

Species – Horse

Module – Senses & Behavior

Targeting Life Skills

Beginner

- Learning to Learn

Intermediate

- Decision making
- Critical Thinking

Seniors

- Critical Thinking
- Communication

Learning Objectives

Beginner

- List the basic senses of the horse: hearing, smell, taste, sight and touch.
- Differentiate horse vision - monocular and binocular.
- Describe the differences between a horse's fight or flight response.

Intermediate

- Complete Beginner activities.
- Describe the five basic senses and how a horse uses them.
- Recognize and illustrate body language relating to the horse's senses.

Seniors

- Complete all Beginner and Intermediate activities.
- Discuss several ways that horses learn.
- Evaluate techniques to teach a horse to perform a simple task - the turn.

Learning Activities

Age Level	Learning Activities	Materials Needed	Source
Beginner	<ul style="list-style-type: none"> • Word Search for horse behavior terminology 	<ul style="list-style-type: none"> • Word Search 	KHVCR Manual
	<ul style="list-style-type: none"> • Flash cards for examples of a horse's 5 senses 	<ul style="list-style-type: none"> • Flash cards, Equine magazines, marker 	KHVCR Manual
	<ul style="list-style-type: none"> • Horse Vision Exercise 	<ul style="list-style-type: none"> • Chairs and/or obstacles 	KHVCR Manual
Intermediate	<ul style="list-style-type: none"> • Crossword Puzzle for Horse Senses 	<ul style="list-style-type: none"> • Crossword Puzzle Page, pencils 	KHVCR Kit
	<ul style="list-style-type: none"> • Horse Body Language Exercise 	<ul style="list-style-type: none"> • Access to horse(s), whistle, paper bag, dog, grain in a bucket, umbrella 	KHVCR Kit

Age Level	Learning Activities	Materials Needed	Source
Senior	<ul style="list-style-type: none"> • Teach Beginners about the basic senses of the horse 	<ul style="list-style-type: none"> • Flash cards, Equine magazines, marker 	KHVCR Kit
	<ul style="list-style-type: none"> • How Horses Learn Lesson 	<ul style="list-style-type: none"> • Computer, internet access 	KHVCR Kit, internet
	<ul style="list-style-type: none"> • Training a horse to turn; demonstrate for Beginners 	<ul style="list-style-type: none"> • Horse, enclosed area, training equipment 	KHVCR Kit

Time Requirement

- 30-45 minutes for classroom learning objectives
- 2-3 hours for take-home learning objectives
- ½ day for field trip learning objectives

Best Time to Teach

- Before Safety Lesson

Best Location

- Classroom
- Horse Facility

Evaluation

Beginner

- Evaluate Word Search– 75% accuracy.
- Evaluate ability to recognize 5 sense of the horse.
- Evaluate comprehension of vision exercise.

Intermediate

- Evaluate Crossword Puzzle with 80% accuracy.
- Evaluate ability to recognize horse's body language.

Senior

- Evaluate teaching skills when teaching younger members using Word Search.
- Evaluate comprehension of how a horse learns.
- Demonstrate the understanding of training methods and be able to describe them.

References

- Alberta, Canada 4-H Horse Project
- Equine Science, by Jean T. Griffiths
- KHVCR Kit
- KHVCR Manual
- Internet resources

Horse Behavior Word Search - Beginner Activity

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

BITER
EARS
EYES
HEARING
MOUTH
MUZZLE
NOSE
SALT
SIGHT
SMELL
SOUR
SWEET
TASTE
TOUCH

Horse Behavior Word Search - Beginner Activity

S S + G + + + + + + + E + +
O + A + N + + + + + + + L + +
U + + L R I + + + + + + Z + +
R + + E T + R + + + + + Z + +
+ S T + S + + A + + M O U T H
+ I I W + S + + E + + + M + +
B + E G E + + + + H S + + + +
+ E + Y H E T S A T R N O S E
T + E + + T + + + + A + + + +
+ + + + + + + S + + E + + + +
+ + + + + + + M H + + + + + +
+ + + + + + + E + C + + + + + +
+ + + + + + + L + + U + + + + +
+ + + + + + + L + + + O + + + +
+ + + + + + + + + + + + T + +

