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YOUTH DEVELOPMENT THROUGH VETERINARY SCIENCE 7

Is Your Bird Feeling Blue?

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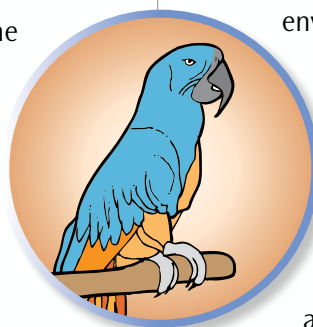
Subject Overview and Background Information

Birds are a very diverse group of animals that are commonly kept as companions and farm animals. The most common types of birds owned in the United States are **psittacines** (sit-uh-seens), finches, pigeons, ducks, and chickens. Birds are known for their ability to fly, which is facilitated by their hollow, lightweight bones and feathers. Caring for birds requires knowledge of the housing, dietary, and veterinary needs of the individual species as well as an understanding of their biology and behavior.

Psittacines, which include parakeets, parrots, macaws, and cockatiels, are the most common household birds. Keeping a psittacine in good health requires an appropriate diet, suitable caging, and regular veterinary care. The dietary requirements vary from species to species, but in general **psittacines** eat a wide variety of foods, including seeds, grain, fruits, vegetables, and nectar. Care must be taken to select the proper diet for each individual bird and to avoid feeding too many seeds, which can lead to fatty

liver disease. When it comes to caging, **psittacines** should be housed in cages that provide plenty of room to fly and climb and should include several places to comfortably perch. Psittacine cages should not be made of galvanized metal, because birds can develop heavy metal toxicity if they chew on the cage bars. **Psittacines** should also be misted daily with water or given a bowl in which to bathe. This, along with the proper temperature and humidity in their environment, will help keep their skin and feathers healthy and clean. **Psittacines** need regular nail trims to avoid overgrown toenails, which can get caught on cage bars or toys and cause injury. All **psittacines** should be provided with a variety of objects in their cages to encourage activity and exercise. **Psittacines** are social animals by nature and should be housed in compatible pairs or social groups whenever possible.

Poultry, which includes chickens, turkeys, and ducks, are typically livestock animals, although they are sometimes kept as pets. Like **psittacines**, poultry require an appropriate diet, suitable caging, and regular veterinary care. Poultry may be housed indoors or outdoors, depending on the climate. In either case, wire mesh flooring should be avoided



as it can lead to **bumblefoot**, a painful inflammation on the balls of their feet. Roosting birds should be given adequate roosting space. Poultry should also have sufficient nest boxes for the number of animals and their breed in order to prevent some of the birds from becoming egg-bound. For ducks, the nest boxes should be low to the ground or have sloped ramps leading to the entrance. Poultry should also have access to foraging substrates such as straw or shavings to reduce the chance of feather plucking and cannibalism. In addition, chickens and turkeys use a dust bath to help keep their feathers in good condition, so an area of sand, shavings, or dust should be provided. Ducks do not dust bathe but will require access to a large container of water (at least large enough for them to put their heads and necks in the water) to keep their feathers in good condition. Poultry require carbohydrates, protein, fats, vitamins, and minerals in their feed. The specific nutritional requirements depend on the age, size, and breed of the birds. All poultry require constant access to fresh water. Several health problems, including weak or brittle bones, laying eggs with soft shells, and increased risk of infection, can result from improper nutrition.

No matter what species of bird you own, you should be sure to keep them in a room, coop, or cage with proper ventilation. Improper ventilation leads to a buildup of dust and other particles in the air, which your bird will then inhale. The air may contain the virus that causes Marek's disease, which will quickly infect them; they also run the risk of contracting an upper respiratory infection. In addition, be sure to clean the bird's environment regularly in order to prevent bacterial overgrowth in stagnant water and from droppings. When a bird lives in an unsanitary environment, it has an increased risk of developing a **bacterial infection**. If your bird has a nest box or resting area with wood shavings, it is important to keep those shavings clean. **Fungus** can grow on wet or soiled shavings, which can cause severe illness.

If your avian friend should become ill, it is important to seek veterinary care. It can be hard to tell whether a bird is ill. Since birds are prey animals, they tend to hide their illness so a predator does not target them as an easy meal. Careful and frequent observation of birds is extremely important in order to detect a disease early. Seek veterinary care immediately when you think something is wrong with

your avian friend. Additionally, it is sometimes difficult to locate an avian **veterinarian**, so be sure to know where the nearest one is before you need them. Special attention must be given to caring for poultry that will become part of the food supply. Make sure that you consult a **veterinarian** for proper medicines to be used on livestock poultry.

Since some of the diseases birds can catch are **zoonotic diseases**, (illnesses that can be passed to humans), it is important to try to isolate a sick bird until it can be taken to a **veterinarian**. Be sure to change your clothes and thoroughly wash your hands after contacting a sick bird. Since there is currently a growing concern over the transmission of avian flu to humans, it is especially important to practice good hygiene and cleanliness in order to protect yourself and your avian friend(s). Additionally, you should be careful when purchasing new birds in order not to introduce a new disease, such as parrot fever, into an otherwise healthy population of birds. You should follow proper quarantine, or isolation, procedures as determined by your **veterinarian**, before introducing a new bird into your household or aviary. If you have any concerns about your avian friend's health, please see a **veterinarian** as soon as possible.

