Species – Horse Module – Conformation/External

& Skeletal Parts

Learning Objectives

Beginner

- Identify 15 anatomical parts of the horse.
- Identify 10 skeletal parts of the horse.
- Describe desirable conformation and structure.

Intermediate

- Identify 30 anatomical parts of the horse.
- Identify 20 skeletal parts of the horse.
- Describe common undesirable characteristics of conformation and structure.

Seniors

- Identify all anatomical and skeletal parts of the horse.
- Identify and explain conformational and structural faults.
- Place a class of 4 halter horses correctly.

Learning Activities

Age Level	Learning Activities	Materials Needed	Source
	 View 15 external parts of the horse. View 10 skeletal parts of the horse. 	 Laminated External Parts of the Horse Poster & ID Tags Laminated Skeletal Parts Poster & ID Tags 	Alberta Manual pp 47-90
Beginner	 Play "Pin the Part on the Horse" with 15 external parts and 10 skeletal parts. Complete the "Parts of the Horse" word search. 	Parts of the Horse Word SearchPencils	KHVCR Manual & Kit
	 Play "External Parts of the Horse" Bingo. View Basics of Horse Conformation & Structure. 	Bingo CardsBeans or coinsHorse Discovery Website	KHVCR Manual Horse Disc. Website

Targeting Life Skills Beginner

- · Critical thinking
- Learning to Learn

Intermediate

- Critical Thinking
- Learning to Learn

Senior

- Critical Thinking
- Communication
- · Service learning
- Leadership

Age			
Level	Learning Activities	Materials Needed	Source
	Identify 30 external parts.	Laminated External Parts Poster & ID Tags	KHVCR Manual/Kit
	Identify 20 skeletal parts.	Laminated Skeletal Parts Poster & ID Tags	
ediate	 Play the memory game to associate structural similarities in the equine and human bodies. 	Memory game sheet – "My Horse's Skeleton"	KHVCR Manual/Kit
Intermediate	Review Basics of Horse Conformation.	Horse Discovery Website	Horse Disc Website
	Identify Conformational faults	Computer & Internet	Internet
	 Present a common conformational fault to your club and show where it is and how it affects a horse's performance. 	 Conformational Faults word list Laminated External Parts Poster 	KHVCR Manual/Kit
	Identify all external parts.	Laminated External Parts Poster & ID Tags	KHVCR Manual/Kit
	Identify all skeletal parts.	Laminated Skeletal Parts Poster & ID tags	
	Teach Beginners and intermediates the external and skeletal parts lessons.	Laminated External Parts & Skeletal Parts Posters & ID tags	KHVCR Manual/Kit
Senior	Design a "Picture Bingo" game for the Beginners and intermediates.	 Bingo cards Beans or coins for markers Horse pictures with individual parts highlighted 	KHVCR Manual/Kit
	Structural Faults ID	Computer & Internet"Horse Judging Manual"	Internet
		(www.uky.edu/Ag/4hhorse /JudgingManual2004.pdf)	Alberta HorseRef Manual,pp 47-90
		"Major/Minor" worksheet	
	 Define each structural fault as "Major" or Minor". 	Conformation of Legs Poster	Kit posters

Age Level	Learning Activities	Materials Needed	Source
	 Create a poster board presenting the major and minor faults to Intermediates. 	Posterboard & MarkersHorse magazines	
	Teach "Good vs. Bad" conformation activity with Beginners and intermediates.		KHVCR Manual
	Virtual Judging Contest	 Horse Magazines Poster board Internet	KHVCR Manual

Time Requirement

• Each activity should be completed in 30 minutes or less

Best Time to Teach

• Early in the teaching process.

Best Location

• Classroom, meeting room, horse farm.

Evaluation

Beginners

- Score the 15 external parts recognition.
- Score the 10 skeletal parts recognition.
- Score the external parts word search.

Intermediate

- Score the 30 external parts recognition.
- Score the 20 skeletal parts recognition.
- Score the ability to recognize common conformational faults.

Senior

- Score the ability to recognize all external parts.
- Score the ability to recognize structural faults.

