Activity 1.1
Major Animal System Components

Name_____ Date_____ Hour_____

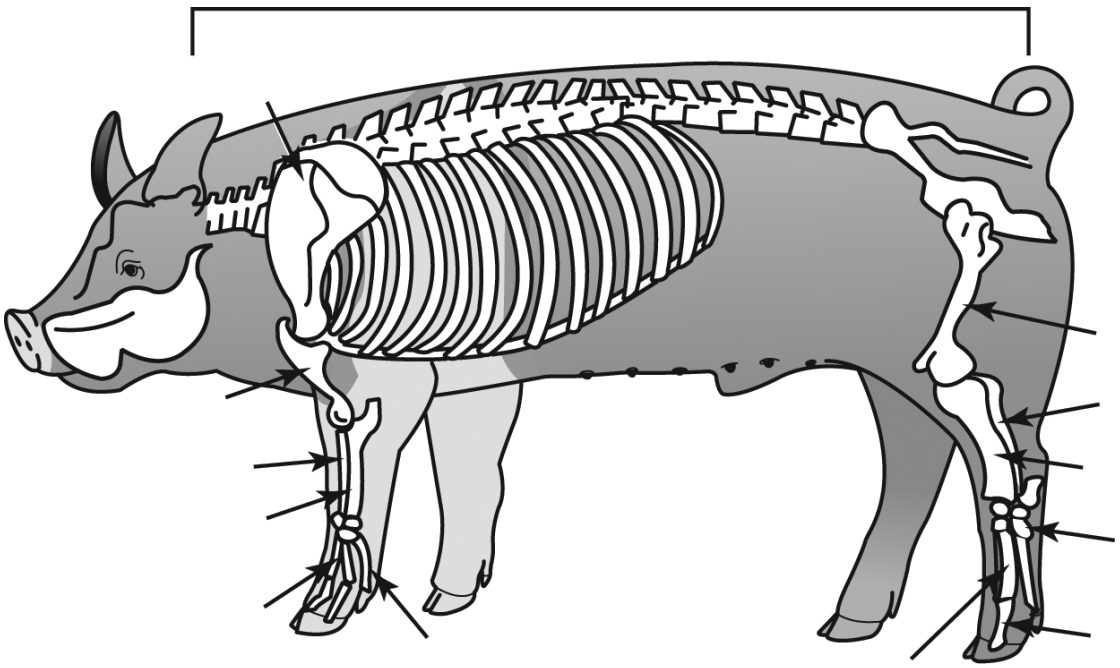
Student Materials

Pencil

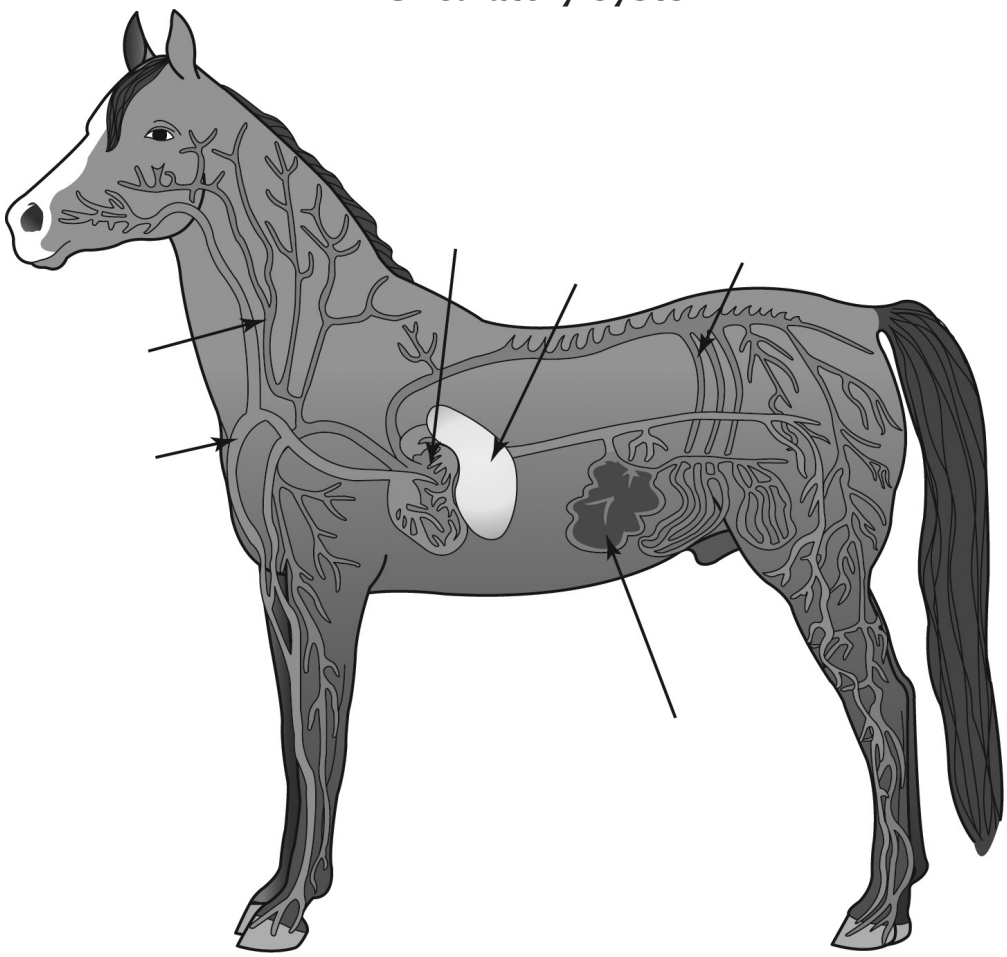
Directions

Label the components of major animal systems by writing the components next to the arrows.

