to a horizontal line drawn between the eyes, this distance will approximate one-half the distance from the horizontal line to the midpoint of the nostril. The eyes will be positioned one-third of the distance from the horse's poll to its muzzle.

During evolution, the eye has moved from the front of the horse's head to the side, which provides a more rounded area of vision (about 300 degrees.) Large, quiet, soft eyes usually indicate a quiet, docile disposition. A small pig-eye is indicative of a horse that is usually somewhat sullen and difficult to train. The horse with excessive white around the eye is very often nervous and flighty. However, this is characteristic of some breeds. Even though many breed enthusiasts discuss the need for large, flaring nostrils to facilitate adequate intake of air, there appears to be no scientific data for this statement.

The horse should have a well-defined jaw. Stallions should have a slightly larger, deeper jaw than mares, indicative of secondary male sexual characteristics. Typically, geldings' jaws will be intermediate in size.

There are distinct differences among breeds and lines of horses with respect to depth of the mouth. Typically, the more shallow the mouth, the softer and more responsive a horse is to a bit and vice versa. When examining the mouth, be sure that the mouth is not parrot mouthed (overshot muzzle) or monkey mouthed (undershot muzzle).

### Neck:

Horses use their neck as a balance arm. The throat latch, which is the junction between head and neck from ear to ear, should be trim and refined regardless of breed. A trim, refined throat latch will allow the horse to flex at the poll and perform while breathing correctly. The ideal would be approximately a two to one ratio of top to bottom line of the horse's neck.

The determining factor in the ratio of the top to bottom line of the neck is the slope of the horse's shoulder. As the shoulder becomes more sloping, the top line of the neck becomes longer in relation to the bottom line. As the shoulder becomes straighter, the ratio of the top to bottom line becomes smaller.

**Balance:** Balance is the single most important characteristic in equine selection because it forms the basics for movement, length of stride and ultimately performance. Balance is determined by the skeletal structure. Nothing is more critical to balance than the slope of the horse's shoulder. Slope of shoulder changes drastically when the angle of the shoulder increases or decreases. Not only does the top to bottom line ratio of the neck change, but the ratio of length of back to length of underline also changes. It is ideal to have a short topline and a long underline. The straighter the shoulder, the farther forward the withers will be with a correspondingly longer back from withers to coupling. Length of underline from elbow to stifle is not affected by difference in shoulder angle; thus, the straight-shouldered horse's body has the appearance of a tube.

It is incorrect to compare 14.2-hand horses to 17-hand horses in exact measurements because horses of different sizes should not have the same length of body or underline. When measuring the height of a horse, a hand is equal to 4 inches. A 14.2 hand horse will be 58 inches tall (14 hands X 4 inches = 56 inches + 2 inches = 58 inches). Therefore, 14.4 hands will become 15 hands.

**Shoulder:** The ideal slope of the shoulder is approximately 45 to 50 degrees. In general, the angle of the pastern will correspond to the angle of the shoulder. A horse that has too much slope to its pasterns is undesirable and is said to be coffinfooted. A horse with a short, steep pastern will endure more concussion and is predisposed to navicular disease.

In addition to overall balance, slope of shoulder influences length of stride. Thus the steeper the shoulder, the shorter the stride. The steep or straight-shouldered horse will be shallow-hearted, as measured from the top of the withers to the chest floor. Unlike the balanced horse, with legs that are approximately the same length as depth of heart, the straight-shouldered horse's legs will be longer than his depth of heart. A steep-shouldered horse will always be rough-riding.

**Top line:** The top line of the horse includes the withers, back, loin or coupling and croup. As viewed from the side, a properly balanced horse will be higher at the withers than at the croup. Strength of top line and loin muscles over the kidneys are also factors that influence soundness and athletic ability. The ideal withers should be sharp, prominent and well-defined. This enables the withers to hold a saddle on a horse without the need to excessively tighten the front cinch.