◆ Activity Concepts and Vocabulary

- ◆ **Bacterial infection:** A disease caused by bacteria.
- ◆ **Bacterium (bak-teer-ee-um), pl. bacteria:** An organism that cannot be seen with a naked eye. Some bacteria (germs) can cause diseases. Pneumonia, a disease that affects animals' lungs, is caused by a bacterium.
- ◆ **Fungus (fuhng-guhs):** An organism (e.g., mold or yeast) that lives and feeds on organic material, such as bread, wood, and other animals. A common **fungus** that affects animals is ringworm.
- ◆ **Inflammation (in-fluh-mey-shuhn):** A local reaction of a tissue to irritation that causes pain and swelling.
- ◆ **Parasite (pair-uh-site):** An organism (e.g., bacterium, worm, tick) that receives food and energy from another organism. A common parasite that affects animals is tapeworm.
- ◆ **Psittacines (sit-uh-seens):** A family of birds that includes parakeets, parrots, macaws, and cockatiels.

- ◆ **Veterinarian (vet-er-uh-nair-ee-uhn):** A doctor who takes care of animals.
- ◆ **Virus:** A type of germ that causes diseases. Rabies is a disease caused by a virus.
- ◆ **Zoonotic diseases (zoe-oh-nah-tick):** A disease that affects an animal that can also be passed to humans.

◆ Life Skills

- ◆ **Head:** Keeping records, planning and organizing, problem solving, decision making, critical thinking
- ◆ **Heart:** Sharing, communication, concern for others, empathy
- ◆ **Hands:** Self-motivation, teamwork
- ◆ **Health:** Disease prevention, self responsibility, personal safety

◆ Subject Links

Science and Language Arts

◆ State Content Standards

Science

- ◆ Third Grade
 - *Investigation and Experimentation: 5e*
- ◆ Fourth Grade
 - *Investigation and Experimentation: 6c*
- ◆ Fifth Grade
 - *Investigation and Experimentation: 6h, 6i*
- ◆ Sixth Grade
 - *Investigation and Experimentation: 7d*

Language Arts

- ◆ Third Grade
 - *Reading Comprehension: 2.2, 2.6*
- ◆ Fourth Grade
 - *Reading Comprehension: 2.3*
 - *Listening and Speaking Strategies—1.7*
- ◆ Fifth Grade
 - *Reading Comprehension: 2.3, 2.4*
 - *Listening and Speaking Strategies: 1.5*
- ◆ Sixth Grade
 - *Listening and Speaking Strategies: 1.5*
 - *Speaking Applications: 2.5b*

◆ Purpose of Activities

To help youth learn about the proper maintenance and care of birds. Youth will also investigate the causes and symptoms of several avian diseases.

ACTIVITY 1

Monitoring Bird Health Day by Day

Overview of the activity



The main goal of this activity is for youth to learn to make good physical and behavioral observations of birds by reading and analyzing descriptive journal entries. The youth will then use these observations to make inferences regarding the health of their bird.

◆ Time Required

Approximately 90 minutes

◆ Suggested Grouping

Pairs or smalls groups of 3 to 4

◆ Materials Needed for Each Pair or Group

(*Materials provided in curriculum)

- ◆ Writing utensils
- ◆ Flip chart paper (one piece per group)
- ◆ *Health assessment journals
- ◆ *Avian disease information sheet
- ◆ *Health assessment checklist

◆ Getting Ready

- ◆ Photocopy enough health assessment journals, avian disease information sheets, and health assessment checklists for the groups.

Opening Questions

Ask the youth to respond to each question below by sharing their ideas verbally and/or by recording them on the flip chart paper provided.

1. What are some ways you can tell you are sick?
2. What signs might your parents, teacher, friends, or doctor use to recognize that you are sick?
3. What are some things you can do to avoid getting sick?
4. If your animal is sick, what are some changes you might notice about him or her?
5. What are some of the responsibilities you have to help keep your pet or project animal healthy?

Procedure (Experiencing)

♦ **Volunteer Tip:** Set up the following scenario for the youth: The youth in each group will be playing the role of a bird owner. Each group will receive one of the health assessment journals, one day at a time. As a group, the youth will go through the journal entry of each specific day and record important facts onto the health assessment checklist they have been given. At the end, using the checklists they have made, they will compare their findings with the avian disease information and draw a conclusion regarding what disease, if any, their bird has.

