

Team #: \_\_\_\_\_

Team Member's ID #s

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## ANSWER KEY

2015 NC State 4-H Hippology Senior Team Problem (200 points)

You have a total of 15 minutes to prepare and to write your response as a team.

You are at your farm with your friend who knows nothing about horses. You are trying to explain to your friend that horses are generally safe but can get spooked by loud noises or unknown objects. You also explain to them that they should not stand directly behind your horse and to be careful to keep their hand flat and fingers out of the way of the horse's teeth when feeding a treat. Your friend thinks you are being ridiculous.

1. Using scientific reasoning, explain basic horse behavior to your friend and the reason why horses often try to run away from unknown things.
2. What are the differences between human eyesight and horse's eyesight?
3. Why is the vision of humans different than horses? How do these differences help them/hurt them?

Because horses are naturally prey animals, they must be constantly on the lookout for predators or potential sources of danger as a mean of survival. Because your horse does not know your friend, they could be perceived as a potential source of danger. When horses feel threatened, they resort to the "flight or fight" response. If capable, horses will choose "flight" and rely on their speed and endurance to get away from danger. This could cause danger for you or friend, as the horse's flight response may outweigh his conditioning to stop due to your cues.

Horse's eyesight varies greatly from human eyesight. While humans rely solely on binocular vision, horses use both binocular and monocular vision. Humans' eyes are set closer together on the front of their head, while horses have wide set eyes on the sides of their head, allowing for a wider range of vision. Horses' plane of vision extends almost all the way around them, with the exception of their blind spots. The blind spots occur directly in front of the head, directly under the head, over the horse, and behind the horse. The locations of these blind spots are responsible for the idea that your friend should not stand directly behind the horse, and that your friend should keep their hand flat when feeding a treat. The horse may be easily spooked by a person standing directly behind it, as it cannot see there, and may resort to the "fight or flight" response. The horse also cannot focus on a single object as well as a human, and therefore may struggle to differentiate between the treat and your friend's hand. In order to prevent your friend from accidentally getting bitten, they should be conscious of the blind spots and the horse's inability to focus on objects. Horses' eyes take longer to adjust to light and dark than humans, but generally see better in the dark than humans.

These differences allow mainly for self-preservation. They allow horses to scan for predators in a wide range. It is important to remember that these differences can also limit hinder human interaction with horses. Horses may refuse to go into a dark barn or trailer, kick at objects in their blind spots, or be spooked by a non-threatening object because of their inability to focus on it.