(Over, Down, Direction)

- BITER(1,7,NE)
- EARS(11,10,N)
- EYES(3,9,NE)
- HEARING(10,7,NW)
- MOUTH(11,5,E)
- MUZZLE(13,6,N)
- NOSE(12,8,E)
- SALT(2,1,SE)
- SIGHT(2,5,SE)
- SMELL(8,10,S)
- SOUR(1,1,S)
- SWEET(5,5,SW)
- TASTE(10,8,W)
- TOUCH(13,15,NW)

Horse Senses & Behavior - Beginner Activity

Instructions

The horse has the same 5 basic senses as a human: sight, smell, touch, taste, and hearing. Here is a simple exercise to get youth to understand what sense of the horse is being used in each situation.

Find the following pictures and glue them onto a flashcard. On the opposite side, write the sense that is being used by the horse in the picture.

Single sense cards:

- A horse's ears (HEARING)
- A horse's eyes (SIGHT)
- A horse's nose (SMELL)
- A horse's mouth (TASTE)
- A person touching or grooming a horse (TOUCH)

Multiple sense cards:

- A horse eating out of a bucket (TOUCH, SMELL, SIGHT, TASTE)
- A horse grazing in a pasture (SMELL, SIGHT, TASTE)
- Horses playing or running (SIGHT, HEARING)
- A person riding or showing a horse (TOUCH, HEARING, SIGHT)
- A horse on a trail ride (TOUCH, HEARING, SIGHT)
- A horse getting a bath (TOUCH, SIGHT, SMELL, HEARING)
- A horse getting its feet trimmed (TOUCH, SIGHT, SMELL, HEARING)

Horse Vision Information - Beginner Activity

Instructions

Here is a simple activity to explain how a horse uses both monocular and binocular vision. Humans have binocular vision, so to visually assess a horse's monocular vision, use the following exercise:

- Pair up youth into groups of 2
- Choose one partner to start the activity. Have them stand about 3 feet away from a wall
- Have one youth cover both of their eyes and turn around 3 times.
- Have that same youth open both eyes, but keep one eye covered
- Pointing towards the wall, have them walk forward until they think they can touch the wall.

- This will illustrate a horse's monocular vision

- Have the youth reverse roles with their partners.

You can also add the following elements to this exercise to make it more difficult:

- Using cones or chairs create an obstacle course for the youth to follow using the above instructions.
- Instead of facing a wall, after turning around 3 times they will be asked to maneuver through the obstacle course.
- You can use a pattern (to simulate an equitation or showmanship pattern) or use small elevated objects to simulate a jumping course.

Fight or Flight? - Beginner Activity

Animals fall into two different categories: predator and prey. Predator animals are those that hunt for their food, and have eyes facing one direction (usually forward). Prey animals have their eyes on the sides of their heads so they can know when they are being hunted.

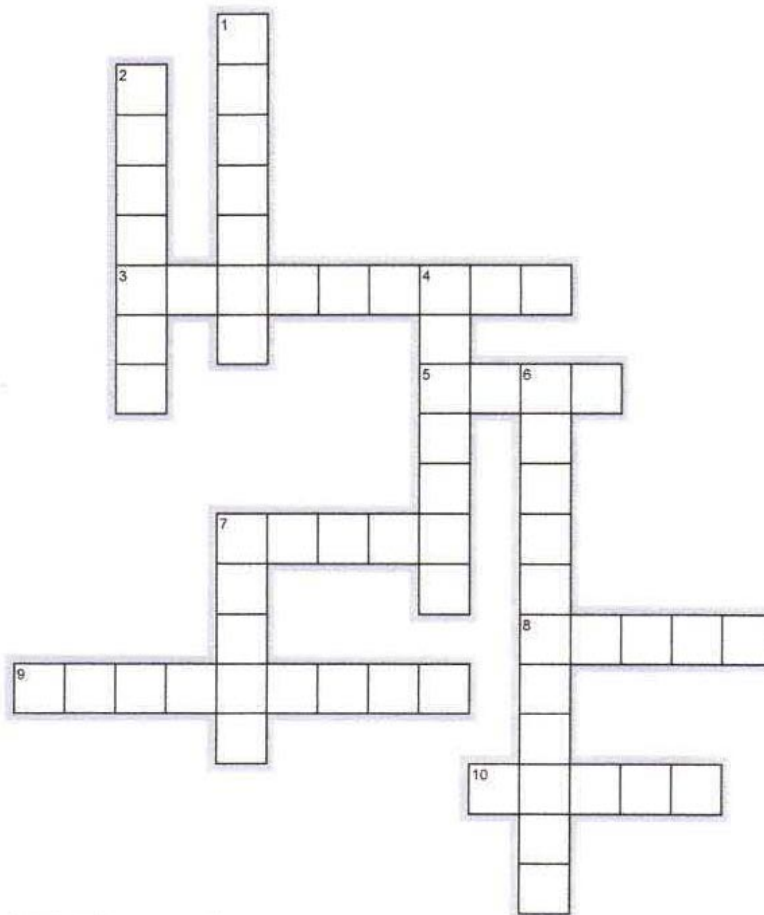
Gather several pictures and glue them to an index card. On the opposite side, write if the animal is predator or prey. Here are some examples you can use:

- Cat (predator)
- Dog (predator)
- Tiger (predator)
- Human (predator)
- Bear (predator)
- Bird (prey)
- Zebra (prey)
- Hamster (prey)
- Fish (prey)

Now, every time a horse encounters one of the above examples, they must decide if they are friend or foe. This is the flight or fight response. Using the above examples, follow these instructions:

- Have the youth break off into pairs. One will be the horse and the other will be an animal assigned to them (using the flashcards above).
- The youth will have to act out what the horse's response will be depending on what the horse encounters.
 - If the horse encounters a predator animal, it will get frightened and run away.
 - If the horse encounters a prey animal, it can either fight or simply ignore the animal's presence.

Horse Senses Crossword Intermediate Activity



EquineCrossword.com

Across

3. The type of vision that allows horses to see out of each eye individually
5. These are the hands, legs, and weight
7. The horse's sense of what is pleasant to taste
8. Another term for the horse's olfactory sense.
9. The type of vision that allows horses to see out of both eyes together
10. This sense is important in the fight or flight response.

Down

1. A horse's ears are capable of 360 degree rotation for this sense
2. The response where a horse curls its upper lip and holds its head in the air
4. Taste behavior that is taught to them is called this.
6. A method used to get a horse used to a human or piece of equipment
7. The tactile sense of a horse

Horse Senses Crossword Intermediate Activity Answer Key



Across

3. **MONOCULAR**—The type of vision that allows horses to see out of each eye individually
5. **AIDS**—These are the hands, legs, and weight
7. **TASTE**—The horse's sense of what is pleasant to taste
8. **SMELL**—Another term for the horse's olfactory sense.
9. **BINOCULAR**—The type of vision that allows horses to see out of both eyes together
10. **SIGHT**—This sense is important in the fight or flight response.

Down

1. **HEARING**—A horse's ears are capable of 360 degree rotation for this sense
2. **FLEHMEN**—The response where a horse curls its upper lip and holds its head in the air
4. **LEARNED**—Taste behavior that is taught to them is called this.
6. **DESENSITIZE**—A method used to get a horse used to a human or piece of equipment
7. **TOUCH**—The tactile sense of a horse

Horse Body Language - Intermediate Activity

Materials

Here is what you will need for this activity:

- Horse in a round pen, stall, or paddock
- Whistle
- Paper bag
- Umbrella
- Bucket & grain
- Dog or other animal that can make noise

Instructions

This activity is meant to use as a discussion of the horse's reaction to different stimuli. Horses use their 5 senses to determine if something is friend or foe. Follow these instructions:

1. Start out with a horse in a round pen, stall or small paddock.
2. Have the youth gather around the outside of the area.
 - a. How does the horse react to people approaching the outside of the area? Does the horse shy away or approach? What are the horse's ears saying?
3. Have the youth take a step back away from the fence or stall.
4. Instruct the youth to carefully watch the horse's body language after each of the following stimuli is presented (you may need to stand in the area with the horse.):
 - a. Blowing a whistle
 - b. Shaking a paper bag
 - c. Opening and closing an umbrella
 - d. Shaking grain in a bucket
 - e. Dog barking
 - f. Have all the youth clap
 - g. Have all the youth laugh really loudly
5. Here are some discussion questions you can share with your group:
 - a. How did the horse respond to each of the above stimuli?
 - b. What did the horse's body language tell you?
 - c. Which of the horse's 5 senses were being used?
6. You may be able to do the same activity standing on different sides of the horse (directly in front, directly behind, and on the side). How did the horse respond differently on each side? This is a good place to also reinforce the horse's blind spots.

