

 **Activity 8.2.3 Mystery Diseases****Purpose**

The information on diseases is overwhelming and some symptoms even sound similar to other diseases. Recognizing one disease from among the many possibilities is a challenge to animal owners, veterinarians, and diagnosticians alike. Can you recognize some common diseases with your disease diagnostic cards from *Project 8.2.2 Diagnosing Diseases*?

Diagnosing diseases requires you to assimilate information, such as the signs of good health, poor health, physical examinations, and observations, apply those symptoms to specific diseases, and make a determination of the disease. A misdiagnosis could be costly if the animal continues to be sick and you have invested money in treating the animal. Can you identify diseases in animals?

Materials**Per team of three students:**

- *Activity 8.2.3 Case Studies*
- Computer with word processing software
- Agriscience Library

Per student:

- *Project 8.2.2 Diagnosing Diseases* cards
- Pencil
- *Agriscience Notebook*

Procedure

Your team is a consulting firm contracted by the USDA to diagnose a series of diseases quickly and accurately. You will take on the role of diagnosticians and work together to diagnose and recommend treatment of the diseases.

1. Read the five case studies and answer the following questions for each case study.
 - What conditions and symptoms are present?
 - Based on the symptoms, diagnose the disease exhibited.
 - What treatment would you recommend?
 - What is a probable cause of the disease?
 - Is the disease zoonotic? If so, what would you recommend to prevent transmission to other animals or people?
2. Use your *Project 8.2.2 Diagnosing Disease* cards to help you.
3. You and your team will type your findings and submit them to your teacher.

Conclusion

1. What problems did you encounter when trying to diagnose the diseases?

2. Why might diagnosing patients be more challenging for a veterinarian than a doctor?



Activity 8.2.3 Case Studies

Mystery Disease #1

Timmy has just returned from showing his best Yorkshire gilt at the state fair. He is exhausted from all the hours spent meeting and visiting with FFA members from across the state. He puts his gilt in her pen and crashes on the couch. A few hours later his little brother wakes him saying there is something wrong with the gilt.

Reluctantly, Timmy drags himself off the couch and heads to the barn. In the barn, he sees there is indeed something very wrong with the gilt. She looks very uncomfortable and is stiff when she moves. When Timmy gets closer, he sees a strange red rash on her back. He moves her to a separate pen away from the other hogs and decides he will have to wait until morning to see how she is.

The next morning, the gilt is still very stiff moving and the rash has gotten worse and now has funny diamond-shaped spots. Timmy takes her temperature and she has a high fever. Timmy hurries inside to call the veterinarian. What disease is Timmy afraid she has?

Mystery Disease #2

Krista's German Shepherd had puppies about six weeks ago and she is very excited about raising her first litter of puppies. She is especially excited about the upcoming sale of the puppies and the anticipated income. The German Shepherd and her pups spend the time Krista is at school in the kennel that came with the house Krista's family moved into two months ago. Apparently, the previous owners were dog breeders as well.

Since this is her first litter, she does not know much about vaccination schedules and figures as long as she has them vaccinated before selling them at eight weeks, it will be fine. She even has an appointment with the veterinarian next week for their shots.

When Krista returned from school today, she was surprised by the mess and odor in the kennel. She is also surprised to see the puppies have not finished the dog food she left for them that morning, as they are typically voracious eaters. Upon closer inspection, she sees the puppies have bloody diarrhea and have been vomiting. Picking up her favorite puppy who is normally very excited to see her, she notices it feels warm and does not respond with its normal enthusiasm.

Krista asks her mom to come check the puppies and her mom says they need immediate intravenous fluids and to get to the doctor's office quickly. The veterinarian takes one look and says the puppies have

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Mystery Disease #3

Jillian is riding her bicycle over to the barn where she stalls her horse. She is wishing she had put on mosquito spray before she left home. There are swarms of mosquitoes everywhere. When she arrives at the barn the owner approaches her saying Sparky, her eight-year-old Morgan gelding, is acting strangely. The owner said yesterday when Jillian was out of town, Sparky seemed a little depressed.

Knowing Sparky's tendencies to act funky when he wants attention, Jillian heads to his stall to take him out for some time in the round pen. As Jillian opens the stall door, she immediately notices Sparky is not in his attention-seeking mode, but is rather listless. Sparky recognizes Jillian, but he stumbles forward with his head down, ears drooping, dragging a hind leg. His muscles are trembling and Jillian is immediately concerned. She goes back to the barn owner and asks to call her parents. She thinks they need to get a veterinarian out right away and the barn owner agrees. What is the likely cause of Sparky's illness?

Mystery Disease #4

John works for a large beef ranch. They are having a great year, as there was lots of spring and early summer rain. Although it has turned hot and dry, there is still plenty of feed for the cattle. His job is to ride out to the far pastures and check the cows that are grazing there.

When John gets to the meadow where the cows are, he is shocked. There are six cows lying dead and bloated. He was just here yesterday and they all looked fine. Checking the other cows, he notices that several are staggering around, trembling, and breathing very hard. Concerned and very unsure about what is wrong, he calls his boss on the cell phone.

His boss instructs him to stay back from the animals and that he will be out immediately with the doctoring crew. When they arrive, John is told to sort out the healthy cows and start heading them to a new pasture. The crew begins roping the sick cows and administering a shot of something John can't quite make out. A backhoe arrives and starts digging a deep hole and moving the carcasses of the dead cows into the hole. What disease did John's boss quickly identify?

Mystery Disease #5

Austin and Michelle are conducting a research project on the growth rate of broilers. They have been monitoring the growth and health of their birds twice daily – before and after school each day.

On Tuesday, they noticed the birds were not breathing well. Many were gasping, coughing, sneezing, and had rales. Some even showed tremors, had twisted necks and were circling strangely. This was definitely not a good sign for their feed trial and would probably set their Agriscience project back a few weeks.

Austin calls the poultry extension agent and is told the best thing to do is quarantine the birds and see how many live. The feed trial is definitely off for this group of chickens. He also suggests that they thoroughly disinfect the barn before bringing any new birds in and that all new birds be vaccinated for_____.