1. Give each group of bird owners Journal Entry 1 from their health assessment journal. The group should read the entry and record important findings on their health assessment checklist.
2. When the groups have completed the Journal Entry 1, take away that journal entry and give them Journal Entry 2. Then have them read the entry and record important findings on their checklist.
3. Continue this pattern for the remaining days until each journal entry has been assessed.
4. When the group is done with the last day, remove this entry and pass out the avian disease information sheet. Have the groups review the data they recorded on their health assessment checklist and record their diagnosis of their bird's symptoms along with the reasons why they chose that diagnosis.

Sharing, Processing, and Generalizing

Have each group share their diagnosis and indicate which parts of their checklist helped them make that determination. Follow the lines of thinking developed through the general thoughts, observations, and questions raised by the youth. If necessary, use more targeted questions as prompts to get to particular points, such as the following. Ask the youth to respond to each question below by sharing their ideas verbally and/or by recording them on the flip chart paper provided.

1. What might be some advantages to keeping a daily health assessment journal for your bird?
2. What are some examples of the symptoms you used to tell when to be concerned with your bird's health?
3. What do you think might happen if you ignored those symptoms and didn't seek veterinary care for your bird?
4. Check the groups' diagnosis of their bird with the answer key. If there are any discrepancies, have the youth discuss what led them to their conclusion.

Avian Disease Diagnosis Key

- ♦ Chrissy: Marek's disease
- ♦ Heather: upper respiratory infection
- ♦ Amber: parrot fever
- ♦ Pinocchio: normal, no disease
- ♦ Corey: feather plucking

Concept and Term Introduction

Volunteers need to ensure that the concepts and terms **bacterium, bacterial infection, fungus, inflammation, parasite, veterinarian, virus, and zoonotic diseases** have been introduced.

- ♦ **Note:** The goal is to have the youth develop these concepts through their exploration and define the terms using their own words.

Concept Application

An application for these skills is presented in Activity 2 of this unit. Youth who own a bird may apply Activity 2 to their own pet, while youth who do not own a bird may seek permission from a friend or family member to use their bird for this exercise.

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HEALTH ASSESSMENT JOURNALS**Journal 1**

Bird Name: Chrissy
Type: Chicken
Gender: Female
Age: 18 weeks



Petr Kratochvil

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Journal Entry 1

Today I went to visit Chrissy in her pen to see how she was getting along with the new chickens Daddy brought home yesterday. Chrissy lives inside the barn with the other chickens to protect them from the cold outdoors; it is winter after all. Chrissy enthusiastically chirped and flapped her growing wings at the sight of me. When I took her out of her pen to feed her, she jumped up and down in my hands. She pecked at all the pellets in her clean bowl and drank the clean water. Her round eyes were open wide. Her ears and nares (nose) were clean, without any hint of discharge. After petting her beautiful feathers, I put her back in her pen. I was supposed to clean the cage today, but I ran out of time. I said goodbye to Chrissy before I left. She chirped back at me and joined the other playful chickens, dustbathing her nice clean feathers.

Journal 1

Bird Name: Chrissy
Type: Chicken
Gender: Female
Age: 18 weeks



Petr Kratochvil

<http://www.publicdomainpictures.net/view-image.php?image=281>

Journal Entry 2

I remembered to clean the pen today. I made sure to sweep out all the dust, remove the bird poop, and replace yesterday's water. Afterward, I took Chrissy out of her cage and to let her roam around. She rolled her body around in some nearby dirt and jumped up and down to shake off any excess dust after her dustbath. I made sure her eyes were round and clear and that her ears and nares were free of secretions. I also gave her something to eat, but she didn't touch any of the feed in her bowl. I ran around the farm with Chrissy energetically following me. I tried to get the other chickens to run around with Chrissy, but they sat lazily in their newly cleaned cage. I put Chrissy back in the pen with the others and happily went home.

Journal 1

Bird Name: Chrissy
Type: Chicken
Gender: Female
Age: 11 weeks



Petr Kratochvil

<http://www.publicdomainpictures.net/view-image.php?image=281>

Journal Entry 3

Daddy said that some of the chickens were sick and that he had to take them to the veterinarian. I was so worried Chrissy was sick that I ran to the pen. I found her eating some feed Daddy put out for her. She didn't eat as much as usual since the bowl was half full by the time she was done. I walked into the cage to make sure it was clean. I guess Daddy did the same thing this morning since everything was perfect. As usual, she ran after me around the farm as if we were playing tag. However, this time I noticed she had a little limp while running. She also didn't seem to run as fast as she usually does. But she still flapped her wings up and down to show her enthusiasm as I chased her around. She was exhausted after playing with me, plopping down on her bedding when she got back to her pen. I put some extra food in her bowl before heading back to the house.

Journal 1

Bird Name: Chrissy
Type: Chicken
Gender: Female
Age: 11 weeks



Petr Kratochvil

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Journal Entry 4

I went to see the chickens this morning and found half of them gone. I was sure Daddy would bring the sick chickens home from the veterinarian today. I found Chrissy crouched in a corner of the cage, apart from the other chickens. When she saw me, she tried getting up but fell down. It took her two attempts before she got up. When I went to play with her, she didn't want to chase me around. She preferred to sit on the green grass. One of her wings also seemed to droop a little. As I was petting her in my hands, I checked her ears and nares which were also clean and free of discharge. I was starting to get concerned so I cleaned the cage, filling it with fresh beddings. She felt thin, and I noticed she barely touched her food, so I fed her some extra pellets. I left her in the cage, hoping nothing was wrong.

