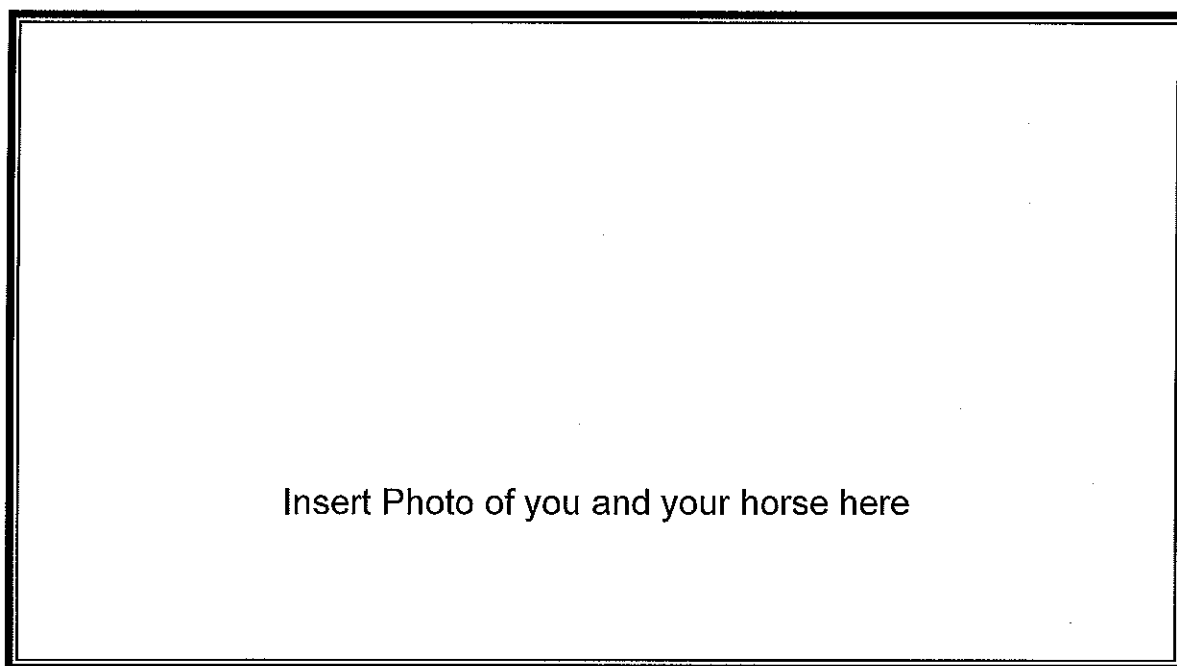


Senior

4-H Horse Project Book

(2nd Year Senior)



Insert Photo of you and your horse here

Name: _____ Birthdate: _____

Address: _____

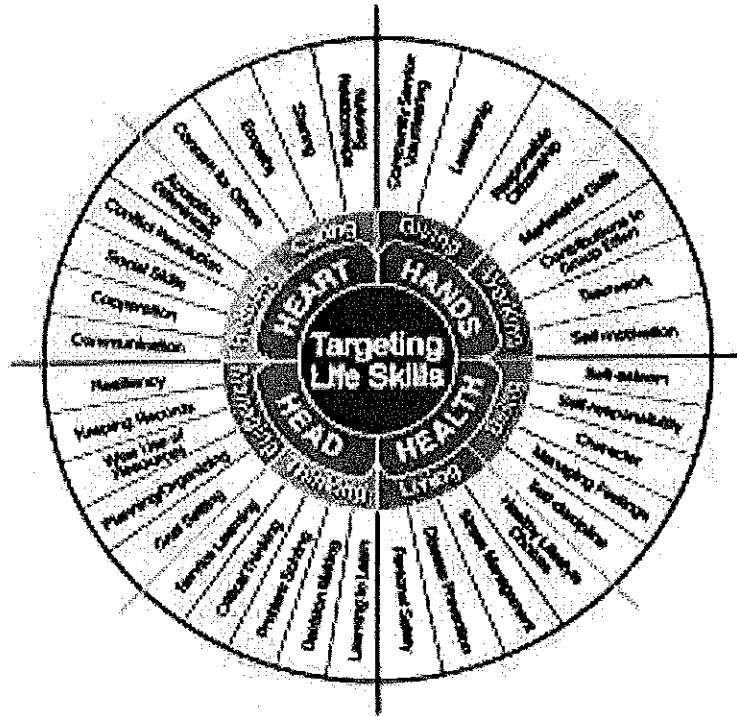
Town: _____ State: _____ Zip Code: _____

Name of 4-H Club: _____

Club Leader: _____

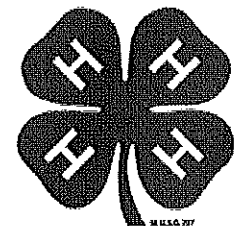
Years in 4-H: _____ Years in Horse Project: _____

Targeting Life Skills Model Oklahoma State University



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.



Activities

Below is a list of activities you may choose from to complete your horse project. Please choose four and describe below or on the next 2 pages. (staple in additional pages as needed.)

- Teach your horse how to pivot in hand. Explain how you did this.
- Learn a new discipline or teach your horse a trick. Paste a picture of your horse doing this activity.
- Make a checklist of everything you take to a show. Include it in this book.
- If your horse or a horse on your farm had an injury this year take a picture of the injury and write a brief description of how you treated the injury.
- Talk with an equine dentist or veterinarian about floating teeth and briefly describe what tools are used.
- Do a service/safety check of your trailer. Write down three areas you checked and why. Also note any issues you found.
- Watch a program or clinic on horses. Briefly describe what you learned and how you will implement this with your horse.