Horses should have short, strong backs relative to a long underline. Length of back is directly related to length and slope of shoulder as well as to the top to bottom line neck ratio. Horses that have excessively long backs are unbalanced and weaker in their top lines than short-backed horses. The loin should be well-muscled and strong as opposed to being long, weak and poorly muscled. The croup should be long and gently sloping. This adds length to the stride as well as dimension and muscling to the hindquarter. "Stock horse" breeds (Quarter Horses) are more sloping in their croup than "pleasure breeds" (Arabians, Morgans).

**Hindquarters:** Regardless of breed, the hindquarters should appear square when viewed from the side. The flatter and more level the horse's croup, the more vertical its hind leg action is likely to be. In contrast, the horse with a steep croup will exhibit greater horizontal action, moving with its legs more collected under its body. The ideal horse has a hindquarter that is as full and as long from across the horizontal plane of the stifle as it is from point of hip to point of buttocks.

**Barrel:** The judge should evaluate spring of rib and depth of heart girth, since these are indicative of capacity for reproductive and athletic performance.

**Muscle:** Muscling is an important criteria in judging many conformation classes, especially stock horse classes, such as Appaloosa, Quarter Horse and Paint Horse. The correct horse is a balanced athlete that is muscled uniformly throughout. Horses visually appraised as heavily muscled had greater circumference of forearm, gaskin and width of quarter than lightly muscled ones.

Today the horse industry accepts muscling that is long and well-defined. However, a powerfully muscled horse that has length, bulge, ripple and definition to its muscle structure is desirable in the stock horse breeds. It is important to note that breeds such as the Arabian will not have the quantity of muscle that is seen in the "stock" horse breeds. However, long, clean, well-defined muscling is preferred in all breeds.

## **BREED AND SEX CHARACTERISTICS**

Breed characteristics are those traits that are unique and characteristic of a particular breed. These would be traits such as body type and color pattern, as well as gaits and way of going. Sex characteristics are also an important aspect of horse judging. Masculinity refers to male traits such as prominence of jaw and heavy muscling. In mares, the evaluator should look for femininity and refinement. Geldings would fit somewhere between stallions and mares, but generally will not be as massively muscled as stallions.

### **Structure:**

Conformation is directly related to skeletal structure, the framework that gives the body form and protects the vital organs. The horse's skeletal structure will determine the length and slope of shoulder, overall height and all the other things that are related to skeletal design. It includes the bones and ligaments which bind the pieces together to form joints. A horse must have structurally correct legs to be a performance athlete and the manner in which a horse moves is determined by its conformation and skeletal structure.

### **Front legs:**

The horse's forelimbs bear about 65 percent of its weight. The horse should have straight legs as viewed from the front. A straight line from the point of the shoulder should bisect the entire front leg all the way to the toe. There should be two equal parts in the ideally structured horse. Although this is actually rare, the toes and knees should point straight forward. The width of the toes on the ground should be the same width as their origin in the chest. The cannon bone should be centered on the knee and fetlock.

There are several deviations to the ideal front column of bones as viewed from the front. These deviations affect movement and, subsequently, performance. Horses whose toes point inward (toed-in) are referred to as "pigeon-toed," while other horses that have toes that point outward (toed-out) are called "splay-footed." A horse that stands base-narrow is closer at the ground than at the origin of the legs in the chest. This is typical of horses with large muscle mass. The base-narrow horse is predisposed to landing on the outside of its hoof walls. Base-wide conformation positions the horse's feet wider at the ground than at their origin at the chest. Horses that are narrow-chested are usually toed-out and will thus distribute more weight on the inside of their front hooves.

Bowlegs, knock-knees and bench knees are other examples of poor conformation that may affect soundness. Bowlegged horses present the entire knee in an outward deviation as viewed from the front. Knock-kneed or close-kneed horses have the entire knee set to the inside of a straight line from chest to toe. This condition is generally accompanied by toed-out feet and with some degree of outward rotation of the cannon and fetlock. Bench knees is another structural fault in horses. Bench or offset knees are characteristic of a horse with the cannon bones set too far to the outside of the knees. This conformational problem increases the possibility that a horse will develop splints.

When viewed from the side, the front column of bones should have an appropriate slope and angle of shoulder and pastern. A correct line should run from the center of the scapula to the front edge of the knee and bisect the hoof.

