

<b>Course</b>	Agricultural Science I
<b>Unit</b>	Equine Science
<b>Lesson</b>	Herd Health
<b>Estimated Time</b>	50 minutes

#### Student Outcome

The student will understand what is involved in a herd health program and why it is important.

#### Learning Objectives

1. Explain the importance of developing a herd vaccination program.
2. Identify common diseases that horses are vaccinated for.
3. Identify common ailments, their treatment, and prevention.
4. Discuss the importance of proper dental care.
5. Discuss the importance of parasite control.
6. List the basic steps in first aid to use with a horse.

#### Grade Level Expectations

#### Resources, Supplies & Equipment, and Supplemental Information

##### Resources

1. PowerPoint Slide
  - ☐ PPt 1 - Internal Parasites (Roundworms)
2. Activity Sheet
  - ☐ AS 1 - Microscope Use
3. *Equine Science* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1995.
4. *Equine Science Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

##### Supplies & Equipment

- ☐ Compound microscope and supplies (see the list on AS 1)

##### Supplemental Information

1. Internet Sites
  - ☐ Basic First Aid for Horses. InfoHorse.com. Accessed June 14, 2007, from <http://www.infohorse.com/html/equinefirstaid.asp>.
  - ☐ Horse Diseases. Horse-Diseases.com. Accessed June 14, 2007, from <http://www.horse-diseases.com/>.
  - ☐ Kunz, J. *Always Look a Gift Horse in the Mouth*. Animal Forum.com. Accessed June 14, 2007, from <http://www.animalforum.com/hdentalhealth.htm>.
  - ☐ MacAllister, C. *Equine Vaccination Programs*. Oklahoma Cooperative Extension Service. Accessed June 14, 2007, from <http://osuextra.okstate.edu/pdfs/F-9119web.pdf>.

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- ❑ Sample Vaccination Programs. Horse Health USA, Accessed June 14, 2007, from <http://www.horsehealthusa.com/cgi-local/SoftCart.exe/vaccines/vacchart.html?E+scstore>.
  - ❑ Sojka, Janice. *Parasite Control in Horses*. Purdue University. Accessed June 14, 2007, from <http://ag.ansc.purdue.edu/nielsen/www495/notes/Unit7bParasites.html>.
2. Print
- ❑ Ensminger, M. E., and C. J. Hammer. *Equine Science*. 8<sup>th</sup> ed. Upper Saddle River, NJ: Pearson Education, Inc., 2004.
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### Interest Approach

Provide several pictures of horses suffering from various illnesses. Ask students for any personal experiences with their own animals and illnesses they have encountered.

### Communicate the Learning Objectives

1. Explain the importance of developing a herd vaccination program.
2. Identify common diseases that horses are vaccinated for.
3. Identify common ailments, their treatment, and prevention.
4. Discuss the importance of proper dental care.
5. Discuss the importance of parasite control.
6. List the basic steps in first aid to use with a horse.

Instructor Directions	Content Outline
<b>Objective 1</b>  <i>Unlike the earlier part of this century, many diseases are preventable today by using vaccines. There is no reason for a horse to suffer a disease such as tetanus when a simple vaccination can prevent it.</i>	<b>Explain the importance of developing a herd vaccination program.</b>  <ol style="list-style-type: none"><li>1. Economics involved</li><li>2. Types of vaccines</li><li>3. Providing maximum protection against diseases</li></ol>
<b>Objective 2</b>  <i>There are several types of vaccines used today, and each has its own effectiveness. A veterinarian who is knowledgeable in equine medicine can recommend preventive measures for common diseases in the area.</i>	<b>Identify common diseases that horses are vaccinated for.</b>  <ol style="list-style-type: none"><li>1. Influenza</li><li>2. Sleeping sickness (EEE, WEE, and/or VEE)</li><li>3. Tetanus (lockjaw)</li><li>4. Viral rhinopneumonitis (Rhino)</li><li>5. Strangles (distemper)</li><li>6. Rabies (where recommended)</li><li>7. Potomac Horse Fever – symptoms of fever, depression, loss of appetite, colic, edema (swelling) of the underline (belly), diarrhea.</li></ol>
<b>Objective 3</b>  <i>There are many ailments that a horse can contract.</i>	<b>Identify common ailments, their treatment, and prevention.</b>  <ol style="list-style-type: none"><li>1. Colic – symptoms include pawing at the ground, looking nervously at the flanks, continually lying down and getting back up, rolling, sweating, constipation, and the absence of normal intestinal sounds</li><li>2. Equine Infectious Anemia (EIA or swamp fever) – serious blood disease</li></ol>