References

- Horse Resource Handbook (KHVCR)
- KHVCR Kit
- Horse Discovery Website: https://afs.ca.uky.edu/horse-discovery

HORSE EXTERNAL PARTS ID TAGS

Poll	Neck	Crest
Shoulder	Withers	Back
Loin	Point of Hip	Croup
Thigh Area	Buttock	Flank
Stifle	Gaskin	Hock
Fetlock Joint	Coronet	Pastern

HORSE EXTERNAL PARTS ID TAGS

Ankle	Cannon	Heart Girth
Barrel Area	Abdomen	Hoof
Knee	Forearm	Elbow
Arm	Chest	Point of Shoulder
Throat Latch	Upper Lip	Lower Lip
Muzzle	Under Lip	Nostril

HORSE EXTERNAL PARTS ID TAGS

Bridge of Nose	Face	Forehead
Chestnut	Ergot	

For the Novice

Cervical vertebrae	Thoracic vertebrae	Lumbar vertebrae
Sacrum (sacral vertebrae)	Coccygeal vertebrae	Hip joint
Femur	Patella	Fibula
Tibia	Point of hock (calcaneus)	Splint bones (2nd and 4th metacarpal or metatarsal bones)
Cannon bone (Foreleg: 3rd metacarpus, hind leg: 3rd metatarsus)	Long pastern (1st phalanx)	Short pastern (2nd phalanx)

For the Novice

Coffin bone or Pedal bone (3rd phalanx)	Hock (tarsus)	Stifle joint
Pelvic bones	Ribs	Point of elbow (olecranon)
Ulna	Coffin joint (distal interpha- langeal joint)	Pastern joint (proximal interpha- langeal joint)
Humerus	Sternum	Shoulder joint

For the Novice

Fetlock joint (metacarpo- phalangeal joint)	Cannon bone (3rd metacarpus/ metatarsus)	Splint bones (2nd and 4th metacarpal or metatarsal bones)
Knee (carpus)	Radius	Elbow joint
Mandible	Facial bones	Cranial bones
Scapula		

Cervical vertebrae	Thoracic vertebrae	Lumbar vertebrae
Tuber sacrale	Sacral vertebrae (sacrum)	Tuber
Coccygeal vertebrae	Wing of Ilium	llium (shaft of ilium)
Calcaneus	Tarsus	2nd and 4th metatarcarpal or metatarsal bones (medial and lateral splint bones)

Tuber ischii	Hip joint	Femur
Patella	Tibia	Fibula
3rd Metatarsus (hind leg cannon bone)	First phalanx (p1 or long pastern bone)	Middle phalanx (p2, second phalanx or short pastern bone)
Distal phalanx (p3, third phalanx, coffin bone, or pedal bone)	Scapula	Stifle joint

Pubis	Elbow joint	Sternum
Accessory carpal bone	Proximal sesamoid bone	Ulna
Mandible	Distal interphalan geal joint (coffin joint)	Cranial bones
Proximal interphalan -geal joint (pastern joint)	Metacarpo- phalangeal joint (fetlock joint)	3rd Metacarpus (foreleg cannon bone)

2nd and 4th metacarpal bones (medial and lateral splint bones)	Carpus (knee)	Radius
Humerus	Scapular spine	Scapular cartilage
Ischium	Femur, greater trochanter	Femur, third trochanter
Femoral Trochlea	Phalanges (digits)	Tarsus (hock)

Ribs	Costal cartilages	Olecranon (point of elbow)
Costal arch (false ribs)	Os coxae (pelvic girdle or ilium, pubis, and ischium)	Distal sesamoid (navicular bone)
Humeral tuberosity, lateral	Maxilla	Nasal bone
Orbit	Frontal bone	Temporal fossa

Atlas (first cervical vertabrae)	Axis (second cervical vertabrae)	Cranial bones
Maxillary bone	Shoulder joint	Talus