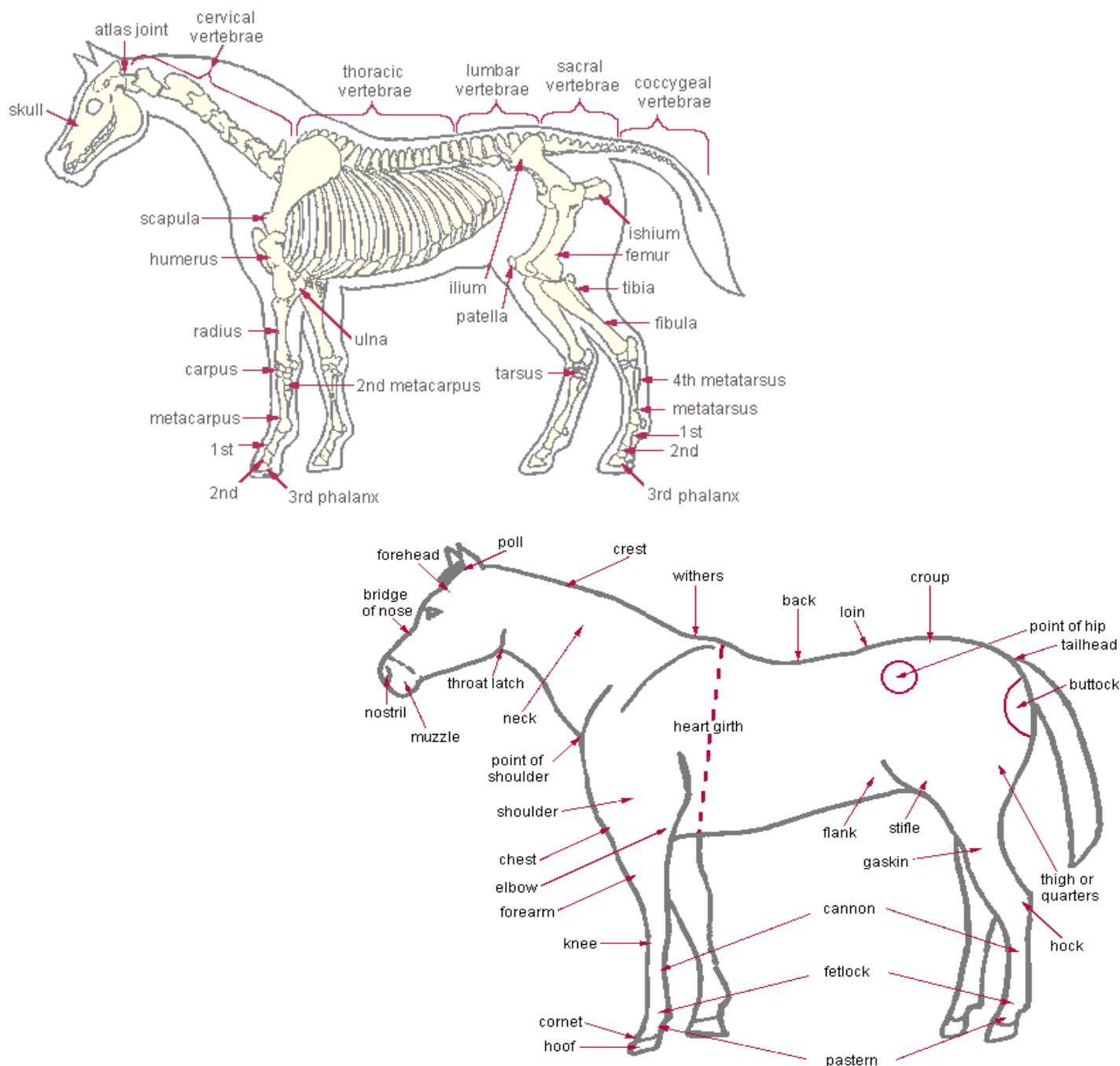
The most frequent structural deviation of the knees when viewed from the side is "over at the knees," commonly referred to as buck-kneed. This is a forward deviation, with knee set too far forward in relation to the leg. Although buck knees are a structural deviation, such horses are typically capable of a long performance life.