Journal 1

Bird Name: Chrissy
Type: Chicken
Gender: Female
Age: 11 weeks



Petr Kratochvil

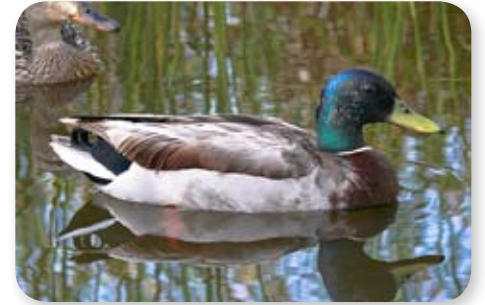
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Journal Entry 5

I went to visit Chrissy this morning to see how she is doing. I found her sitting in the corner of her cage. I observed her for about a minute and noticed that she didn't move at all. I encouraged her to get up but she didn't even try getting up. Her ears and nares were clean as usual and clear of any debris. She still felt thin and her feathers looked ruffled and her head was down. I was really worried about Chrissy so I immediately called Daddy over to have him take a look at her.

Journal 2

Name: Pinocchio
Type: Mallard Duck
Gender: Male
Age: 1 year



Mike Baird

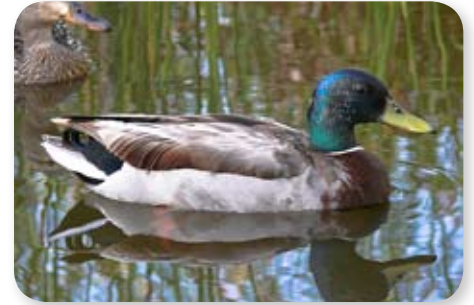
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Journal Entry 1

I'm so glad it is summer. My brother and I are spending a week at Uncle Dave's cabin. He has so many animals. I especially like the ducks, so I went to the pond today to play with them. My favorite duck is Pinocchio. He has beautiful grayish feathers on his body and green feathers to cover his head. His belly and chest are covered with dark brown feathers. He likes to stick his yellow bill between his feathers to make sure they are clean. His body has such perfect form as he floats across the water. I see his webbed feet paddle under water to steer him in different directions. His head is also held up high by his tall and straight neck, as if looking around for predators or anything interesting in the environment. I ran to the edge of the pond to greet him hello. As soon as he saw me, he paddled his way up to the edge of the shallow pond and then ran toward me. I looked at his black eyes and clean nostril holes, which were in normal condition. I fed him some of the special duck pelleted mash Uncle Dave gave me for the ducks. Pinocchio was very active today, following me around as I biked round and round the pond. When it was getting late, I waved good bye to Pinocchio who flapped his large wings as if he were waving back. He then flew back to the pond to preen his feathers.

Journal 2

Name: Pinocchio
Type: Mallard Duck
Gender: Male
Age: 1 year



Mike Baird

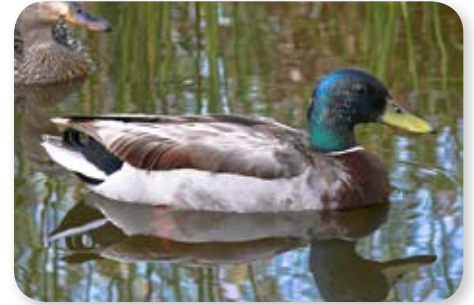
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Journal Entry 2

On my way to visit Pinocchio, I decided to check on his pen. I looked around the pen and knew it was about time to clean it. I replaced his water bowl with new and clean water. I made sure the floors were cleaned and covered with new dry beddings. I made sure his pen got enough air and lighting. Most of the time, the ducks prefer to be outside, soaking in the rays of the sun. However, today I found Pinocchio resting in a neighboring pen with another duck. They were sitting next to each other, as still as a rock. When I went to greet him, he only raised his neck straight up and looked into my eyes. His black eyes were large and clear and his nostril holes on his beak were clean of any debris. He continued sitting down until I approached him with food pellets. At the sight of food, he jumped up and waddled his straight webbed feet toward me. His feathers were clean and felt soft as I stroked his head. His body was the same as always, except his stomach looked slightly larger. I wonder if he's gaining weight. As I left home on my bike, I saw him sit back down next to his friend, returning to the same position I first found him in.