Parts of the Horse Word Search – Beginner Activity

W	Χ	L	U	R	S	Υ	V	R	W	F	М	S	F	V
М	С	Z	J	G	М	Ν	G	Ε	G	В	L	Υ	R	L
Е	M	F	R	Е	U	Z	F	K	J	Ν	Χ	Z	Χ	V
F	Н	R	Е	W	Р	0	Т	Ν	Υ	F	L	Ο		N
Е	D	Р	Н	Р	Ο	R	Z	С	Α	W	U	M	G	S
G	S	Α	Т	Н	R	Ε	D	L	U	0	Н	S	Α	Q
Z	D	S	I	W	Ο	Χ	G	G	L	Q	L	Q	G	Α
U	J	Τ	W	V	С	В	Α	R	R	E	L	Ν	I	J
Р	Ν	Ε	X	K	K	M	Ο	Υ	I	Р	Χ	Ο	I	Χ
I	F	R	V	С	Υ	S	Р	K	С	Α	В	Ν	K	K
Z	Α	Ν	Е	Ο	М	I	Ο	Р	J	Ν	J	Ν	Ν	В
М	K	Ν	U	L	L	Н	L	V	U	S	U	Α	В	Р
Z	С	С	R	Т	Е	D	L	Α	G	Ο	L	С	I	Α
Z	V	L	Υ	Е	I	U	Q	Υ	V	F	R	Н	U	Α
С	S	D	V	F	I	Е	V	F	G	Н	0	С	K	Z
HOC WITI BAC	HER	NI	ARRE ECK DIN	5	HIP SHOU FLAN		ĒR	C	ASTE ANNO ETLO	NC		HOC CRC		POLL

Parts of the Horse Word Search – Beginner Activity Answer Key

W	Χ	L	U	R	S	Υ	V	R	W	F	М	S	F	V
M	С	Z	J	G	M	Ν	G	Ε	G	В	L	Υ	R	L
Е	M	F	R	Ε	U	Z	F	K	J	Ν	Χ	Z	Χ	V
F	Н	R	Ε	W	Р	0	Т	Ν	Υ	F	L	0	I	N
Е	D	Р	Н	Р	0	R	Z	С	Α	W	U	M	G	S
G	S	Α	T	Н	R	Ε	D	L	U	0	Н	S	Α	Q
Z	D	S	ı	W	Ο	Χ	G	G	L	Q	L	Q	G	Α
U	J	T	W	V	С	В	Α	R	R	Ε	L	N	I	J
Р	Ν	Ε	Χ	K	K	M	Ο	Υ	1	Р	Χ	0	I	Χ
1	F	R	V	C	Υ	S	Р	K	C	Α	В	N	K	K
Z	Α	N	Ε	0	M	l	0	Р	J	Ν	J	N	N	В
M	K	N	U	L	L	Н	L	V	U	S	U	Α	В	P
Z	С	С	R	Т	Е	D	L	Α	G	0	L	C	I	Α
Z	V	L	Υ	Ε	-	U	Q	Υ	V	F	R	Н	U	Α
С	S	D	V	F	I	Е	V	F	G	Н	0	С	K	Z
HOC	OF HER		ARRE ECK	ΞL	HIP SHO	JLDE	ΞR		ASTE ANNO			HOC CRC		POLL

BACK

LOIN

FLANK

FETLOCK

External Parts of the Horse Bingo Cards

В	I	N G		0
Loin	Hoof	Neck	Muzzle	Gaskin
Wither	Back	Heartgirth	Flank	Throatlatch
Croup	Tail	FREE SPACE	Poll	Stifle
Pastern	Нір	Hock	Fetlock	Eyes
Barrel	Knee	Cannon	Point of Shoulder	Ears

http://print-bingo.com

В	I	N	G	0
Loin	Stifle	Point of Shoulder	Eyes	Knee
Pastern	Back	Fetlock	Neck	Gaskin
Muzzle	Croup	FREE SPACE	Ears	Poll
Flank	Hock	Hoof	Barrel	Throatlatch
Wither	Нір	Heartgirth	Tail	Cannon

http://print-bingo.com

В	I	N	G	0
Loin	Croup	Eyes	Ears	Barrel
Poll	Point of Shoulder	Pastern	Stifle	Hoof
Throatlatch	Neck	FREE SPACE	Hip	Cannon
Back	Hock	Flank	Knee	Muzzle
Fetlock	Tail	Gaskin	Wither	Heartgirth