The opposite condition to buck-knees is "back at the knees" or "calf-kneed" legs. This conformation fault is extremely serious and many calf-kneed horses do not stay sound. Calf-knees allow the knees to bend backwards (hyper extend) and predispose the horse to unsoundness.

The ideal pastern is moderate in length with angles approximately 45 degrees in front and 50 degrees in the rear. Short, steep pasterns give the horse a choppy, rough stride and predispose it to lameness due to extra concussion on its entire front column of bones. However, pasterns that are too long relative to length of limb are weak and may allow the horse to injure ankles, tendons and ligaments.

**Rear legs:** When viewing a horse from the rear for structural correctness, an imaginary line from the point of the buttocks to the ground should bisect the gaskin, hock and hoof. This will equalize the distribution of weight, bone pressure and strain on ligaments. Horses that are bowed-in at the hocks and cannon bones instead of being parallel are referred to as cow-hocked. Typically, their hocks are set too close together, pointing toward one another with their feet widely separated. Horses that are cow-hocked tend to be weak in the major movements that require work off of the haunches, such as stopping, turning and sliding. Horses that are toed-in when viewed from behind are referred to as "out at the hock" (bow-legged). Bow-legged horses have hocks that are too far apart and are generally predisposed to being base-narrow. These horses have added strain on their bones, ligaments and joints and may have many types of interference in movement. Excellent hind leg structure, as viewed from the side, is delineated by a line that extends from the point of the buttocks to the ground. Ideally, that line should touch the hocks, run parallel to the cannon and be slightly behind the heel. A horse with too much angle in the hock joint is called sickle-hocked. Viewed from the side, the horse's leg stands under its hip from the hock down due to the excessive angulation in the hock. Horses with sickle hocks are predisposed to curbs.

Structural correctness ultimately determines a horse's value and usefulness. Regardless of whether the animal is a favorite in the Kentucky Derby or a pleasure horse, length and skeletal correctness play a critical role in the usefulness of the athlete.



1. Which should have a slightly larger, deeper jaw?
  - A. Mares
  - B. Stallions
2. The ideal relationship between the horse's top line and under line is for the top line to be shorter in relationship to the under line. TRUE or FALSE?
3. The front limbs of the horse bear what percent of the horse's weight?
  - A. 75
  - B. 65
  - C. 55
  - D. 50
4. Which of the following defines horses whose toes point inward?
  - A. Bench-kneed
  - B. Over at the knees
  - C. Pigeon-toed
  - D. Splay-footed
5. Which of the following defines horses whose toes point outward?
  - A. Bench-kneed
  - B. Over at the knees
  - C. Pigeon-toed
  - D. Splay-footed
6. Which of the following defines horses whose knees bend backwards (hyperextended)
  - A. Bench-kneed
  - B. Over at the knees
  - C. Pigeon-toed
  - D. Splay-footed
7. Which of the following defines horses whose knees are set too far forward in relation to the leg?
  - A. Bench-kneed
  - B. Over at the knees
  - C. Pigeon-toed
  - D. Splay-footed
8. What conformation trait influences stride length more than any other trait?
  - A. Neck
  - B. Back
  - C. Slope of the shoulder
  - D. Length of underline
9. Which of these terms is another name for an overshot muzzle?
  - A. Monkey mouthed
  - B. Parrot mouthed
10. Which is the single most important characteristic in equine selection?
  - A. Balance
  - B. Muscling
  - C. Shoulders
  - D. Topline

# What is the proper care and maintenance of equine teeth?

Proper care for the horse's teeth is a necessary part of the grooming process. Bad teeth or other dental problems result in poor mastication (chewing), and can result in poor performance. Some horses with painful dental problems may refuse to eat and can quickly lose weight. Teeth of a young horse need to be examined every 6 months, because they grow much faster than those of an older horse. Older horses should have their teeth examined once a year.