Journal 2

Name: Pinocchio
Type: Mallard Duck
Gender: Male
Age: 1 year



Mike Baird

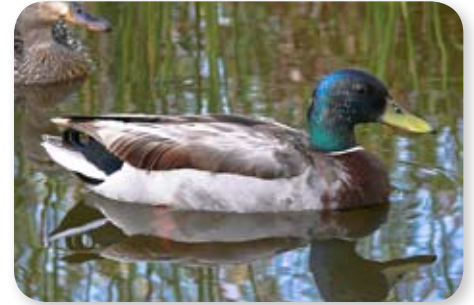
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Journal Entry 3

Today was a weird day. It rained in the middle of summer! I was so excited, I wanted to run in the rain and jump in puddles! My older brother also wanted to take part in the fun, so we raced to the lake. When we arrived at the foot of the duck pens, we noticed all ducks were swimming in the lake, having fun in the rain too. I saw Pinocchio chasing after one of the other ducks. He raised his large wings in the air when I went to greet him. My brother and I started to get cold so we took shelter in the ducks' pens. I persuaded Pinocchio into following us with some pellets. Once inside his pen, Pinocchio began to preen his wet feathers. Occasionally he would shake his body and waggle his tail to remove excess water from his feathers. I found an unusual amount of duck feathers covering his pen. I examined his eyes and nose holes which were both clean and clear, other than some dirt on his bill from the mud around the lake. His legs and neck stood up straight and his body as a whole looked healthy. He ate all the pelleted mash set in his bowl today. I asked my brother to play with him in an empty pen while I cleaned out Pinocchio's stall. The beddings were a little wet from the rain so I replaced them. I also set out clean water in his water bowl. Pinocchio and my brother were having fun in the neighboring stall. Pinocchio was running after my brother, who was holding the ducks' favorite toy, a rubber ball. When I was done, I put Pinocchio in his clean pen and gave him back his ball. He was happy to get his ball back, playing with the toy as we left the pens.

Journal 2

Name: Pinocchio
Type: Mallard Duck
Gender: Male
Age: 1 year



Mike Baird

<http://www.flickr.com/photos/mikebaird/499089461/>

Journal Entry 4

Today was a warm day. I wanted to check up on Pinocchio and give him a treat, some green lettuce. First I went to the duck pens to see if he was there and to make sure they were clean. Pinocchio wasn't there and all the pens were being cleaned by Uncle Dave. I saw the piles of feathers shed by Pinocchio and the other ducks. I started to wonder why they shed so much. I went to the pond and found Pinocchio soaking in the sun. Today his feathers were clean and shiny. The colors of his feathers were vibrant, not dull like yesterday. He was swimming around the pond with his legs and webbed feet. When he saw me, he spread his wings, trying to fly toward me. As he landed next to me, I threw his favorite ball toward him. He bucked it back at me with his yellow beak. As a reward, I gave him some of the green lettuce while petting his slick feathers. His large round eyes were clear and bright as always. His nostrils were clean of any dirt or mucous. I went home when the sun started to set. Pinocchio returned to the pond, chasing after some of the other ducks.

Journal 2

Name: Pinocchio
Type: Mallard Duck
Gender: Male
Age: 1 year



Mike Baird

<http://www.flickr.com/photos/mikebaird/499089461/>

Journal Entry 5

Summer is almost over and school is about to start. I wanted to visit Pinocchio one more time before I went home. I found him sitting on the grass next by the pond. I sat next to him, stroking his shiny feathers. I looked at his face, remembering his clear round eyes that I saw each day. I also looked at his bright yellow bill with its two clean nostril holes. As I walked around the garden surrounding the pond, Pinocchio followed me, our feet moving in perfect unison. He opened his wings a couple of times, hoping to fly toward me, but he couldn't. I looked at his wings and found tiny red spots at the tips of his wings. I ran to Uncle Dave and asked him what was wrong. He said that Pinocchio's wings were just clipped by the veterinarian. He said that Pinocchio liked to fly into the neighbor's garden and step on the crops. He said that Pinocchio bled a little when his wings were clipped, but that it stopped afterward. He assured me that Pinocchio would be okay. As the sun began to set, I said goodbye to Pinocchio for the last time.

Journal 3

Bird Name: Heather
Breed: Cockatiel
Gender: Female
Age: 2 years



John "cygnus921"

<http://www.flickr.com/photos/cygnus921/2338108116/>

Journal Entry 1

Today, when I came home from school, I heard Heather calling from the living room. The thermostat read 69°F. She likes to sit and look outside from the big window in there. I dropped my backpack in the hall and said hello to Heather. She seemed to be doing well, her feathers appeared shiny and smooth and her eyes were bright and alert. She fluffed her feathers and looked at me. I tried whistling to her, but I still don't have the hang of it yet. She whistled back. Her respiratory rate was about 65 breaths per minute. I checked to make sure she still had enough food and water and that her cage was not too dirty. Heather paced back and forth on one of the branches in the cage and watched me. I noticed that she ate the millet spray I had given her as a treat. I think I might get her some more later as a treat since she likes it so much.