http://print-bingo.com

В	I	N	G	0
Throatlatch	Ears	Point of Shoulder	Knee	Neck
Loin	Fetlock	Croup	Hock	Stifle
Muzzle	Gaskin	FREE SPACE	Hoof	Tail
Cannon	annon Pastern Flank Wither		Wither	Barrel
Eyes	Нір	Heartgirth	Back	Poll

http://print-bingo.com

В	I	N	G	0
Point of Shoulder	Croup	Neck	Flank	Eyes
Gaskin	Heartgirth	Cannon	Barrel	Knee
Muzzle	Fetlock	FREE SPACE	Pastern	Ears
Stifle	Throatlatch	Hoof	Wither	Hock
Back	Tail	Loin	Hip	Poll

http://print-bingo.com

В	I	N	G	0
Muzzle	Wither	Neck Fetlock		Poll
Hoof	Hock	lock Flank Gaskin		Eyes
Knee	Barrel	FREE SPACE	Pastern	Back
Tail	Stifle	Croup	Cannon	Ears
Loin	Throatlatch	Heartgirth	Нір	Point of Shoulder

http://print-bingo.com

В	I	N	G	0
Fetlock	Point of Shoulder	Tail	Wither	Gaskin
Stifle	Hock	Hip	Heartgirth	Flank
Knee	Barrel	FREE SPACE	Pastern	Neck
Ears	Throatlatch	Hoof	Muzzle	Loin
Cannon	Croup	Poll	Back	Eyes

В	I	N	G	0
Fetlock	Muzzle	Barrel	Neck	Loin
Pastern	Poll	Back	Stifle	Wither
Hoof	Knee	FREE SPACE	Heartgirth	Croup
Eyes	Cannon	Ears	Flank	Hock
Hip	Tail	Point of Shoulder	Throatlatch	Gaskin

В	I	N	G	0
Neck	Stifle	Knee	Cannon	Croup
Hip	Point of Shoulder	Pastern	Gaskin	Heartgirth
Hoof	Throatlatch	FREE SPACE	Poll	Hock
Eyes	Tail	Flank	Ears	Fetlock
Back	Muzzle	Wither	Loin	Barrel

В	I	N	G	0
Loin	Stifle	Croup	Back	Point of Shoulder
Poll	Gaskin	Hip	Throatlatch	Muzzle
Fetlock	Hoof	FREE SPACE	Pastern	Eyes
Flank	Tail	Hock	Barrel	Cannon
Ears	Heartgirth	Wither	Neck	Knee

В	I	N	G	0
Stifle	Neck	Muzzle	Ears	Flank
Knee	Hoof	Barrel	Tail	Loin
Pastern	Cannon	FREE SPACE	Gaskin	Croup
Back	Нір	Hock	Fetlock	Wither
Point of Shoulder	Eyes	Poll	Throatlatch	Heartgirth

В	I	N	G	0
Hoof	Point of Shoulder	Knee	Ears	Neck
Hock	Back	Flank	Fetlock	Gaskin
Pastern	Poll	FREE SPACE	Throatlatch	Hip
Tail	Barrel	Eyes	Cannon	Wither
Croup	Loin	Heartgirth	Stifle	Muzzle

В	I	N	G	0
Cannon	Gaskin	Barrel	Tail	Muzzle
Point of Shoulder	Eyes	Croup	Ears	Poll
Knee	Loin	FREE SPACE	Pastern	Hock
Hip	Hoof	Fetlock	Throatlatch	Stifle
Heartgirth	Flank	Back	Wither	Neck

В	I	N	G	0
Croup	Loin	Muzzle	Flank	Point of Shoulder
Stifle	Gaskin	Fetlock	Heartgirth	Poll
Wither	Ears	FREE SPACE	Knee	Hoof
Neck	Pastern	Hock	Barrel	Back
Cannon	Eyes	Hip	Throatlatch	Tail

В	I	N	G	0
Barrel	Loin	Flank	Cannon	Back
Pastern	Muzzle	Heartgirth	Wither	Stifle
Eyes	Throatlatch	FREE SPACE	Point of Shoulder	Croup
Hock	Knee	Poll	Hoof	Fetlock
Tail	Neck	Gaskin	Hip	Ears