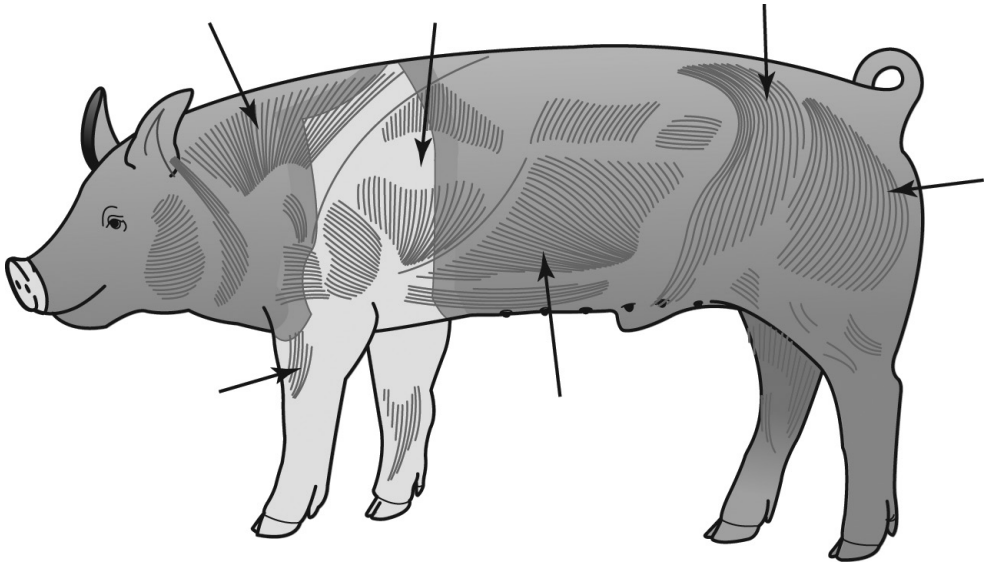
Skeletal System



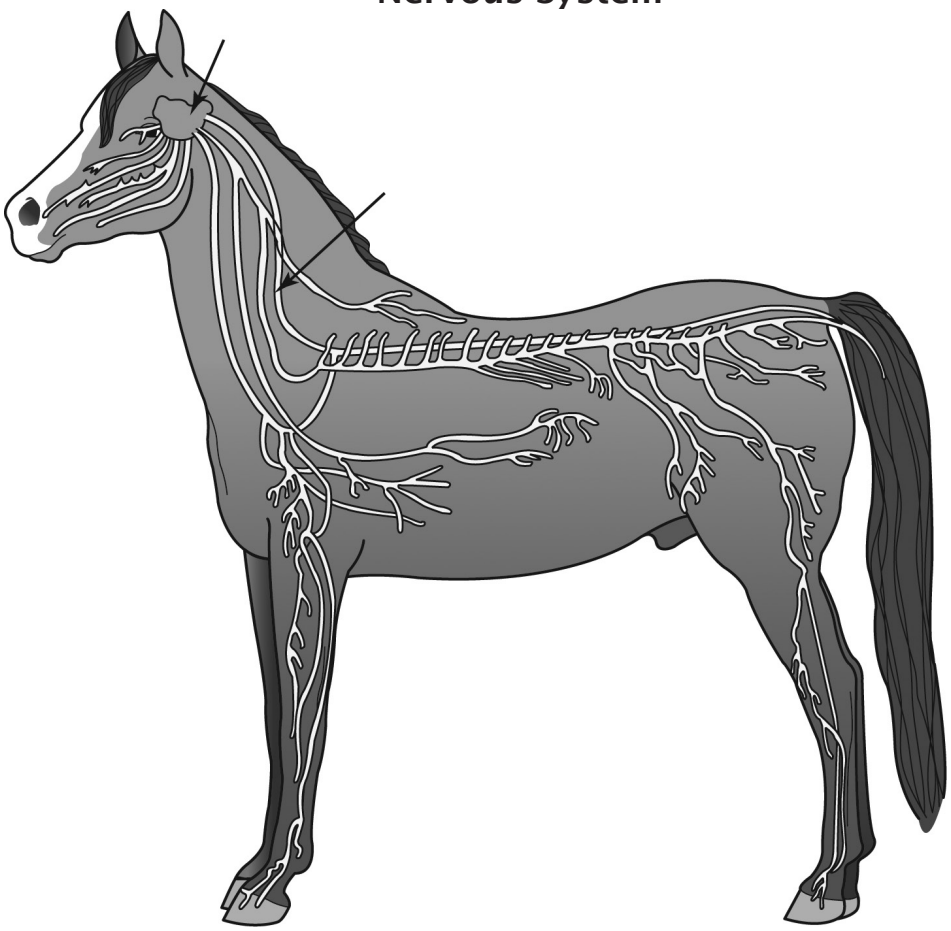
Circulatory System



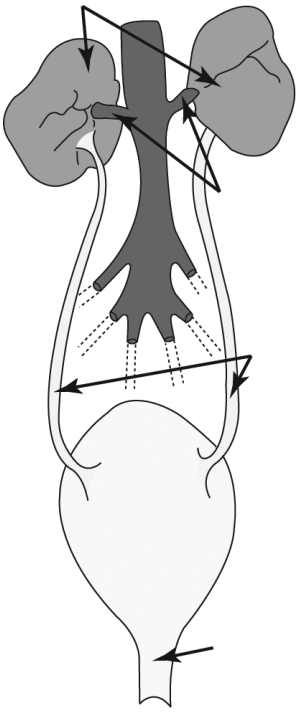
Muscular System



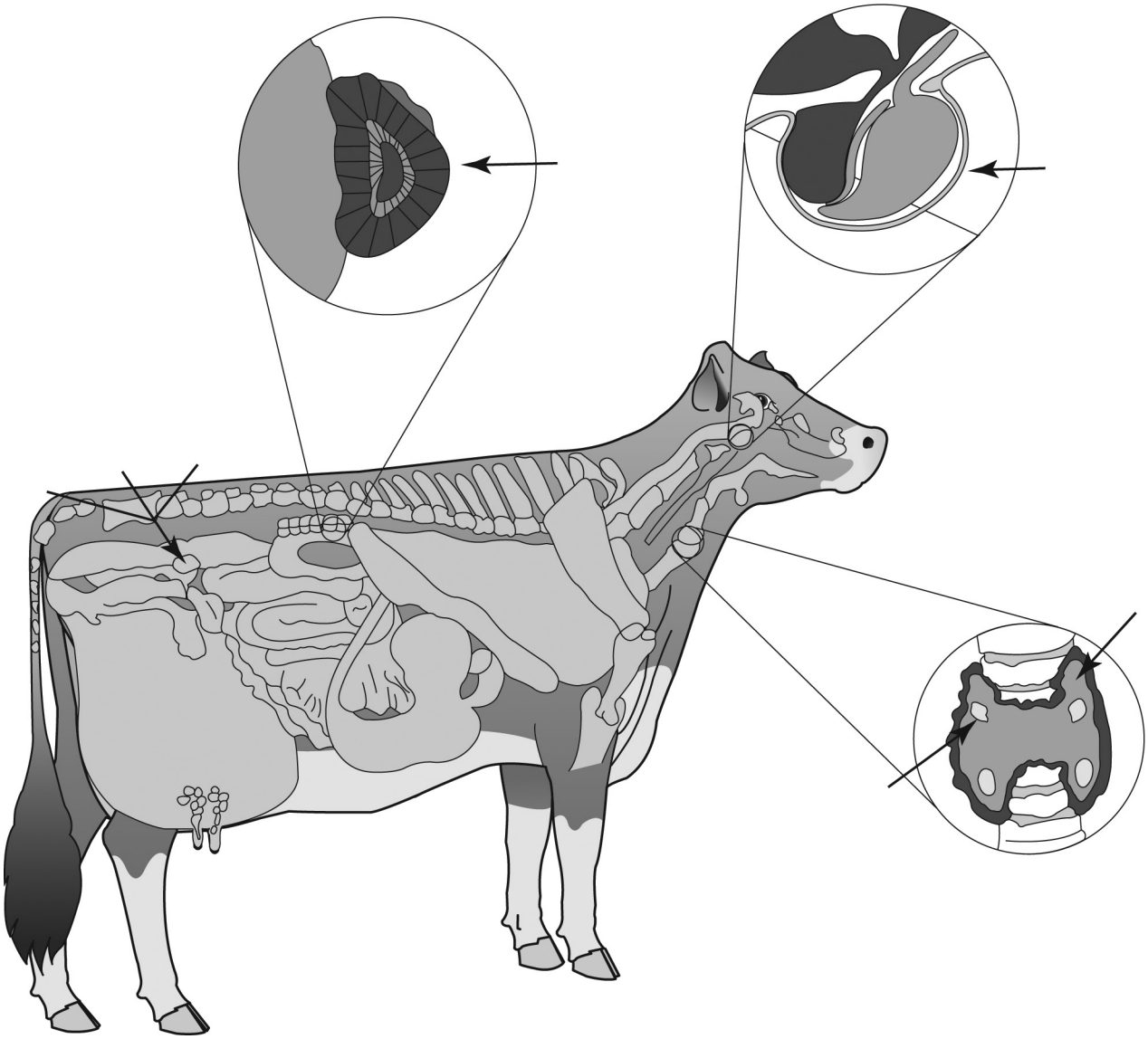
Nervous System



Urinary System



Endocrine System



Activity 1.2
Nutrient Requirements

Name_____ Date_____ Hour_____

Student Materials

Resources on a specific type of animal (Examples: broodmare, market barrow, meat goat)

Online sites

Reference books

Magazines

Personal interviews (veterinarians, producers)

Directions

Choose a specific animal that you are interested in learning more about, especially the nutrient requirements and needs of the animal. Write at least a two page report on the nutrient requirements for the animal. Include any resources used at the end of your report.