Activities Continued

Activities Continued

Animal Care and Management

An animal project requires regular care and management. List the things necessary to take care of your project.

Include the following: Feeding and watering practices Grooming (clipping, trimming, foot care, etc.) Health practices and medicines General management (cleaning living area, feed pans, halter breaking, training, etc.)

Daily – Things done every day

Example: fed, gave fresh water

Weekly – Things done once a week

Example: cleaned feed and water containers, gave new bedding, took riding lessons

Monthly – Things done once a month

Example: new shoes

Yearly – Things done one time or occasionally throughout the year Example: vaccinations, float teeth

Daily	Weekly	Monthly	Yearly

Basic Food Costs

Grain Cost of a bag of grain: \$ _____ ÷ _____ lbs in the bag = \$ _____ per lb

Amount fed: $\frac{\text{lbs per day} \times \text{days (in month)}}{\text{days (in month)}} = \text{lbs}$

Monthly cost of grain: \$ _____ X _____ lbs = _____
(Cost per lb of grain) (Total amount fed) (Monthly Cost of Grain)

Hay Cost of a bale of hay: \$ _____ ÷ _____ lbs per bale = \$ _____ per lb

Amount fed: lbs per day X days (in month) = lbs

Monthly cost of hay: \$ _____ X _____ lbs = _____
 (Cost per lb of hay) (Total amount fed) (Monthly Cost of Hay)

Supplements Cost of the jar of supplements: \$ _____ ÷ _____ oz in container = \$ _____
per oz

Amount fed: _____ oz per day X _____ days (in month) = _____ oz

Monthly cost of supplements: \$ _____ X _____ oz = _____
(Cost per oz) (Total amount fed) (Monthly cost of Supplement)

Pasture costs money! Maintaining pasture requires fertilizer, lime, seed, mowing (hiring someone or buying diesel for the tractor), repairing fence boards, etc. If you'd like to estimate the cost of providing pasture for your horse, take the dollars spent on these items each month and divide by the number of horses that use that pasture.

$$\frac{\$ \text{_____}}{\text{(Dollars spent)}} \div \frac{\text{_____}}{\text{(Number of horses)}} = \frac{\text{_____}}{\text{(Monthly cost of pasture)}}$$

Feed Tag Information

1. What production level is this feed designed for? (Ex. maintenance, performance, etc.)

What is the crude protein level of this feed _____

What is the main ingredient in this feed? (Hint: if the answer is not clear, it's probably the first ingredient listed.)

The TDN (Total Digestible Nutrients) level of a feed indicates energy value. Please calculate the TDN level of this feed. Crude fiber level should be on the feed tag.

Formula = $\{84 - (1.5 \times \% \text{ Crude Fiber})\} = \text{_____} \% \text{ TDN}$

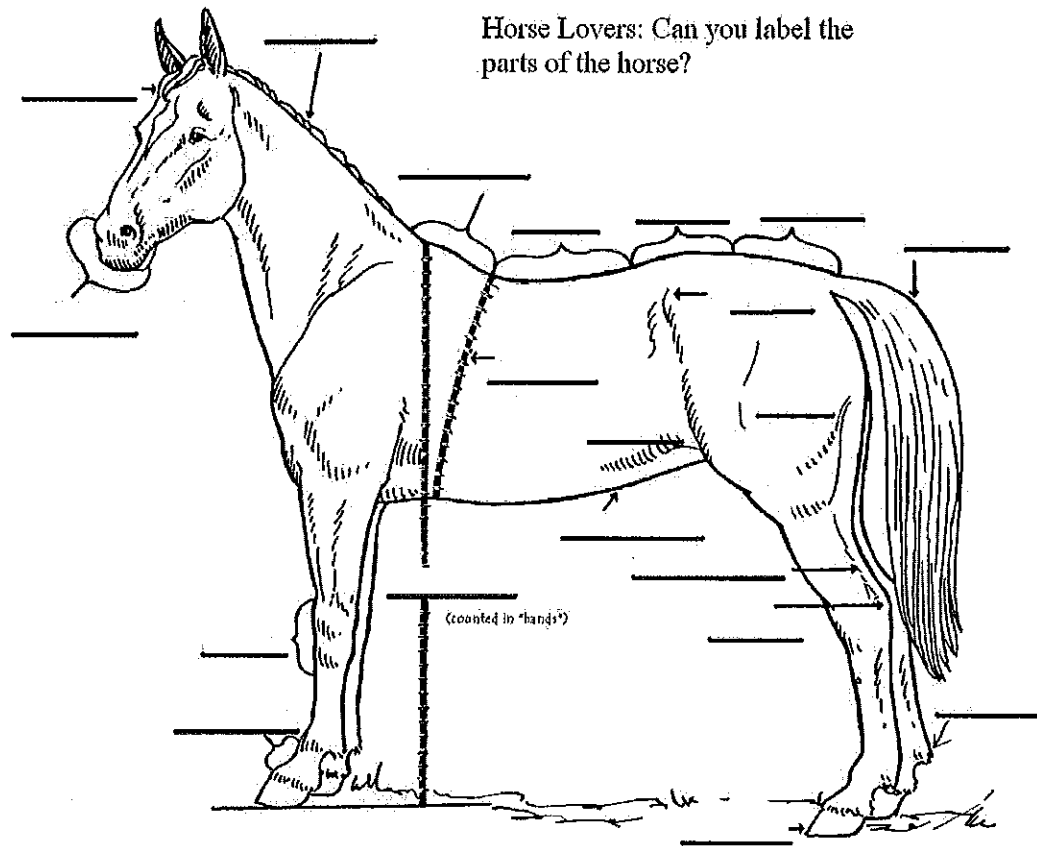
Example $\{84 - (1.5 \times 15)\} = 61.5 \% \text{ TDN}$

Please attach a tag or label from the feed being used for the project or use a separate page if needed. If a homemade mix is used, please describe the mix.