В	I	N	G	0
Throatlatch	Wither	Gaskin	Croup	Back
Barrel	Poll	Tail	Hip	Knee
Loin	Point of Shoulder	FREE SPACE	Stifle	Neck
Eyes	Hock	Fetlock	Heartgirth	Muzzle
Hoof	Cannon	Pastern	Ears	Flank

В	I	N	G	0
Croup	Poll	Loin	Throatlatch	Eyes
Hoof	Flank	Stifle	Fetlock	Heartgirth
Knee	Нір	FREE SPACE	Neck	Hock
Gaskin	Wither	Muzzle	Point of Shoulder	Ears
Barrel	Pastern	Cannon	Tail	Back

В	I	N	G	0
Neck	Hock	Throatlatch	Barrel	Pastern
Нір	Loin	Knee	Wither	Heartgirth
Fetlock	Ears	FREE SPACE	Gaskin	Poll
Muzzle	Cannon	Croup	Point of Shoulder	Tail
Hoof	Eyes	Back	Flank	Stifle

В	I	N	G	0
Point of Shoulder	Tail	Eyes	Pastern	Neck
Knee	Muzzle	Hock	Heartgirth	Croup
Cannon	Hip	FREE SPACE	Throatlatch	Ears
Stifle	Wither	Flank	Barrel	Fetlock
Loin	Gaskin	Poll	Hoof	Back

В	I	N	G	0
Tail	Muzzle	Stifle	Neck	Cannon
Pastern	Heartgirth	Loin	Croup	Gaskin
Throatlatch	Hoof	FREE SPACE	Eyes	Knee
Wither	Ears	Hock	Flank	Poll
Barrel	Hip	Point of Shoulder	Fetlock	Back

Memory Game "My Horse's Skeleton" Intermediate Activity

Arrange all youth in a circle, either sitting or standing. The first person identifies a part of their body by either pointing to it or touching it. That person names the part of his/her body and then gives the corresponding name on the horse's body. The second person identifies a different part of his/her body, names it, and then gives the corresponding name on the horse's body, followed by the parts previously identified by the first person, and so on. The process goes on until either all youth have identified a part or until someone cannot name another part and drops out. The circle continues to get smaller and smaller until one person is left.

Conformational Faults – Intermediate Activity

Use the following list and look up one of the conformational faults on the Internet. Prepare a presentation showing what part of the horse is affected and how it changes the horse's ability to perform.

Toed In

Toed Out

Cow Hocked

Built Down-hill

Built Up-hill

Swaybacked

Steep Croup

Base Narrow

Base Wide

Ewe Necked

Straight Shoulder

Picture Bingo - Senior Activity

To be designed by Seniors for Beginners & Intermediates

To prepare for Picture Bingo, you will need to do the following:

- Cut out pictures of horses from a magazine.
 - You will need 25 different pictures to illustrate the following parts: loin, hoof, neck, muzzle, gaskin, wither, back, heartgirth, flank, throatlatch, croup, tail, poll, stifle, pastern, hip, hock, fetlock, eyes, barrel, knee, cannon, point of shoulder, ears.
- Color in, circle, or highlight one individual part on each picture.
- Instead of drawing a word out of a hat, you will draw a picture and show it to the group. You will not say what the part is, that is for them to figure out!

To play Picture Bingo:

- Hand out the bingo cards and markers to the group. Remind them to mark their free space.
- The leader of the game will pull a picture randomly out of the pile and show it to the group. The leader does not say what the part was, that is for the youth to figure out.
- The game continues the same way until someone yells "BINGO!"
- After the game is concluded, you can go over the correct answers with the group.

Major/Minor Worksheet – Senior Activity

Define each of the following Structural faults as Major or Minor. Create a poster board showing how each is categorized and then present this to your club. Explain the fault, and describe how it effects the horse's movement.