Answer questions about the resources in your report such as:

- What specific animal did you choose and why?
- What specific nutritional needs must be addressed in the animal's care?
- What actions should be taken to ensure that the classes of nutrients (water, protein, carbohydrates, fats, minerals, and vitamins) are provided in the correct levels for the animal?
- What would a typical ration be for the animal?
- Should the animal be given any type of supplements or additives? Explain.
- Are there any vitamins/minerals that may cause toxicity to the animal that should be taken into account when feeding? (Example: Copper toxicity in sheep)
- Are there any current controversies or debates in the nutritional requirements of this animal?
- What would the approximate monthly cost be to feed the animal?

Activity 1.3
Interpret a Feed Label or Tag

Name_____ Date_____ Hour_____

Student Materials

Feed label or tag

Directions

Choose a specific feed label or tag for this assignment. You may choose a feed label or tag over an animal that you are interested in, such as a show animal. If you need help in determining what feed label or tag, ask your instructor for assistance. Answer the questions below about the specific feed label or tag that you have chosen.

1. What is the product name and brand name?

_____

_____

2. What type of animal is the feed designed for (purpose of the feed)?

_____

_____

3. What information is included under Guaranteed Analysis?

_____

_____

_____

_____

_____

4. Does the feed contain any added medication?

_____

_____

5. What ingredients are listed? Include all ingredients, such as vitamins and minerals that are listed on the label.

_____

_____

_____

_____

_____

6. What directions does the label or tag provide for feeding?

_____

_____

7. Does the label or tag contain any warning or cautionary statements? If so, explain.

_____

_____

8. Would you purchase the feed if you were a producer? Why or why not? If you use this particular feed, explain why.

_____

_____

_____

_____

_____

_____

Activity 1.4

Feed Tag Information for Commercial Feeds for Horses

Name_____ Date_____ Hour_____

Student Materials

Pencil

OSU Extension Fact Sheet ANSI-3919

Directions

Answer the questions using the fact sheet provided.

1. What association provides guidelines that assist feed manufacturers in providing uniform information on feed tags?

   _____

   _____

2. What are two reasons that purchasers should understand feed labels?

   _____

   _____

3. What is the definition of a feed?

   _____

   _____

4. What is a commercial feed?

   _____

   _____

5. What is a concentrate?

   _____

   _____

6. What is a complete feed?

   _____

   _____

7. What is a formula feed?

_____

_____

8. What type of feeds are most commonly fed to horses?

_____

_____

9. Where are customer-formula feeds most commonly used?

_____

_____

10. What information should be on the label of commercial feeds?

_____

_____

_____

_____

11. What does the purpose statement indicate?

_____

_____

12. What does the guaranteed analysis provide?

_____

_____

13. What is the common range of crude protein for horse feeds?

_____

_____

14. Would a feed formulated for growing horses and horses in production have more or less crude protein than feeds formulated for maintenance of mature horses?

_____

_____

15. What are the ranges of crude fat in horse feeds?

_____

_____

16. What ingredients are used in feed products that are excellent sources of fiber and also contribute significantly to energy?

_____

_____

17. What are two major minerals that are important for a balanced diet for horses?

_____

_____

18. How are copper levels expressed on a feed label?

_____

_____

19. What are three minerals that are needed in smaller quantities by horses?

_____

_____

20. What vitamin is required in large amounts as compared with other vitamin needs for horses?

_____

_____

Activity 1.5
Nutrient Deficiencies

Name_____ Date_____ Hour_____

Student Materials

Pencil

Directions

Read the scenarios below and write a brief explanation of one possible cause of the symptoms.

1. Several cattle were left in a pen while a fence was being repaired. The weather was very hot and when the cattle were checked on the producer noticed that at least two of the cattle appeared weak and had eyes that appeared sunken in.

   _____

   _____

2. A mare is in a pasture that does not have good grazing and has gone from a beautiful, energetic horse to a horse that appears unthrifty and does not want to do much.

   _____

   _____

3. Several young goats appear to not be growing as well as they should for their age. Upon closer inspection, the producer also realizes their hooves and hair coats do not look good.