Other Expenses

Horse trimming/Shoeing Date	Description	Cost
Veterinary Care Date	Description	Cost
Deworming Date	Type or Brand	Cost
Other Date	Description	Cost
		TOTAL COST:

Review



1. How many muscles does your horse have below the knee or hock?

2. Which of these bones do you have, but your horse does not?
Scapula Clavicle Radius Femur
3. There has been a lot of wet weather lately, and while grooming your horse, you notice that his lower legs seem hot and puffy. Also there are small, weepy scabs on them. What is the most likely diagnosis?
Sweet Itch Mud Fever Wind Galls Splints
4. Where on your horse would you find the 'White Line'? _____
5. Where on your horse might you find a 'Galvayne's Groove'? _____
6. What is an average, healthy, horse's TPR (temperature, pulse and respiration) considered to be when he is at rest? _____
7. Great news, your mare is in foal! How long will you have to wait for your new arrival? _____

Review

Give a Body Condition Score to each of the following horses. Identify two areas that helped you to come to this score (Neck, Withers, Shoulder, Ribs, Loin, Tailhead) with a brief description of why.

1. BCS _____

Area 1: _____

Reason: _____

Area 2: _____

Reason: _____



2. BCS _____

Area 1: _____

Reason: _____

Area 2: _____

Reason: _____



3. BCS _____

Area 1: _____

Reason: _____

Area 2: _____

Reason: _____



4. BCS _____

Area 1: _____

Reason: _____

Area 2: _____

Reason: _____



MUSCLES

- 
1. Levator nasolabialis
 2. Zygomaticus
 3. Buccinator
 4. Facial vein
 5. Levator labii sup. proprius
 6. Masseter
 7. Scutularis
 8. Parotido-auricularis
 9. Rhomboides
 10. Jugular vein
 11. Splenius
 12. Sterno-cephalicus
 13. Brachiocephalicus
 14. Serratus cervicis
 15. Trapezius
 16. Pectoralis, deep
 17. Supraspinatus
 18. Deltoid
 19. Pectoralis, superficial
 20. Biceps brachii
 21. Brachialis
 22. Ext. carpi radialis
 23. Common digital ext.
 24. Deep flexor
 25. Ulnaris lateralis
 26. Serratus thoracis
 27. Triceps brachii
 28. Latissimus dorsi
 29. Obl. abdominis ext
 30. Aponeurosis of obl.abd.ext
 31. Lumbodorsal fascia
 32. Gluteal fascia
 33. Tensor fascia latae
 34. Gluteus superficialis
 35. Fascia lata
 36. Biceps femoris
 37. Semitendinosus
 38. Long digital extensor
 39. Soleus
 40. Lat. digital extensor
 41. Gastrocnemius
 42. Sacrocaudal

60% of the horse's body is composed of muscle.

There are 3 types of muscle:

Skeletal muscle: Contraction of these muscles leads to the muscle pulling a tendon, which in turn pulls a bone. Moving a bone results in either flexing or extending a joint. Skeletal muscles are usually arranged in pairs so that they oppose each other (they are "antagonists"), with one flexing the joint (a flexor muscle) and the other extending it (extensor muscle). Therefore, one muscle of the pair must be relaxed in order for the other muscle in the pair to contract and bend the joint properly. A muscle or muscles and its/their tendon(s) that operate together to cause flexion or extension of a joint are referred to respectively as a **flexor unit** and an **extensor unit**. There are over 700 different skeletal muscles in the horse.

Cardiac: muscle which makes up the heart. This highly specialized, strong, thick and striated muscle is fatigue resistant. Beating around 100,000 times a day throughout the horse's lifetime it coordinates the propulsion of blood in and out of the heart.

Smooth: muscle which makes up automatic systems. This is involuntary muscle which functions automatically. It surrounds and is found in all internal tissues and organs. Smooth muscle responds to stimuli from the autonomic nervous system. It is responsible for pushing food through the digestive system and the physical control of the bladder and bowel. It is also found in the vascular and reproductive systems.

What makes up the muscle?

Skeletal muscle is made up of several muscle bundles, which in turn are made up of muscle fibers. Muscle fibers have bundles of myofibrils, which are all parallel to one another, and are able to contract due to actin and myosin. Muscle is covered by a fibrous tissue called fascia, to which other muscles can attach, and muscles attach to bone via tendons.

Muscles of the forehead

Muscle / Ligament	Origin / where the muscle starts	Insertion point; where the muscle starts	Action	Comment
Masseter; cheek muscle			Opens and closes the jaw. Allows chewing.	
Brachiocephalicus Wide strap like muscle	Base of the skull behind the jaw	Below the point of shoulder to the humerus	Moves the head from side to side, pulls the scapula for- ward, raises it in collection, swings the foreleg forward.	Well developed for good movement. Too strong a rein contact stops free forward movement.
Sternocephalic	Jowl	Sternum	Moves the head and neck.	Over developed in ewe or bull necked horses, difficult to get into a relaxed shape.
Rhomboideus	Nuchal liga- ment	Scapula	Lifts shoulder and the fore- hand. Pulls the scapula forward.	
Splenius	Behind the poll	Beginning of the Trapezius	Turns and extends the neck.	Makes up the top line if well developed.
Trapezius; flat sheet like muscle.	Occipital bone	Spines of the 7th cervical and all the Thoracic vertebrae	Lifts shoulder and forehead	If this is well developed the horse is working in a good outline.
Nuchal ligament	Poll	Withers	Helps muscles in the neck support the head	
Deltoid	Scapula	Humerus	Flexes shoulder joint	If over developed it will load the shoulder
Supraspinatus	Below the Tra- pezius	Point of shoulder	Maintains the shoulder in extension	
Latissimus dorsi	Lower Thorac- ic vertebrae	Back of the humerus	Flexes the shoulder and pulls the foreleg back.	
Triceps			Flexes the shoulder and ex- tends the elbow	
Biceps			Flexes the elbow and ex- tends the shoulder	
Pectoral			Helps pull the foreleg foreward.	
Triceps Brachii			Extends the elbow joint	
Biceps Brachii			Flexes the elbow joint	
Extensor Carpus			Extend the knee	
Flexor Carpus			Flexes the knee	
Digital Extensor			Extends the toe and knee	
Digital flexor			Flexes the toe and knee and extend the elbow.	