How Horses Learn - Senior Activity

Instructions:

There are many theories about learned behavior in humans and in horses. From classical Pavlov to operant Skinner, each method has individual characteristics and techniques to reach the desired outcome.

Using a computer, search the internet for articles describing “how a horse learns”. Read at least 2-4 articles, and print them off for your own records. Evaluate the different training methods used in each article. Afterwards, you will give a report in front of your club about the follow:

- Thoroughly describe at least 2 different ways a horse learns.
- What are the positive and negative attributes of these methods?
- Which method do you think will work the best and why?
- If you were to teach a horse to pivot on a hind foot, how would you use each of the methods you described above to accomplish this?

Use visual aids, such as a poster describing the 2 methods you concentrated on, equipment you will need, etc. In the following exercise, you will be asked to demonstrate these skills on a horse.

Training a Horse to Turn - Senior Activity

Information:

Branching off of the activity on How Horse's Learn, the youth will now demonstrate each of the learning methods that they researched. The youth will be asked to demonstrate a specific skill: the turn or pivot. This is an important skill not only for showing purposes but for basic ground handling of any horse.

When teaching youth these methods, it would be best to have a broke horse. Once the youth become competent at executing these learning methods on a broke horse, you may increase the difficulty by trying a green broke horse, a yearling, etc.

Here are several methods to help the youth with their horse:

- Clicker training is an example of classical conditioning. You will teach the horse that the clicker noise is associated with a reward, such as a peppermint (or whatever treat the horse prefers) or even a gentle pat on the neck. It does not by any means have to be a food reward. This method allows the horse to actively seek out the correct answer.
 - Start out on the left side of the horse in between the shoulder and neck (where you would normally stand when leading).
 - Turn towards the horse's head with your lead rope in the right hand.
 - As you direct your horse's head to the right with your lead rope, watch for the slightest step towards the right, and IMMEDIATELY CLICK THE CLICKER AT THE SAME TIME AS YOU OFFER THE REWARD!! If you do not immediately click the clicker with the reward, the horse will not understand the behavior that you are trying to teach.
 - Repeat the above steps.

- Positive reinforcement is the same as the above described classical conditioning but without the clicker. The behavior is rewarded with a treat.
 - Start out on the left side of the horse in between the shoulder and neck (where you would normally stand when leading).
 - Turn towards the horse's head with your lead rope in the right hand.
 - As you direct your horse's head to the right with your lead rope, watch for the slightest step towards the right, and IMMEDIATELY OFFER THE REWARD!! If you do not immediately offer the reward, the horse will not understand the behavior that you are trying to teach.
 - Repeat the above steps.

- Negative reinforcement is the opposite as positive reinforcement. A horse is presented with a stimulus that is not comfortable (such as the tap of a whip) and once the horse does the desired behavior, the negative stimulus is immediately released. This is to teach a right turn.
 - Start out on the left side of the horse in between the shoulder and neck (where you would normally stand when leading).
 - Turn towards the horses head with your lead rope in the left hand and a small crop in the right.
 - As you direct your horse's head to the right with your lead rope, begin to gently tap on the horse's shoulder. If you get no response, slightly increase the strength of your tapping.
 - Once the horse takes the slightest step towards the right, IMMEDIATELY STOP TAPPING!! If you do not immediately release the pressure (the tapping), the horse will not understand the behavior that you are trying to teach.
 - Repeat the above steps.

These same basic principles can be used to teach a horse any skill from groundwork to riding. Discuss how you would use the same learning techniques described above to teach a horse to back up, turn to the left, turn on the haunches, etc.