   _____

   _____

4. A gelding that has always been very energetic now seems to have trouble moving around easily and seems to have stiffness in his joints. The owner recently changed his diet and is wondering if that may be a cause.

   _____

   _____

5. A producer notices that several calves appear to have bowing of the legs (rickets) and also seem to have a slight unthrifty appearance.

   _____

   _____

   _____

Activity 1.6
Formulating Swine Rations

Name_____ Date_____ Hour_____

Student Materials

Pencil

OSU Extension Fact Sheet ANSI-3501

Directions

Answer each question using the fact sheet provided.

_____ 1. How many general groups can feed ingredients be divided into for swine?

_____ 2. What general group of feed ingredient is supplied mostly from carbohydrates of cereal grains such as corn, sorghum grain, wheat and barley?

_____ 3. What is the gross energy of the feed intake minus the energy lost in the feces?

_____ 4. What general group of feed ingredient is often supplied by soybean meal?

_____ 5. What mineral do cereal grains often lack enough of for swine rations?

_____ 6. What mineral is present in cereal grains but partially unavailable to the pig?

_____ 7. What is one mineral that is supplied by salt?

_____ 8. What is often used to supply vitamins such as Vitamin A, Vitamin D, Vitamin E, and Vitamin B12?

_____ 9. What feed ingredient is often used in swine rations to control diseases?

_____ 10. In what type of swine does the greatest growth response to antibiotics occur?

_____ 11. Federal law requires that animals be withdrawn from some antibiotics prior to what?

_____ 12. Whose responsibility is it to comply with withdrawal periods?

_____ 13. What type of meal is often used in swine rations to supply essential vitamins?

14. What may producers use to calculate linear programmed least cost rations?

15. What method is a simple method that producers can use to calculate their own rations?

16. When using the square method of formulating rations, does the variable or fixed portion of the ration include the grain and protein source?

17. When using the square method of formulating rations, does the variable or fixed portion of the ration contain salt and vitamins?

18. What should producers who calculate their own rations acquaint themselves with for various ages and sizes of swine?

19. What feed ingredient has a suggested nutrient level of 18% in ration for pigs to 40 lb?

20. What type of swine has a suggested nutrient level of 14% protein in the ration and a suggested nutrient level of .85% calcium in the ration?

Activity 1.7

Pearson Square Method to Balancing Rations

Name_____ Date_____ Hour_____

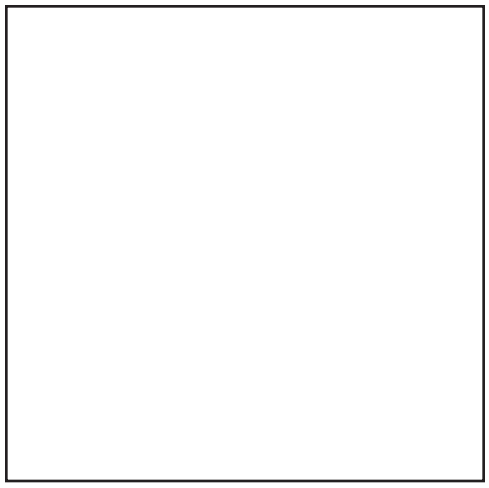
Student Materials

Pencil

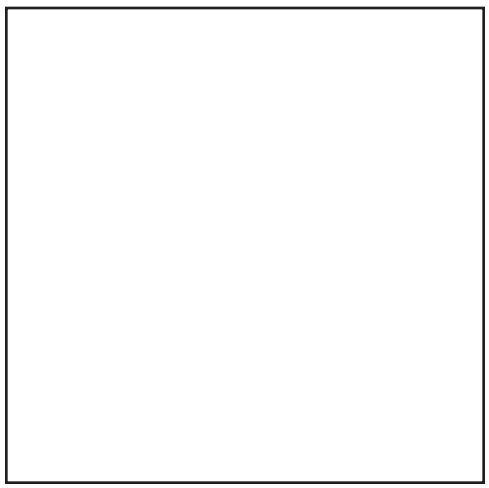
Directions

Use the Pearson Square method to balance each ration.