You can recognize dental problems in horses because the horse may tend to move feed around in his mouth before swallowing, hold his head to one side or sideways while chewing, and drop feed out on to the ground. There can also be clumps of hay in the horse's mouth several hours after eating.

Examine the teeth by opening the mouth and pulling the tongue out to one side. With a flashlight, examine the incisors and the molars on that side. Then pull the tongue to the other side and repeat the procedure. If a horse resists this procedure, use a mouth speculum to hold the mouth open.

Horse's teeth continue to grow through their lifetime. Older horses will have longer, more angulated teeth when compared to younger horses, whose teeth are more vertical. This is the basis for telling a horse's age based on his teeth. Adult horses have between 38 and 45 teeth. Female horses will generally have about 38 to 40 teeth, while male horses have around 42 to 45 teeth at maturity.

## "HOOKS"

A common dental problem is "hooks," or sharp edges on the molars. This is caused because the upper and lower molars do not meet evenly. The upper molars are set slightly wider than the lower molars. The horse chews in a circular motion, which causes the inside edges of the upper molars and the outside edges of the lower molars to wear off faster than the rest of the molar surface. Sharp edges develop on the outer edges of the upper molars and the inner edges of the lower molars. The sharp edges of the molars will cause sores on the gums, and a horse with a sore mouth will not eat properly.

The process of removing the sharp edges is called "floating." A special rasp called a float is used to float a horse's teeth. Floating a horse's teeth is a process that is easy to learn. The supplies needed are floats, mouth speculum, flashlight, and a bucket of warm, soapy water. The float is passed along the sharp edges of the molars, filing away the edges. You should file until the molars have a level grinding surface. When floating teeth, take care not to hit the gums or back of the jaw. This will hurt the horse and cause him to pull away.

## WOLF TEETH

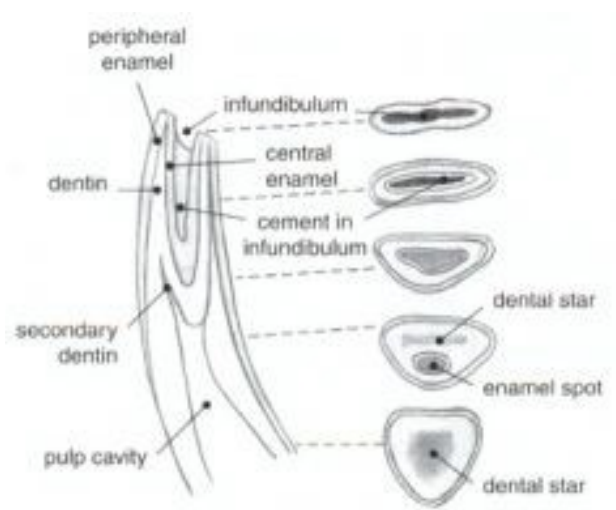
Wolf teeth are located in front of the premolars. There may be one to four wolf teeth, but usually only the two upper ones erupt. The lower wolf teeth usually don't erupt, but may bulge and be sore. If the upper wolf teeth are not removed, they can cause dental problems. A bit hitting the wolf teeth can be very painful and cause the horse to perform poorly. A horse with a bit hitting its wolf teeth will mouth the bit and carry his head to one side to escape the pressure. Wolf teeth can also break off and cause sores.

## CANINE TEETH

The canine teeth of older horses may grow too long and strike the opposite gum, causing sores. These can easily be clipped or floated by a veterinarian.

## TEMPORARY TEETH

Temporary teeth that fail to fall out may cling to the gum and interfere with the chewing process. Horses should be checked for these caps until they are five years old.



1. Teeth of a young horse need to be examined every \_\_\_\_\_ months, while older horses should have their teeth examined once a \_\_\_\_\_ .
2. Older horses have longer, more \_\_\_\_\_ teeth, while younger horses' teeth are more \_\_\_\_\_ .
3. Female horses generally have about \_\_\_\_\_ to \_\_\_\_\_ teeth, while male horses have around \_\_\_\_\_ to \_\_\_\_\_ teeth at maturity.
4. A common dental problem is \_\_\_\_\_ , sharp edges on the molars.
5. The supplies needed for floating teeth are \_\_\_\_\_ , a mouth \_\_\_\_\_ , a \_\_\_\_\_ and a bucket of warm, soapy water.
6. \_\_\_\_\_ teeth are located in front of the premolars.
7. The canine teeth of \_\_\_\_\_ horses may grow too long and strike the opposite gum, causing \_\_\_\_\_ .
8. Horses should be checked for \_\_\_\_\_ teeth that have failed to fall out until the horses are \_\_\_\_\_ years old.