Muscles of the trunk, back and ribs.

Muscles support the spine together with 3 ligaments and abdominal muscles.

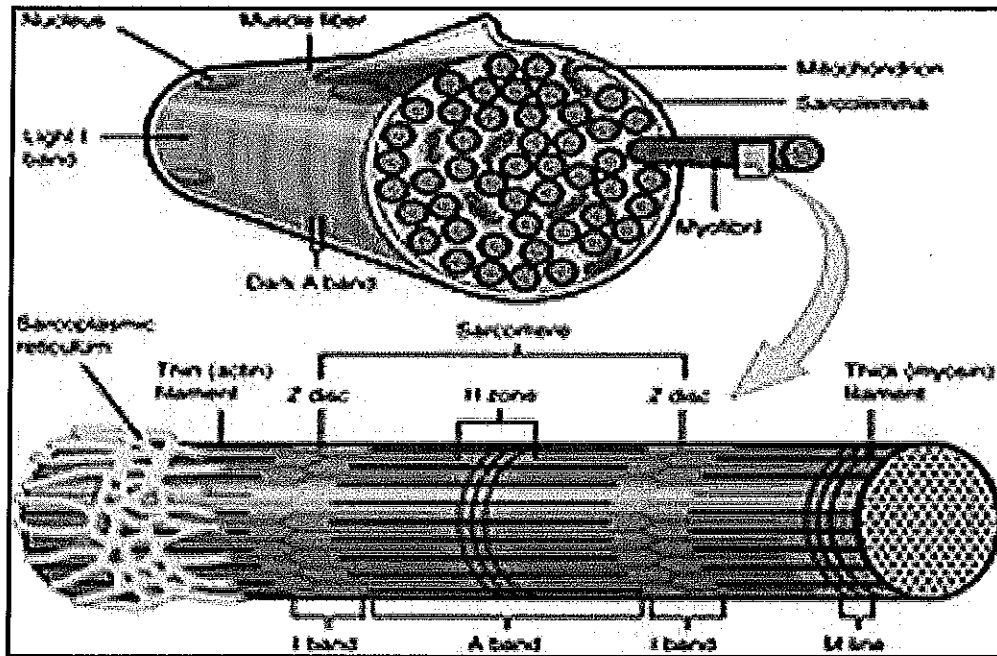
<i>Muscle or ligament</i>	<i>Origin; where it starts</i>	<i>Insertion point; where it finishes</i>	<i>Action</i>	<i>Comment</i>
Spinalis Dorsi	Beneath thoracic part of Trapezius	4th cervical vertebrae		
Lumbar muscles or Longissimus dorsi	Ilium	Vertebrae along the spine and the last 4 cervical vertebrae	Extends the spine and raises and supports the head, neck. Main muscle used in rearing, kicking, jumping and aids turning	Longest and strongest muscle, rider sits on them
Intercostal muscles	Spaces between ribs		Aids breathing	
External and internal abdominal oblique	Attach to ribs and pelvic bones		Supports the internal organs	
Supraspinous ligament	Poll	Sacrum	Supports head and neck, traction force aids support in weak thoracic lumbar area.	Spreads out, attaching to spines of the cervical vertebrae, Called nuchal ligament in the withers and neck area.

Muscles in the hindquarters.

Hindquarters are the engine of the horse, they should be well developed, strong to move the horse forward, particularly in the competition horse.

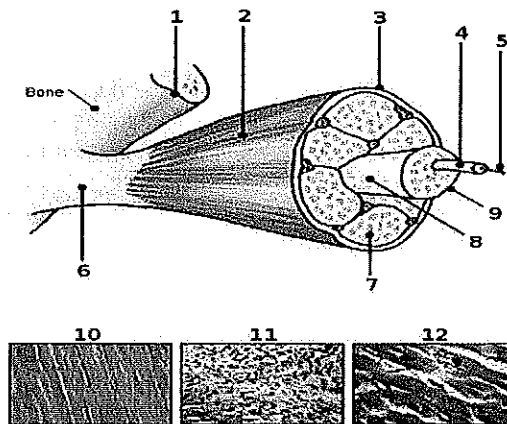
<i>Muscle or ligament</i>	<i>Origin; where it starts</i>	<i>Insertion point; where it finishes</i>	<i>Action</i>	<i>Comment</i>
Superficial gluteal	Croup	Bottom of the hip attached to the sacrum	Flex and extend the hip, pulls hindleg toward the body, used for rearing, galloping and kicking	More developed in a dressage horse.
Biceps femoris	Behind gluteals	Bottom of the high attached to the patella and tibia	Maintains hip joint in extension	Main muscles over the hindquarters, part of the hamstring group, well developed in eventers, race horses.
Semitendinosus	Behind biceps femoris	Back of the hindquarters	Extends the hip and hock joints	Part of the hamstring group, well developed in eventers and race horses.
Semi membranous				Part of hamstring group, well developed in race horses / eventers.
Gastrocnemius	Rear of the femur	Point of hock	Maintains hip extension	
Peroneus tertius	Femur	Cannon bone	With superficial digital muscle moves the stifle and hock.	
Achilles tendon	Gastrocnemius	Over point of hock		
Sacrosciatic ligament	Sacrum and coccygeal vertebrae	Pelvic bone		

Muscles



A skeletal muscle fiber is surrounded by a plasma membrane called the sarcolemma, which contains sarcoplasm, the cytoplasm of muscle cells. A muscle fiber is composed of many fibrils, which give the cell its striated appearance.