Journal 3

Bird Name: Heather
Breed: Cockatiel
Gender: Female
Age: 2 years



John "cygnus921"

<http://www.flickr.com/photos/cygnus921/2338108116/>

Journal Entry 2

When I woke up today, I gave Heather some fresh food and water, because she had pooped in her water bowl. It was 70°F in the house and Heather's respiratory rate was about 67 breaths per minute. I also cleaned the shells from the millet spray that she had dropped around the cage. She had made quite a mess! Heather watched the whole time I was cleaning from her favorite branch, although her eyes seemed a bit duller today. I was supposed to clean her cage, but the bottom of her cage did not look too dirty and her bathing bowl only had a little bit of debris in it, so I decided not to clean it. Since her wings are clipped, I took Heather out of her cage, put her on my shoulder, and walked around the house. I tried to whistle to her, and she encouraged me by whistling back. I think I might be getting a little bit better. My mom called me to come eat breakfast and I put Heather back in her cage and opened the blinds of her favorite window for the day. Her feathers really look shiny and beautiful in the light.

Journal 3

Bird Name: Heather
Breed: Cockatiel
Gender: Female
Age: 2 years



John "cygnus921"

<http://www.flickr.com/photos/cygnus921/2338108116/>

Journal Entry 3

Today, I took Heather out, but she did not want to try whistling to me. I let her sit on my shoulder while I was doing my homework. She paced back and forth a lot and started to nibble on my ear, so I put her back in her cage. Later, when I closed the blinds, she was not on her favorite perch. Heather sneezed once, so I went over and looked at her. She seemed fine and did not do it again. Her respiratory rate was 64 breaths per minute and the living room's temperature was 69°F. I took a good look at her, but her eyes seemed to be bright and her feathers still look shiny and clean. She still has plenty of food and water, but the bottom of her cage is getting dirty, so I will have to clean it soon.

Journal 3

Bird Name: Heather
Breed: Cockatiel
Gender: Female
Age: 2 years



John "cygnus921"

<http://www.flickr.com/photos/cygnus921/2338108116/>

Journal Entry 4

The first thing I did when I came home from school today was whistle to Heather. She whistled back. However, she did not seem as cheerful and her whistle was a little weak. I took her out of her cage and put her on my shoulder while I cleaned her cage. She watched me, but not like she usually does. Her eyes are a bit dull today and her feathers look a little unkempt. Her respiratory rate was about 70 breaths per minute and the temperature in the room was 70°F. When cleaning, I noticed the bathing and water bowls were also dirty and close to empty, so I cleaned and refilled them. I also noticed that her droppings were a lot more watery than usual. Heather sneezed a couple times before I put her back in her cage. I put a new toy bell in her cage, but she didn't seem interested in playing with it. She seemed fine otherwise, so I went to finish my homework. I checked on her before I went to bed, and her nose was a little wet looking and she was definitely sneezing more often.

Journal 3

Bird Name: Heather
Breed: Cockatiel
Gender: Female
Age: 2 years



John "cygnus921"

<http://www.flickr.com/photos/cygnus921/2338108116/>

Journal Entry 5

Before I went to school, I checked on Heather. Her eyes were a little dull and her feathers definitely looked like she has not preened in awhile. She would not whistle and just sat on the bottom perch while sneezing a few times. Her respiratory rate was about 75 breaths per minute and the temperature in the room was 69°F. After school, Heather was sneezing a lot, sitting on the bottom of the cage, and her eyes looked pink and a little puffy. I put a millet spray in her food dish, but she ignored it and stayed at the bottom of the cage. Her respiratory rate was 80 breaths per minute and the temperature in the room was still 69°F.

Journal 4

Bird Name: Amber
Type: Parrot
Gender: Female
Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 1

Today my mom brought home a parrot from work. One of her coworkers from her office had a few too many birds and asked if my mom could care for her parrot, Pepper, until she bought a bigger cage. My parrot, Amber, has a very large cage and there is plenty of space for her to hop around in. Taking in another bird was not going to be an issue. Before my mom came home with Pepper, I cleaned the cage as usual. I lined the bottom of the cage with new paper and wiped off the feces. I set out fresh fruits and vegetables and some grains. Then I gave her fresh water. I played with Amber for a while today. I wiped down her toys as I was playing with her. She squawked and was very happy. Her feathers were very bright and smooth. When I looked into her eyes and nose, they both looked clear. When Pepper came home, Amber did not seem to mind and kept quiet and even approached Pepper several times. Pepper was distant and did not want to play with Amber. I noticed that Pepper did not eat much of the food I offered while Amber ate plenty. I hope she will feel comfortable during her stay.

Journal 4

Bird Name: Amber
Type: Parrot
Gender: Female
Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 2

This morning I woke up and checked the two lovely birds. Amber greeted me with a friendly squawk and ran to the edge of the cage toward me. I stroked her feathers which were so soft and smooth and kissed her beak. Her nose looked clean but when I looked into her eyes, I noticed they were a little watery. When I looked over to greet Pepper her eyes had a lot of tears, making her look like she was crying. I didn't think much of it. I quickly looked around the cage and made a mental note of the things I needed to do and clean. There were a few normal looking droppings so I might be able to clean it tomorrow. The water was half empty and the food was still full so I will check it later today to see if I need to refill it.