Instructor Directions	Content Outline
	3. Salmonella – symptoms resemble those of colic
<p><b>Objective 4</b></p> <p><i>Providing regular dental care is important. As a horse's teeth wear, sharp edges can form, causing cuts or sores in the mouth that interfere with mastication. Have students review the section in Lesson 3 that deals with teeth.</i></p>	<p><b>Discuss the importance of proper dental care.</b></p> <p>Aging process changes</p> <ol style="list-style-type: none"> <li>1. Floating teeth (filing off sharp edges)</li> <li>2. Normal wear vs. problems</li> </ol> <p>Weight and conditioning maintenance</p>
<p><b>Objective 5</b></p> <p><i>Parasites are a constant problem for any animal. Treatment or prevention must be taken to protect the animal from contracting a serious illness from parasites. Use PPt 1 to show the infestation of an intestine by roundworms, or show photos from other resources of an infected horse. Have students complete AS 1.</i></p> <p> PPt 1 - Internal Parasites (Roundworms)</p> <p> AS 1 - Microscope Use</p>	<p><b>Discuss the importance of parasite control.</b></p> <ol style="list-style-type: none"> <li>1. Control internal parasites by deworming and keeping environment clean.</li> <li>2. Control external parasites by keeping environment clean and using insecticide.</li> </ol>
<p><b>Objective 6</b></p> <p><i>First aid is the quick, immediate, and temporary assistance given to a sick or injured animal. Remember that professional assistance should be sought as soon as possible, and that even a relatively minor incident can lead to deadly complications. When unsure about an injury's seriousness, contact a veterinarian.</i></p>	<p><b>List the basic steps in first aid to use with a horse.</b></p> <ol style="list-style-type: none"> <li>1. Medical equipment (first aid kit)</li> <li>2. Bleeding – controlled by first applying gauze and pressure to the wound</li> <li>3. Foot punctures</li> <li>4. Bites and stings</li> <li>5. Swelling, strains, and sprains</li> <li>6. Founder</li> </ol>
<p><b>Application</b></p>	<p>Answers to AS 1</p>

Instructor Directions	Content Outline
<p>📄 AS 1 - Microscope Use</p>	<p>PART C</p> <ol style="list-style-type: none"> <li>1. It seemed to move to the left. It seemed to move in the opposite direction.</li> <li>2. It is actually moving from the bottom to the top.</li> <li>3. It may move out of the field of view because of its original position in the field of view.</li> <li>4. The magnification rate reduces the light.</li> <li>5. Low power is usually 100x magnification.</li> <li>6. High power magnifies the image anywhere from 400X to 440X, depending on the microscope being used.</li> </ol> <p>PART D</p> <ol style="list-style-type: none"> <li>1. As you change the focus of the lens, one strand will go out of focus, and another one then comes into sharp focus.</li> <li>2. The greater the depth of field, the more of the specimen that will be in focus. As the resolution of the lens changes, the depth of focus also change.</li> <li>3. As the objective is switched to high power, the focusing ability is greatly narrowed. The depth of field is reduced, and the focusing range is very narrow and hard to focus.</li> </ol> <p>Other activities</p> <ol style="list-style-type: none"> <li>1. Visit an equine hospital.</li> <li>2. Invite a veterinarian to visit the class.</li> <li>3. If possible, obtain samples of various preserved parasites.</li> <li>4. Develop a herd health program.</li> <li>5. Create basic first aid kits to distribute to horse owners.</li> </ol>
<p><b>Closure/Summary</b></p>	<p>Whether a person has two horses or 20, managing their health is extremely important. Knowing what is normal for each animal is vital to early diagnosis and treatment of any illness or injury.</p>
<p><b>Evaluation: Quiz</b></p>	<p>Answers:</p> <ol style="list-style-type: none"> <li>1. a</li> <li>2. c</li> <li>3. c</li> <li>4. b</li> </ol>

Instructor Directions	Content Outline
	5. d 6. c 7. a 8. d 9. a 10. d 11. c 12. a 13. a