Muscle Quiz



Question 1 : A muscles elasticity is its ability to ...

- stretch without being damaged
- return to its original length after contraction
- contract forcefully when stimulated

Question 2 : What does number 6 indicate?

- the perimysium
- a tendon
- the periosteum

Quiz Continued

Question 3 : An adductor is a skeletal muscle which ...

moves a limb away from the midline

flexes a muscle

moves a limb towards the midline

Question 4 : Which type of muscle is stimulated by nerve impulses from the brain and spinal cord?

skeletal

cardiac

smooth

Question 5 : Which number indicates the main skeletal muscle :

12

2

11

Question 6 : Skeletal muscle is attached to bones by ...

ligaments

muscle tissue

tendons

Question 7 : Where on the body would you find the trapezius?

on the back

on the lower leg

across the abdomen

Question 8 : The main muscle involved with chewing is the ...

mentalis

sternocleidomastoid

masseter

Question 9 : How many main types of muscle tissue are there?

3

2

4

Question 10 : Which type of muscle is also known as 'voluntary muscle'?

cardiac

skeletal

smooth

Trailer Safety

It is important that you understand what to look for with trailer safety. At some point you will want to move your horse from one location to another and you will need to use a trailer. It is important for the safety of you, your horse, and others on the road that you know what to look for to ensure your trailer is safe.

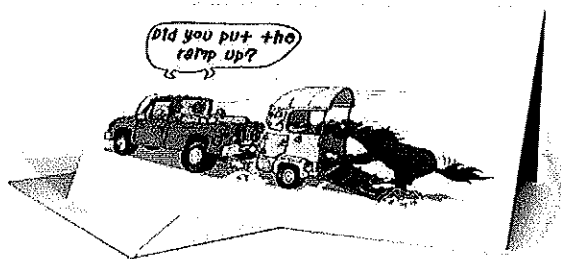
First if you have never driven a trailer before make sure that you practice with an unloaded trailer to ensure you can handle the equipment. Practice backing, stopping, and turning. A helpful hint when backing is put your hand on the bottom of the steering wheel and turn it in the direction you want the back of the trailer to go. If you want the trailer to move sharply, turn the wheel before you move the vehicle. If you want to turn more gradually, turn the wheel as the vehicle is moving. Once you have mastered driving you will need to make sure your trailer and tow vehicle is in good working order. A good pre-drive safety checklist is important.

- ◇ Lights are working
- ◇ Breaks are Working
- ◇ Tires are in good working order. (same air pressure, wearing appropriately)
- ◇ Lug nuts tight
- ◇ Trailer hitch is secure and safety chains attached
- ◇ Dirt and debris is swept out (eye safety of the horse)
- ◇ Clean, dry trailer mats (reduce slipping)
- ◇ No loose rattling parts (make sure dividers are secure) and no sharp edges
- ◇ Check your floor boards for rot or rust and repair issues immediately
- ◇ Check fluids on the tow vehicle

Safety equipment to carry

First aid kit for horses and humans, Flares, Working Jack, Extra Halters and leads, Fire Extinguisher, Lug Wrench/Tire Iron, Cell phone and charger, Emergency contact Numbers,

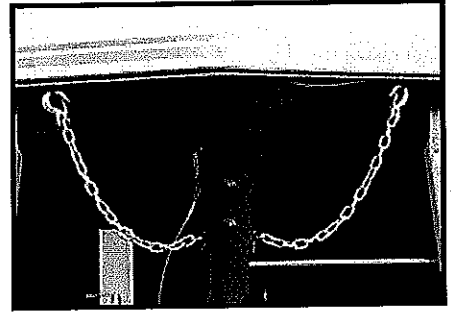
Now that you are ready to drive. Load a single horse on the driver's side. If you are traveling with two horses, load the heaviest on the driver's side or in a stock over the axle. This will help to balance the load since most roads slope down from the middle. Make sure you leave extra time for stopping and signaling and allow more space between vehicles. On long trips stop every three hours and offer water to the horse. Trips longer than twelve hours make sure to stop and stay overnight. Once the horse is loaded make sure that the butt bar or chain is latched. The horse should be locked in with a trailer tie



Trailer Safety Quiz

1. In the picture what kind of trailer is represented?

2. What safety feature is in the picture?



3. You have two horses which are going to travel on a straight load bumper hitch. Your horse weighs 1000 pounds and then a pony who weighs 750. Where in your trailer would each horse ride?

4. You are backing your trailer up. The trailer needs to go to the left. Which way do you turn the steering wheel? Clockwise or Counter Clockwise?

5. Which vehicle has lug nuts? And where are the lug nuts located?

6. Why do you want to make sure there is no dirt in the back of the trailer during transit?

7. Name two safety items that you should carry with you on a long trip?

8. How often should you offer your horse water on an eleven hour trip?



Common Diseases:

Arthritis – inflammation of structures of a joint

Azoturia (Tying-up) - stiffness, pain, and muscle tremor involving the muscles of the hindquarters

Bone Spavin - is a bony swelling on the lower, inner side of the hock, caused by arthritis of the bones in the area (See Photo)



Botulism, Forage Poisoning, Shaker Foal Syndrome - Caused by the toxin *Clostridium botulinum*. The toxin may be produced in food, such as silage or vacuum-packed moist hay, which has been contaminated by decaying matter containing the organism. Foals may have signs include impaired sucking, inability to swallow, decreased eyelid and tail tone and dilated pupils. There is progressive muscular weakness and tremors, leading to collapse and inability to rise. Muscle tremors over the shoulders and flanks are evident. Saliva drools from the mouth. The gait is weak, shuffling and unsteady. Death results from respiratory paralysis within 24 to 72 hours of the onset of clinical signs.