I received a call from my mom at work saying that Pepper will be going home this afternoon. It was a lovely day. It was sunny but a bit windy. I left the sliding door open with the screen closed so that I can feel the breeze. The air was warm still so I did not worry for the birds. They were fine with the temperature being around 76°F. I was reading with Amber and Pepper in the living room when the doorbell rang. It was Pepper's mom. She came to pick up Pepper. I gathered up Pepper's toys and Amber and I said good-bye. What a gentle bird. A bit quiet and shy but hopefully she will be happy back at her home. I then went back to reading. Lisa, a friend from school called me and wanted to go watch a movie. So I quickly got ready, told Amber I would be back later, and Lisa picked me up. When I came back late in the evening I was exhausted because we ended up shopping before the movie. So I ate dinner, took a shower, and went right to bed.

Journal 4

Bird Name: Amber

Type: Parrot

Gender: Female

Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 3

I woke up this morning in a panic. I forgot to give Amber clean food and water yesterday! As I ran outside my dad told me to relax because he did it already when he woke up and noticed my forgetfulness. He said that he didn't clean the droppings because there were so few. He changed the water but he didn't change the food because the food bowl was still pretty full. I thanked him and took Amber out of her cage. I noticed that her feathers were a bit dull and dirty looking. I looked at her nose which was still clear but her eyes were still watery. I took a tissue to wipe away her tears. As she sat on my shoulder I walked around the house. I set her on a perch in my room and cleaned my room and organized my closet. As we listened to music together I got her to dance for me. She began bobbing her head up and down with me. It was awesome! I showed my dad our dance and he got a great laugh out of it. I did notice that when she dancing, a few feathers would fall out but I figured that she was just really excited! I set Amber back into her cage and began to clean her cage. I noticed some diarrhea that was on left side of the cage. Amber's favorite side is the right so I think it was from Pepper. I finished cleaning her cage and toys and washed up for dinner.

Journal 4

Bird Name: Amber
Type: Parrot
Gender: Female
Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 4

Today I exercised with Amber. I had her hop from one side of the cage to the other. Usually on Wednesdays we do this two or three times, but halfway through her second run, she stopped and started huffing and puffing. It took her a while to finish her second round so I decided to stop for the day. I laid out new paper under the cage and fresh food and clean water. I then cleaned the cage and stroked Amber for a while. Her feathers seemed a bit more puffed out than usual. Later I was holding her while watching TV. Commercials came on and I looked down at Amber and noticed that both her nose and eyes was running. I wiped it away with a soft cloth and put her back into her cage.

Journal 4

Bird Name: Amber
Type: Parrot
Gender: Female
Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 5

Today I woke up late and rushed to school. I didn't get a chance to check on Amber but I'm sure if my parents noticed anything unusual, they would have told me. When I came home from school I greeted Amber with a big "Hello!" I didn't hear anything in the living room. I raced over to her caged to see why she was being so quiet. Not only were her feathers all ruffled, but there was diarrhea on the right side of the cage.

Journal 5

Bird Name: Corey

Type: Cockatoo

Gender: Male

Age: 1 year



Anna Cervova

<http://www.publicdomainpictures.net/view-image.php?image=974>

Journal Entry 1

Tomorrow our Granny Pepa will be moving in with us. She has a few belongings such as some clothes, pictures, and her lovely bird, Corey. She lived all alone with Corey since he was a hatchling and never let him outside or out of her sight. In Granny Pepa's old house, Corey lived alone in his cage with few toys. His daily entertainment was basically Granny since they only had each other. My older sister and two younger brothers help build Corey a new cage as a welcoming gift. We painted the cage with bright colors and even elaborately decorated it with plenty of toys, water, and food. My little brothers were running around screaming with excitement when they found out Granny and Corey was coming tomorrow.

Journal 5

Bird Name: Corey
Type: Cockatoo
Gender: Male
Age: 1 year



Louise Docker

<http://www.flickr.com/photos/aussiegall/355618139/>

Journal Entry 2

When Corey and Granny arrived, I ran and gave Granny a hug almost knocking the caged Corey out of her hands. We all gathered around Corey and started whistling and calling his name. He started squawking and screaming. We took him out of his tiny cage and placed him in his new cage. He started trembling and stayed in one corner of the cage while looking around his new environment. After a day in the airport and in the car, he seemed to be tired. I noticed that his feathers were a beautiful white color and that they were shiny and clean. His eyes were bright and clear and his beak and nares (nostrils) were clean. His toenails looked a little long to me. A couple of them were curled over. I think we will have to trim them soon. We gave him some fresh fruit, which he seemed to love. He ate several grapes and banana pieces.