## What is first aid for horses?



Equine first aid is the emergency care and treatment given to an injured or ill horse until medical or surgical treatment can be administered when the veterinarian arrives, or until the horse can be transported to a facility where help is available. The objectives of first aid include: assistance in a life-threatening situation; recognition of serious or potentially serious, life-threatening conditions such as hemorrhage (bleeding), fracture, dehydration and shock; and use of measures to curtail further damage and prevent complications or additional injuries.

### VITAL INFORMATION

To assist a veterinarian in evaluating an emergency situation over the phone, some preliminary information is helpful. Temperature, heart rate (pulse), gut sounds and respiratory rate are vital information. This information should be recorded on a piece of paper instead of relying on memory. Also, a description of what happened to create the emergency can help the veterinarian.

**Temperature:** Normal temperature range for a horse is between 99 and 101.5 F. Glass or electronic rectal thermometers are available at tack/feed stores and in veterinary supply catalogs. After shaking down a glass thermometer or activating an electronic one and lubricating the tip with a bit of petroleum jelly, the thermometer is inserted into the anus to a depth of about 2 inches. After about 2 minutes the glass thermometer can be removed and read. An electronic thermometer beeps when ready to be removed and read. Infections typically increase the horse's temperature.

**Heart rate/pulse:** An average resting heart rate for a horse is between 30 and 40 beats per minute (BPM). To listen to the heart, a stethoscope is placed against his chest wall, just beneath his left elbow, and then pushed forward and under the elbow as far as possible. At this point, the "lub-dub" sound of the heartbeat can be heard. To get the heart rate, the number of beats in a 15-second period is counted. This number is multiplied by 4 to determine the BPM. Infections (fever), exercise and hemorrhage increase the heart rate.