Bronchitis - This is inflammation of the bronchi within the lungs of the horse caused by a virus or bacteria.

Chronic Obstructive Pulmonary Disease (COPD) - is an allergic disease resulting in the development of the small airway in the horse's lungs caused a fungal infection. Commonly known as heaves

Corneal Ulcers - Injuries to the cornea that progress instead of healing.

Degenerative Joint Disease (DJD) - a group of disorders characterized by progressive deterioration of cartilage cells lining joint surface.



Dermatophilosis (Mycotic Dermatitis, Mud Fever) - is a skin disease of badly cared for horses mainly seen in mild wet winters. (See Photo)

Dourine - is a contagious disease of horses transmitted only by coitus and characterized by inflammation of the external genital areas, skin lesions and paralysis.

Equine Colic - is a group of symptoms rather than a disease in itself that result in colonic obstruction and gastric ulcers.

Impaction Colic – blockage of the intestinal tract with normal ingesta or foreign material

Incarceration Colic – loop intestine becoming entrapped within a normal or abnormal structure within the abdominal cavity. Strangulating hernia is a common example.

Spasmodic Colic – similar to indigestion, most common and mildest form often caused from excessive grains which distend the stomach

Equine Encephalomyelitis - is an inflammation of the brain and spinal cord. The two forms currently active in the United States are Eastern equine encephalomyelitis (EEE) and Western equine encephalomyelitis (WEE). The mosquito transmits the virus from small infected animals such as birds and rodents to horses.

Equine Herpes Virus - causes respiratory infection and abortion in pregnant mares.

Equine Infectious Anemia - also known as malarial fever, mountain fever, slow fever, or swamp fever, is a chronic contagious viral disease affecting only horses. Coggins test is used to detect. Internal parts affected; kidneys, liver, spleen, lymph nodes, bone marrow, brain. This is caused by a virus closely related to the human immunodeficiency virus and is characterized by fever, anemia, jaundice, depression, edema and chronic weight loss.

Equine Protozoal Myeloencephalitis (EPM) - is a progressive neurologic disease of horses which affects the brain, brainstem, and spinal cord.

Equine Recurrent Uveitis (ERU) - also known as periodic ophthalmia or moon blindness, is one of the most common causes of blindness in horses.

Equine Ulcer - Stomach and duodenal ulcers are common in the adult horse. Untreated ulcers can perforate. Collapse and death may follow soon after.

Equine Viral Rhinopneumonitis - Rhinopneumonitis is caused by an equine herpes virus, EHV-1. Often causes pregnant mares to abort. Two different subtypes of the EHV-1 virus exist in nature. Subtype one usually causes abortion or nervous system disease (myeloencephalopathy), while subtype two (sometimes called EHV-4) is most often the cause of respiratory infections.



Exercise Induced Pulmonary Hemorrhage (EIPH or Bleeders) - some horses experience horse bleeds (epistaxis) after a hard work-out due to restriction of the blood vessels in the lungs. (see photo)

Hemophilia A - is an inherited disease of Thoroughbreds, Quarter Horses, Arabians, and Standardbreds. The disease is transmitted by an X-linked mode of inheritance. Hemophilia A is characterized by prolonged bleeding times in affected males. These horses have a tendency to develop hematomas (blood pockets) whenever traumatized.

Hernia - A *hernia* is the protrusion of an organ or the fascia of an organ through the wall of the cavity that normally contains it.

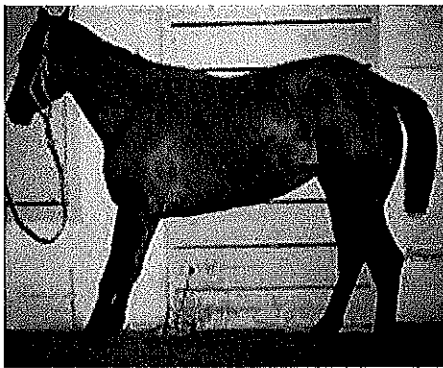
Umbilical - openings in the body wall at the navel that does not close normally, resulting in the presence of a sack into which intestines may fall

Scrotal hernia is a protrusion of a piece of the intestine into the scrotum

Hives (Urticaria) - Most cases of equine hives resolve as quickly as they appear, usually within 24 to 48 hours, and the cause is never figured out.

Hyperkalemic periodic paralysis (HYPP) is an inherited disease of the muscle which is caused by a genetic defect. In the muscle of affected horses, a point mutation exists in the sodium channel gene and is passed on to offspring.

Laryngeal Hemiplegia (Roaring) - dysfunction or partial paralysis of the larynx such that it does not open completely when the horse inspires



Laminitis (Founder)- means "inflammation of the laminae," (tissue layer) and it can refer to either a short-term (acute) inflammation or the disease caused by chronic attacks of inflammation. In mild cases, laminitic horses display consistently altered or abnormal behaviors such as increased forelimb lifting. Lameness may not be evident at a walk, but the horse will have a short stilted gait at a trot. Increased pulse in the leg may be visible. As the condition progresses, horses will be more reluctant to move and will resist lifting a foot. Because of the pain, horses have increased respiratory rate, trembling, and anxiety. (see photo)

Lethal White Foal Syndrome – genetic disease carried by both parents. Horses that carry this gene are most commonly overo white patterned horses (frame overos), but there are exceptions. The syndrome causes certain types of nerves in the intestinal tract to form.