FRONT LIMBS

Toed In Contracted Heels

Toed Out Calf Knees
Winging Offset Knees
Paddling Tied-In Behind
Upright Pastern Club Foot
Base Narrow Base Wide

HIND LIMBS

Camped behind Cow hocked Sickle hocked Post-legged Rope Walk Toed In Toed Out

Major/Minor Worksheet – Senior Activity Answer Key

FRONT LIMBS

MAJOR MINOR

FAULT	DESCRIPTION	FAULT	DESCRIPTION
Club Foot	Foot has an axis of 60 degrees or greater; inheritable trait; due to a deformity of the deep flexor tendon	Toed In	Also called pigeon toed; toe deviates inward; outside wall of hoof will bear a majority of the horse's weight
Contracted Heels	Usually caused by improper shoeing; foot appears to narrow, especially at the heel	Toed Out	Toe deviates outward; inside wall will bear a majority of the horse's weight
Calf Kneed	When the knee appears to flex backward; stress and strain on the carpal bones & ligaments	Paddling	Caused by horse being toed in, foot will swing outward during movement
Offset Knees	Also called "bench knees"; cannon bone is offset to the knee; stresses splint bone	Winging	Caused by horse being toed out; foot will swing inward during movement
Tied In Behind	The cannon, just below the knee, appears "cut out" with a decreased tendon diameter. Rather than parallel with cannon, tendons are narrower than the circumference measured just above the fetlock.	Upright Pastern	Lose of shock absorption; horses usually also have straight shoulders
		Base Narrow	Narrow stance of front legs; usually due to growth plate abnormality
		Base Wide	Wide stance of front legs; occurs in breeds with narrow chests

HIND LIMBS*

MAJOR MINOR

FAULT	DESCRIPTION	FAULT	DESCRIPTION
Sickle Hocked	Also known as "curby hocks"; excessive angulation of the hocks; predisposed to curbs	Camped Behind	Usually happens in horses with upright pasterns; hind legs placed too far behind hip
Post Legged	Lack of angle within the stifle joint to create a straight hock; results in bone and bog spavins	Cow Hocked	Hocks point inward when viewed from behind; results in bone spavins
		Rope Walking	Also called "plaiting"; twisting of striding leg around and in front of supporting leg in motion

^{*}See "Front Limbs" for toe in/toe out description

Good vs. Bad Conformation – Senior Activity

This activity is to be led by the Seniors to teach the Beginners and Intermediates the difference between basic bad and good conformation. You will need a bunch of horse magazines for this exercise. Copy the following conformational descriptions onto cardstock paper and cut them into individual cards. Tape the main titles of "Balance", "Muscle", and "Structure" onto a wall. Divide everyone into small groups and hand them at least 2 magazines and one of the conformational descriptions. Once they find a picture of their conformational description, they will post it on the wall underneath the correct title. Then, they may receive another description to find.

Once all of the descriptions are finished, discuss the photographs that were chosen to represent each conformational description. You can even make this into a timed event or race.

BALANCE	MUSCLE	STRUCTURE
Straight	Well Defined	Toed In
Shoulder	Gaskins	
Ideal	Prominent V	Toed Out
Shoulder	in Chest	
Sway	Shallow	Cow Hocked
Backed	Chest	
Steep Croup	Well	Base Narrow
	Muscled	
	Forearms	
Ideal Croup	Well	Base Wide
	Muscled	
	Stifles	
Deep	Lacks	Sickle Hocked
Heartgirth	Gaskin	
	Muscling	
Overall	Weak	Correct Front
Balanced	Muscling	Leg Structure
	Overall	_
Weak	Lacks Stifle	Correct Hind
Topline	Muscling	Leg Structure

Virtual Judging Contest – Senior Activity

This is a great way to create virtual classes of horses for Beginners and Intermediates to practice judging horses with! Using horse magazines, poster board, and a marker, you will put together your own halter classes.

Tips for creating classes:

- Use only 4 horses
- Use horses of the same breed and sex.
- Choose pictures that are from similar angles (ie., all the horses are profiled with their head facing toward the camera).
- Try to put together an "Easy" class with an obvious winner and a "Hard" class with more similar horses.
- Put the title of the class on the top of the poster board.
- Number each horse 1, 2, 3, and 4.
- For extra practice, type up a set of reasons and tape it to the back of the poster for each class.