1. The feedstuffs of 45% crude protein soybean meal and 10% crude protein soybean meal will be used to make a ration that is 18% crude protein. Calculate the amount of soybean and corn needed for 100 lbs of ration.



2. The feedstuffs of 45% crude protein soybean meal and 10% crude protein soybean meal will be used to make a ration that is 13% crude protein. Calculate the amount of soybean and corn needed for 100 lbs of ration.



Activity 1.8
Label Animal Digestive Systems

Name_____ Date_____ Hour_____

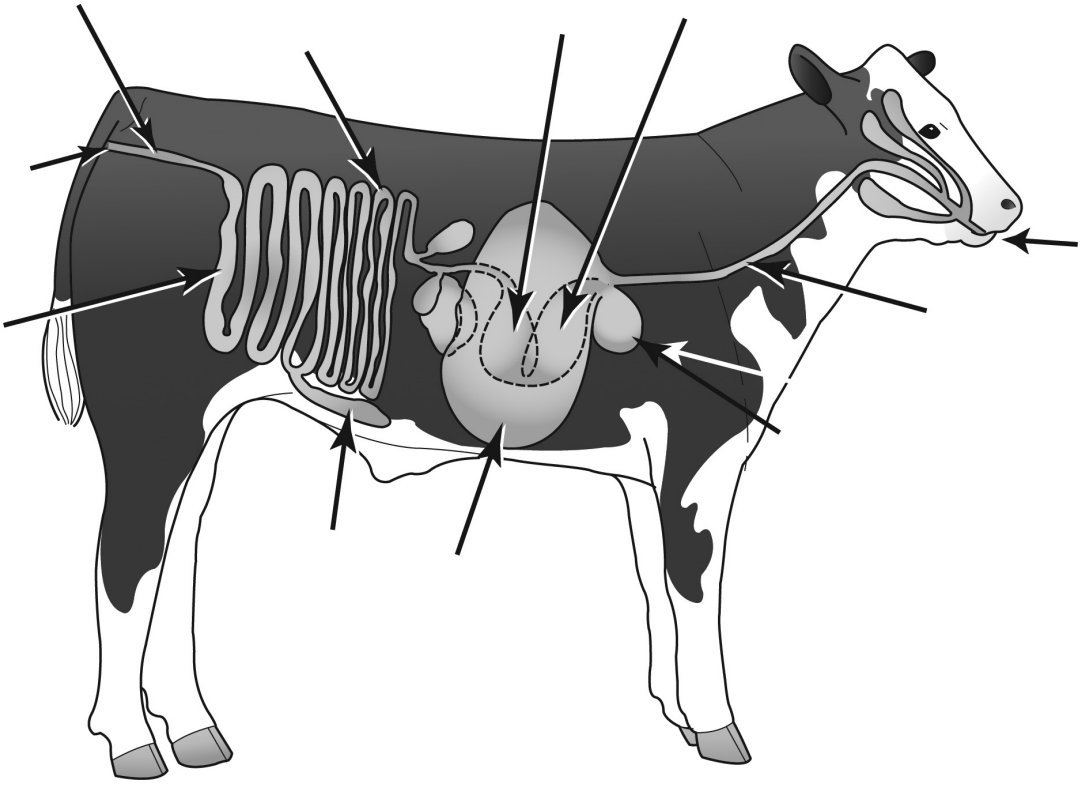
Student Materials

Pencil

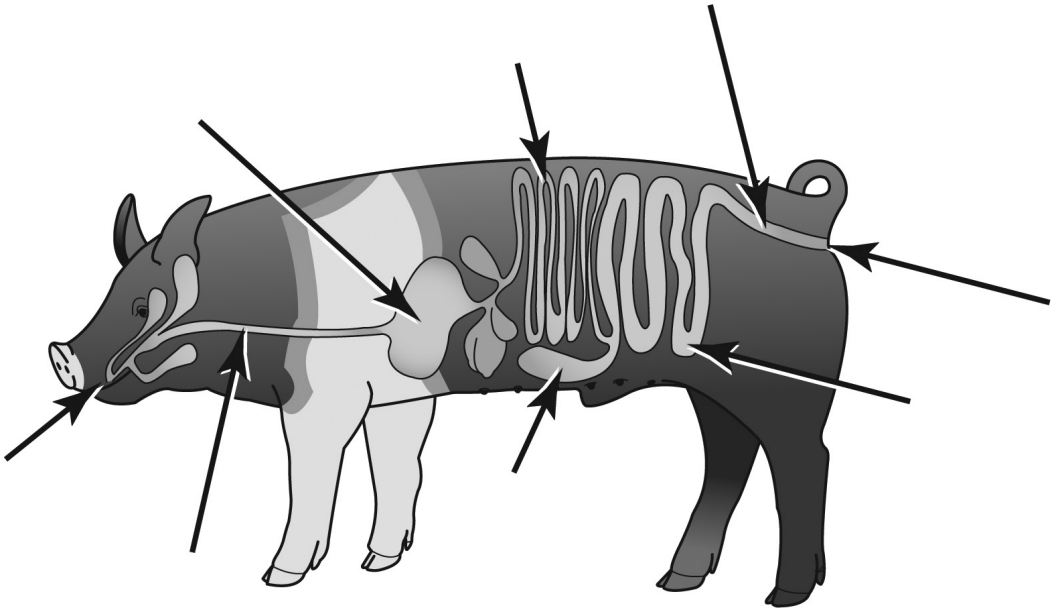
Directions

Label the components of animal digestive systems by writing the components next to the arrows.

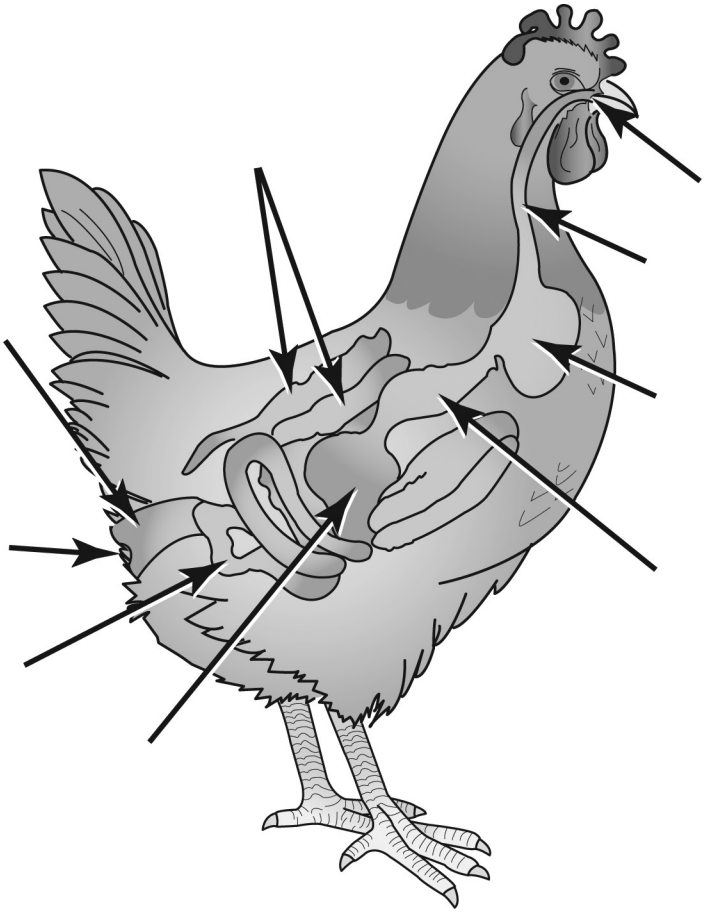
Cattle



Pigs



Chickens



Horses