Lyme Disease (Borreliosis) is a bacterial illness caused by the spirochetal (corkscrew shaped) bacterium *Borrelia burgdorferi*. It is most commonly transmitted by the bite of infected *Ixodes* spp ticks, commonly referred to as "deer ticks" or "black legged ticks".

Navicular Disease - is the most common cause of chronic front foot lameness.

Potomac Horse Fever - or equine monocytic ehrlichiosis is caused by *Neorickettsia risticii* (formerly *Ehrlichia risticii*). Originally described in 1979 as a sporadic disease affecting horses residing in the eastern United States near the Potomac River, the disease has since been identified in other geographic locations in the United States and Canada. The disease is seasonal, occurring between late spring and early fall in temperate areas, with most cases in July, August and September at the onset of hot weather.

Rotavirus Infection - is a highly infectious virus which spreads rapidly throughout the population and causes severe diarrhea in foals.

Seasonal Recurrent Dermatitis (Summer Eczema, Sweet Itch) - is a skin disease caused by allergic reaction to insect bites.

Sporotrichosis - is a skin disease caused by a yeast-like fungus.

Strangles - is an infectious disease of the upper respiratory tract seen mainly in young horses. Symptoms include swelling of the lymph nodes. Bastard strangles or metastatic abscessation which occurs in the lungs, mesentery, liver, spleen and kidneys are often a complication of strangles. (see photo)



Stringhalt - The horse exaggeratedly flexes one or both hind limbs when in motion. The abnormality is sometimes evident at all paces, but it is usually most apparent at walk, especially if the horse is turned or backed, and may disappear at trot.

Strongyles - are species of most damaging internal parasites.

Tetanus - is an acute, often fatal disease caused by the bacteria found in soil. Commonly called lockjaw. Prolapse of the third eyelid is a characteristic of this disease.

Thrush - caused by an anaerobic organism that causes necrosis of the tissue of the frog and a foul, blackish discharge

Diseases Quiz

1. Heaves is actually a disease know as what?

2. Strongyles can be treated with...

3. What Disease does an Overo colored horse sometimes carry?

4. The common name "Moon Blindness" is known as what disease?

5. Lime Disease is cause by the bite of what?

6. How many types of Colic are there?

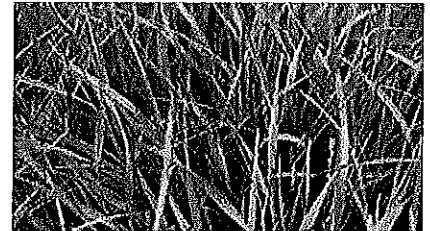
7. Name two different diseases that affect foals.

8. Chose two diseases to expand upon. Make sure you tell how the disease is spread, what the symptoms are, and if there is a cure.

Grasses and Pasture control

Grasses are needed to ensure a happy, healthy horse. In a perfect situation the horse would graze for about eighteen hours of the day. Obviously this is not always an option for all horses so they are fed hay. Hay is made from grass, legumes, or cereal crops that have been mowed, cured, and baled. The equine digestive system is designed to extract nutrients from grass or long-stem fiber to remain healthy. There are many options and various types of grasses that can be produced based on location, soil type, cost, and preference.

Grasses are broken down into two varieties, cool and warm-season varieties. Cool-season grasses will be able to survive the cold harsh winters while warm-season grasses cannot. Since we live in a Northern state with extreme winters we are only going to learn about the cool-season grass types. You can also obtain further information on warm-season grasses, soil typing, and other crop issues at a local extension office. Plants are further broken down into annuals and perennials. An annual will need to be replanted yearly because it completes its entire life cycle in one year and then dies. A perennial will come back every year with proper care.



Types of cool-season grasses

Orchard grass - a perennial, does not do well in drought. Horses like it best when harvested before it becomes too mature.

Timothy - is a perennial and very palatable to horses. It does not do well in high temperatures. It makes an excellent stand of hay. Timothy should be harvested when the seed heads are covered in "velvet" for maximum nutrient levels. The longer the seed head, the lower the nutrient value; and the more coarse and stemmy the hay.

Reed Canary grass - a perennial, must be harvested early before it becomes mature and stemmy. If it's not harvested before seed heads form, it should be mowed, left to regrow and the second growth harvested. Horses find it very palatable when harvested correctly.

Bluegrass - is very nutritious perennial. It is the most palatable (horses seem to like it best) of all the grasses.

Smooth Brome grass - a perennial which grows well in a variety of soils. It has some resistance to wet or soil low in pH. It should be harvested right before seeds head out for maximum nutrient levels. Horses will eat it readily.

Fescue - a very hardy drought and heat resistant perennial that can also be grown in wet soil. Horses do not find it as palatable as other grasses, and it can become infected with an endophyte fungus. (Mares eating fescue infected with fungus during the last 60 days of gestation may not produce colostrum at foaling time; may give birth to stillborn foals, have a tough placenta, or extended gestation length). Fescue varieties have been developed which are endophyte free.

Ryegrass - do not confuse this with rye grain. Ryegrass comes in annual and perennial varieties. Ryegrass has the potential to harbor fungi called endophyte. (The same fungus that appears in fescue.) Symptoms of ryegrass endophyte poisoning are staggering, trembling and change of behavior. The nutrient value of ryegrass hay is poor and should not be fed to performance or production animals without supplementation.