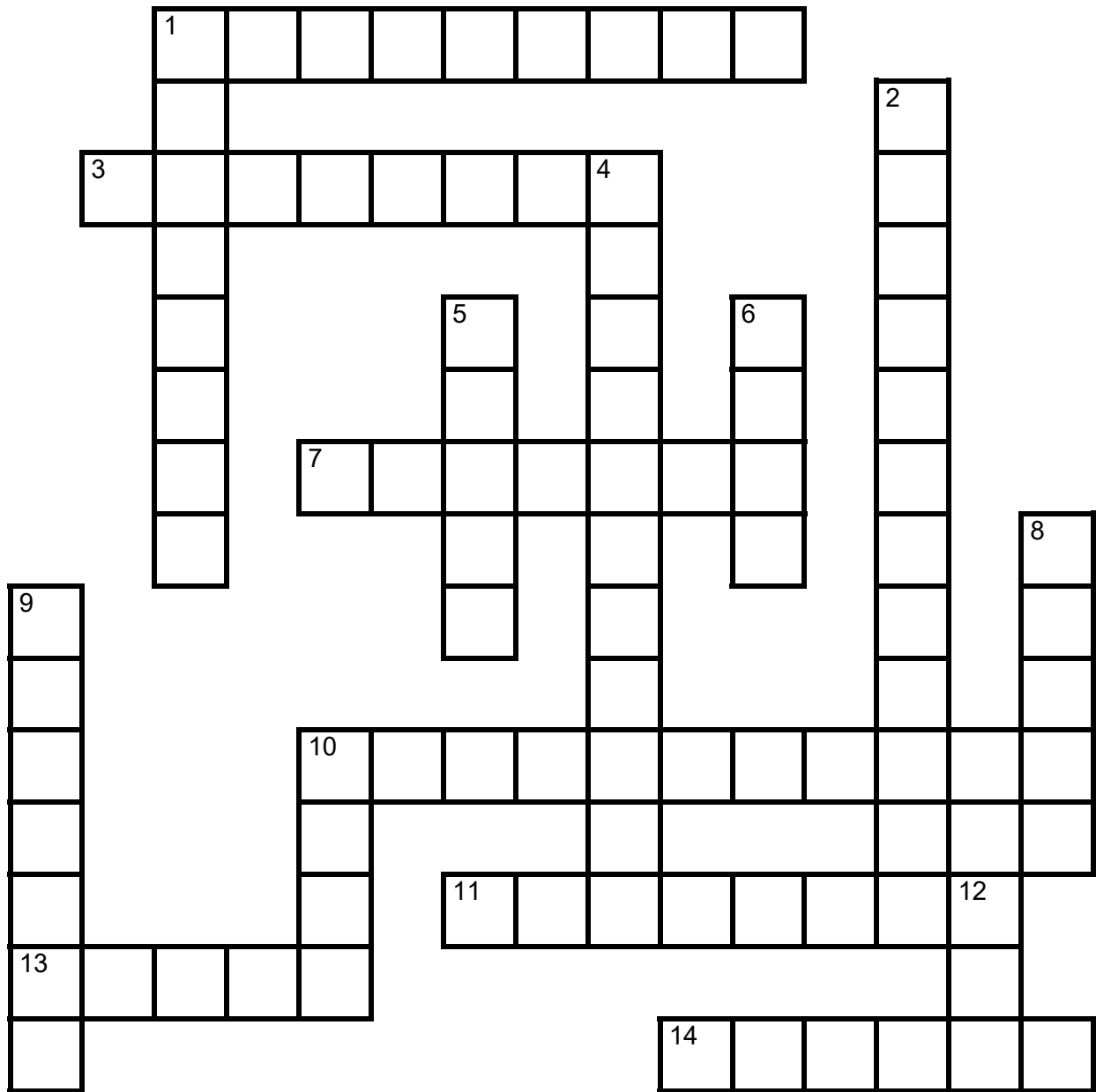
**Gut sounds:** Normal gut (intestine) sounds heard with a stethoscope are two to four soft bubbles or gurgles per minute, and one loud grumbling sound every two to three minutes. To listen to gut sounds, the stethoscope is held against the horse's lower flank for at least 1 minute. Then the stethoscope is moved higher on the flank. Next the stethoscope is moved to the other flank, and the procedure repeated. If gut sounds are loud and/or more frequent, the horse may be experiencing mild colic. If nothing is heard, the horse may be experiencing severe colic. Silence indicates no gut movement.

**Respiration rate:** Normal respiration rate for horses is 10 to 20 respirations per minute (RPM). Fever, pain, exercise and hot weather can all increase the respiration rate. Respiration rate can be determined by closely watching the horse's chest or nostrils for movement, by placing the hand on the rib cage, or by listening to respirations sounds by placing a stethoscope on the outside on the trachea (windpipe). Inhalations and exhalations should be slow and even. To determine the respiration rate, the number of expirations for 15 seconds is multiplied by 4 to obtain the respirations per minute.

### FIRST AID KIT

Having access to the right items during an emergency can never be underestimated



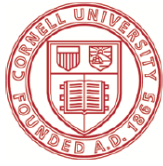


### Across

1. Temperature above normal could indicate \_\_\_\_.
3. Common item in first aid kit
7. Another name for windpipe
10. A wound that punctures a hollow organ
11. Another name for hemorrhage
13. Temperature below normal could indicate \_\_\_\_.
14. The "M" in RPM

### Down

1. Wound caused by sharp instrument
2. Medical doctor for animals
4. Equipment for listening to sounds
5. The "B" in BPM
6. A \_\_\_\_ forms through granulation.
8. Break in living tissue
9. One type of closed wound
10. Color of normal mucous membranes
12. Common name for intestine



