Learning Activities:

I. GETTING STARTED...

Activity: "Digestive System of the Horse" (10 - 12 minutes)

Grade Level: K - 2

Materials: Digestive worksheets (See attached handouts) Markers or crayons

Talk about what the children eat for breakfast, lunch, and dinner. Ask the children if horses eat the same things that they do. "Do horses eat meat?" "Why don't horses eat meat?" "What do horses eat?" "What would happen if all we ate was grass?" "Do you think we would get sick, and if so why?" Explain that human stomachs are not able to digest plants very well. "Do you think that different animal digestive systems are better at digesting different things?" Explain that the horse has a very large special organ, the cecum, which helps the horse to digest hay. Ask children to name some other organs, such as the heart, lung, and stomach. Explain that microscopic creatures, so tiny you need a microscope to see them, live in the cecum. These microscopic creatures chew away at the food, breaking it down into smaller bits so the horse can digest the hay. Distribute digestive handouts. Have each child color the organs and mark the route of passage the food takes from entering to exiting the body.

Application:

~ Ask the children to observe what animals eat next time they go to a farm or zoo.

Activity: "What They Eat - Hays and Grains" (5 - 7 minutes)

Grade Level: K - 2

Materials: Baggies or baby food jars with samples of feeds such as: corn, oats, wheat, bran, alfalfa, bluegrass, and timothy

Glue

Poster board cut into letter size sheets.

Ask the children to think of all the things that horses eat. Put out samples of feeds for children to see, smell, and feel. Ask the children to sort out the hays from the grains by size, color, and smell. Explain each feed type to the children and let them practice identifying each feed. Write "Things Horses Eat" at the top of each poster board piece. Distribute poster board and have the children glue feed samples to the poster board.

II. DIGGING DEEPER...

Activity: "Grinding Teeth" (3 - 5 minutes)

Grade Level: K - 2

Materials: Two egg size rocks for each child Samples of grain and hay

Ask the children what part of the horse's body makes the food smaller so it can be easily swallowed. "Are horses teeth different from ours?" "Why do you think a horse's teeth are shaped differently?" Explain that horses have flatter and wider teeth for grinding up grass, and humans teeth are more pointed and are better at chewing meat. Have the children grind a small amount of hay between their rocks. Repeat the exercise with the grain. Ask the children what happened to the hay and grain when they ground it? "Do you think that grinding the feed into smaller pieces would make it easier to swallow and digest?" Explain that the children grinding feeds with their stones is similar to the horse grinding food with it's teeth.
Application:

- Provide a snack for the children to eat. Ask the children to count how many times they chew their food before swallowing; and if they prefer to chew on a certain side of their mouth.
- Have them observe their horse or a friend's horse. Can they identify how many times the horse chews before swallowing, and does the horse prefer to chew using a distinct side of it's mouth?

Activity: “Volume Versus Weight” (7 - 10 minutes)

Grade Level: K - 2

Materials: Scale
Large empty coffee can
Samples of corn, oats, and bran.

Have each child weigh one can of corn, oats, and bran. Record weights. Ask the children if all of the cans of grain weighed the same amount. Explain that objects may be the same size, but have different weights, as in the case of the grain they just weighed. “Which can of grain was the heaviest?” “Which can of grain was the lightest?” “If you were eating the grain, which grain would make you feel full the fastest?” Explain that the horse is like us, the corn is the “richer” grain and will make the horse feel full faster. The amount a horse is fed is based upon weight and not volume.

Application:
- Ask the children to weigh a horse’s daily ration (Grain and hay) to determine how many pounds a horse eats each day.

III. LOOKING WITHIN...

Activity: “Water Quality” (10 - 12 minutes)

Grade Level: K - 2

Materials: Samples of clean, dirty, salty, and frozen water in paper cups (one set per two or three children)
Coffee filters
Extra paper cups
Rubber bands

Divide children up into groups of two or three. Have children observe the ice. Ask them if the ice is a good source of water for a horse. “When will the horse’s water freeze?” “What must you do to the water buckets in the winter?” Be sure to encourage participation from each child. Ask the children to observe the dirty water. Ask them to describe it. “What would happen if we poured the water through a filter?” Have the children separate the solids from the water by pouring the water through a coffee filter fastened to a paper cup by a rubber band. If results are not as desired; repeat process. Explain that horse prefers to have clean drinking water just like we do. Have the children smell the salt water. “How do you think the horse knows when water is safe to drink?” Using the extra cups, have the children dip their finger to taste the salt water. “Do you think a horse would like to drink this water?” Ask the children to visually observe, smell, and taste the clean water. Ask the children which sample of water is best for drinking. Be sure to recognize and positively reinforce for participation and group cooperation.

Application:
- Conduct an experiment. Provide a horse with two water buckets of similar shape and size. Place them side-by-side. One source of water should be clean and free of debris while the other is dirty or salty, etc. Have children, from a safe distance, observe as the horse selects its source of water.
IV. BRINGING CLOSURE...

Activity: "Talk About It" (5 - 7 minutes)

Grade Level: K - 2

Materials: Review flash cards (pictures of horses, etc.) (Refer to Horseless Horse Book)

Have children sit in a circle. Explain that each child is going to draw a card from a pile and talk about the picture on the card. Provide positive recognition for each child's participation.

V. GOING BEYOND...

Have the children and parents take a field trip to a feed mill or farm. "Where do they store the grain?" "How do they mix grains?" "How do they bag grains?"

Go to a farm and learn about making hay. "What type of machinery is used?" "What type of hay is most common?" "Which cutting is the best?"

Go to some farms and watch them feed. "What do they feed?" "Why did they choose that feed?"

Reading Adventures...

This is a listing of reading materials that can be used by you as background, for sharing before to set the stage for the lesson, or for sharing afterwards to reinforce the lesson.

Going to a Horse Farm, by Shirley Kerby James
A Field Full of Horses, by Peter Hansard

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