As stated above perennials can come back year to year with proper care. One of the biggest enemies of a good pasture is weeds. Weeds are generally less palatable, less nutritious, less dependable and lower yielding than grasses. So how do we control weeds? First be able to identify the weed and its life cycle. Mowing is effective to control weeds if done prior to flowering or seed production. If a herbicide is used remember to follow the directions explicitly and is best done in the early spring when the weeds are growing. Sometimes a second application in the fall is necessary to further reduce the weeds. Apply herbicides selectively, carefully, and only if necessary.

Always read and follow the herbicide label and comply with all grazing restrictions. Herbicides labeled for use in pastures are not harmful to horses when applied at the recommended usage rates and when all directions are carefully followed. For a mixed pasture of legumes and grasses, no herbicides are available that will selectively control broadleaf weeds while not injuring or killing the legumes. Good pasture management should be used to control weeds in a mixed pasture. These methods may never totally eradicate the weed so you may find it necessary to also reseed pastures to help the good grasses continue to be healthy.

Overgrazing and utilizing the field during wet seasons will also stunt growth or kill the grass all together. Leaving piles of manure on the ground will not only kill the grass underneath but will spread parasites. Be sure to harrow or remove manure on the pasture.



Fertilizing, reseeding, managing the PH, and rotational grazing are all good practices to maximize the health of your pasture. You will need to find the PH of the soil so you will know what kind of fertilizer to employ. It will also be important to know what is being planted or produced to make sure the best fertilizer is chosen. Rotational grazing will give the pasture a needed rest time to ensure plants maturity and reduce soil damage by horse hooves.

Grasses and Pasture Management Quiz

1. What type of grasses are in your horses pasture?

2. Which type of grass can affect the mares during pregnancy?

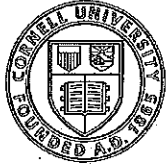
3. Most grasses are annuals or perennials?

4. What is harrowing?

5. Which grass is drought hardy?

6. What type of plant returns every year?

7. Is it safe to leave horses in a field where a herbicide was spread?



Cornell University
Cooperative Extension
Cattaraugus County

Education Center

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

4-H Youth's Signature

Date

Parent/Guardian Signature

Date

4-H Educator's Signature

Date

NYS 4-H HORSE CERTIFICATE

____ Personally owned

Date _____ 20____

____ Family owned



____ Non-owned

(See non-ownership policy/reverse side)

Name of Animal _____

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

Name of Sire _____

Name of Dam _____

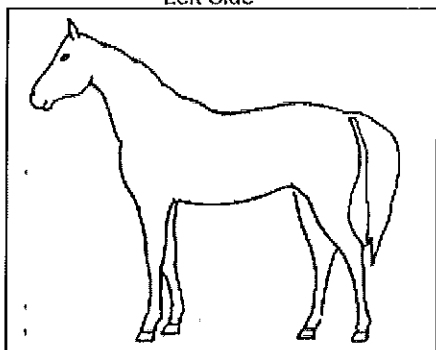
Registry/Breed _____

Reg. No. _____

Date of Purchase _____

Member County _____

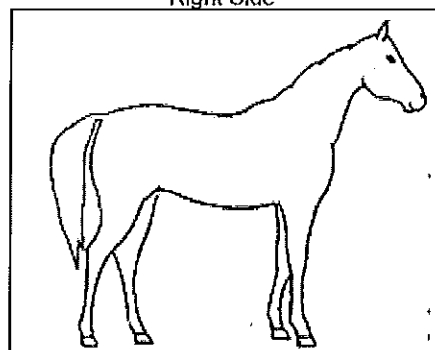
Left Side



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 _____

CCE 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

My 4-H Project Story

Include: 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; Other projects or accomplishments that make you proud.

Glossary of Terms

Bearing Rein : Rein pushed against the neck in direction of the turn, neck rein.

Bench Kneed : "offset knees" the cannon bone is offset to the lateral side and does not follow a straight line from the radius.

Bloom : A condition of the hair and coat. They appear clean, healthy and fine textured with a distinct, clear shine. Healthy appearance.

Bowed tendon : An inflammation and enlargement of the flexor tendon at the back of the cannon (most often found on the front legs).

Cast : When a horse lies down or rolls to close to a wall, so it is impossible or difficult for it to get up without assistance.

Catch rope : Working rope or lariat.

Cribbing : Biting or setting teeth against the manger or some other object, arching the neck and gulping or swallowing air into the stomach, not the lungs.

Dental Star : A star-shaped or circle-like structure near the center of the wearing surface of the permanent incisors.

Disunited : When a horse is on the right front lead and left hind lead at the same time or vice versa.

Flying change : Changing the lead leg in canter in the air (during an unbroken canter stride) at the rider's instructions.

Full-pass : The horse in half-pass is bent into the direction of movement but does not move forwards at all, it moves sideways only.

Float teeth : Filing off the sharp edges of a horse's teeth.

Half halt : A method of bringing the horse to a greater degree of balance and higher mental attention. Aids too numerous for short definition.

Half-pass : The horse is moving equally forwards and sideways. The horse's length is bent in the direction of movement. The movement can be ridden in walk, trot or canter.

Handy : Describes a horse that moves quickly and willingly. Always in control of its movements in a balanced, rhythmic, alert manner

Hobbles : Straps fastened to the front legs of a horse to prevent him from straying.

On the forehand : The horse is carrying itself and the rider with its balance and weight over the two front legs.

Out of or dam of : Refers to the female parent of a horse.

Parasite : A small organism that lives on or in and at the expense of a larger organism called the host.

Parturition : The act of giving birth

Romal : A braided rawhide terminating in a single or double tapered strap, usually between 3 and 4 feet long, and attached to the end of closed, braided rawhide reins.

Tapaderos or taps : Leather covering or shield over the front of the stirrups.

Tempi changes : More than one flying change put together to form a movement (e.g. four time tempi changes is a change of leg every fourth canter stride).