**Cornell University**  
**Cooperative Extension**  
**Cattaraugus County**

Education Center

Education Center

28 Parkside Drive  
Ellicottville, NY 14731  
t. 716-699-2377  
f. 716-699-5701

cattaraugus.cce.cornell.edu

## 4-H Youth Horse Program

### COMMITMENT TO EXCELLENCE

- I believe that participation in the 4-H Horse Program should demonstrate my own knowledge, ability and skill as a caretaker and exhibitor of equines.
- I will do my own work to my fullest extent that I am safely capable and will accept advice and support from others.
- I will not use abusive, illegal, fraudulent, deceptive or questionable practices in the feeding, fitting and showing of my animal(s), nor will I allow my parents or any other individuals to employ such practices with my animal(s).
- I will read, understand and follow the rules put forth by the Cattaraugus County 4-H Horse Program, without exception, for all horse shows in which I am a participant, and I will ask that my parents and supervisors of my project do the same.
- I wish for my horse project to be an example of how to accept what life has to offer, both good and bad, and how to live with the outcome.
- I realize that I am responsible for:
  1. The grooming, and care of my project animal(s),
  2. The proper care and safe, humane treatment of my animal(s),
  3. The safe handling of my animal(s) at all times,
  4. Demonstrating strong moral character as an example to others.
  5. Supporting and respecting all the youth and volunteers at any and all 4-H events

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4-H Youth's Signature

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Date

---

Parent/Guardian Signature

---

Date

---

4-H Educator's Signature

---

Date

# NYS 4-H HORSE CERTIFICATE

\_\_\_\_ Personally owned

\_\_\_\_ Family owned

\_\_\_\_ Non-owned  
(See non-ownership policy/reverse side)

Date \_\_\_\_\_ 20\_\_\_\_



Name of Animal \_\_\_\_\_

Date Animal Born (Mo.) \_\_\_\_\_ (Day) \_\_\_\_\_ (Yr.) \_\_\_\_\_ Sex M ☐ G ☐

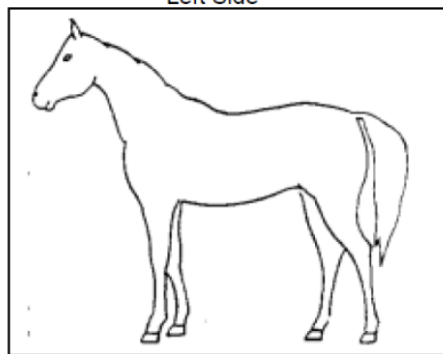
Name of Sire \_\_\_\_\_

Name of Dam \_\_\_\_\_

Registry/Breed \_\_\_\_\_ Reg. No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_ Member County \_\_\_\_\_

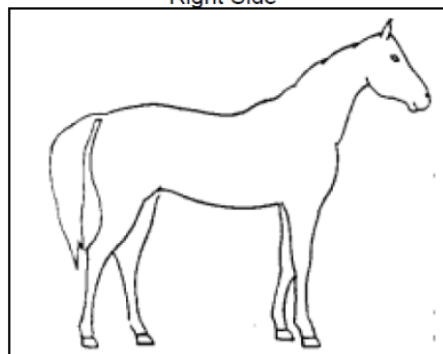
Left Side



Draw markings on each side and face identical to your horse



Right Side



Color \_\_\_\_\_

Owner \_\_\_\_\_

Height \_\_\_\_\_

Address \_\_\_\_\_

Weight \_\_\_\_\_

(Zip) \_\_\_\_\_

Signature of Owner \_\_\_\_\_

This animal has been officially designated as the 4-H project animal of the 4H'er as of June 1 of the current project year.

Name of 4-H'er \_\_\_\_\_

4-H Leader Name \_\_\_\_\_

Address \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Member's Signature \_\_\_\_\_

Leader's Signature \_\_\_\_\_

Parent/Guardian \_\_\_\_\_

Educator \_\_\_\_\_ County \_\_\_\_\_

Address \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_

OCE Educator Signature \_\_\_\_\_

Remember to include a copy of your current Coggin's test - test dated this year or last year. \*Proof of rabies vaccination required - must be current, given more than 14 days prior to arrival at fairgrounds, and remain current for duration of the Fair.

**\*See reverse side for important information\***