Journal 5

Bird Name: Corey
Type: Cockatoo
Gender: Male
Age: 1 year



Louise Docker

<http://www.flickr.com/photos/aussiegall/355618139/>

Journal Entry 3

This morning we cooked Granny some breakfast. Corey's cage is in the kitchen so he watched us fry eggs and hash browns. Jimmy burned the bacon! The house smelled like smoke. It made my nose itch and I kept sneezing. I changed Corey's water and gave him fresh food. I cleaned his cage and his toys that seemed to be untouched. He constantly flapped his wings and went hysterical every time I tried to pet him. After taking care of Corey I heard loud noises from the kitchen. My baby brother Oliver was banging on pots and pans. Everyone ran to the kitchen covering their ears and grabbed the cooking instruments out of his hands. Of course, he began to cry. As we were trying to get Oliver to quiet down, Corey joined in and started screaming too! After he calmed down, I noticed that there was an area on his breast where the feathers looked a little frayed. I also noticed that he kept shifting his weight from one foot to the other over and over again. Maybe his long toenails were bothering him? My mother and I decided to try to trim his toenails, but we couldn't catch him in the towel. Poor Corey! He kept flapping his wings trying to get away from us. I think we may need to give him some more time to get used to us before we try to catch him again. Later in the day, I noticed that his food dish was empty, so I gave him some of his pellets and a couple of slices of apple too.

Journal 5

Bird Name: Corey
Type: Cockatoo
Gender: Male
Age: 1 year



Louise Docker

<http://www.flickr.com/photos/aussiegall/355618139/>

Journal Entry 4

Today when I checked on Corey to replace his food and water, he was hissing at one of his big toys. As he was hopping around the toy I noticed a bald patch underneath his wing about the size of a quarter. Then I was cleaning his cage and noticed the feathers layering his feces. I threw away the soiled newspaper and put clean ones down. Then I did homework next to Corey in the kitchen table with the radio on. As I was doing homework, I noticed that Corey was spending a lot of time preening his feathers. He kept lifting his wings and it looked like he was chewing on them. His eyes looked clear and bright, but there was a little bit of dried mucus around his nares (nostrils). I wanted to clean it off for him, but when I put my hand in the cage, he squawked really loudly. I tried to feed him some carrot, and he came over to the side of the cage and took it from my hand, but then he dropped it right away. I noticed that he hadn't eaten many of his pellets, but that all of his fruit from the morning was gone.

Journal 5

Bird Name: Corey
Type: Cockatoo
Gender: Male
Age: 1 year



Louise Docker

<http://www.flickr.com/photos/aussiegall/355618139/>

Journal Entry 5

When I came home from school today I checked on Corey. He was sitting on the bottom of the cage. It didn't look like he had eaten much of his pellets and all of his fruit was still in the bowl. When he lifted his wings I noticed that there were patches of exposed skin on both sides. He also had an area on his chest where there seemed to be a few feathers missing and the feathers on his tail looked frayed. There weren't many droppings in his cage, but I cleaned it anyway. I also added some new toys so he could have something new to explore. There was more dried mucus on his beak, but I didn't try to clean it off because I didn't want to scare him. Instead, I got out the misting bottle and sprayed Corey with some water. He seemed to love it and spread his wings and hung upside down in his cage so I could get him all wet. I don't think he had been given a good bath in a long time.

AVIAN DISEASE INFORMATION SHEET

◆ Psittacosis

Psittacosis (sit-uh-koh-sis), commonly known as parrot fever, is a disease associated with the parrot family. It is an infectious zoonotic disease caused by a bacterium. Both humans and other parrots can contract this disease by coming into contact with an infected bird. Infected birds that are asymptomatic (do not show signs of illness) can still spread the disease through their feces, wet or dry. People and other birds can become infected by ingesting food or water contaminated with infected feces or inhaling dry droppings. Infected humans may experience flulike symptoms and are more susceptible to pneumonia.

Symptoms of birds may include

- ◆ difficulty breathing
- ◆ poor appetite
- ◆ ruffled feathers
- ◆ running eyes
- ◆ running nose
- ◆ diarrhea

◆ Feather Plucking

Feather plucking, **also known as feather picking**, is a condition in which birds chew on or remove their own feathers or pluck the feathers of other birds in their cage. This condition can be caused by stress, poor diet, parasites, allergies, or an infection.

Feather plucking can vary in form and severity from one bird to another. Some birds may chew the feathers without removing them from the shaft; others may completely remove the feather from the shaft, a more severe condition. If the bird continues to feather pluck for a period of time, the feather follicle can be damaged to the point where the feathers cannot grow back. In severe cases birds will self-mutilate soft tissue areas on their breasts, legs, and backs, causing sores and bleeding and leaving them susceptible to infection. Certain species of birds, such as African grey parrots and members of the cockatoo family, are more susceptible to feather plucking than others. In poultry, feather plucking is usually directed at other birds in the flock. In extreme cases, this behavior can lead to death and cannibalism. Symptoms of feather plucking may include

- ◆ bare spot under the wings
- ◆ bald chest
- ◆ damage to feathers or feather follicles
- ◆ sores or wounds

◆ Marek's Disease

Marek's (mar-iks) disease, a viral infection, primarily infects young birds (chickens), usually 3 to 30 weeks of age. The virus is spread when "dander" (small scales) from the base of the feathers of infected birds mixes with dust and is carried by the wind. Uninfected birds typically contract the virus through their respiratory (breathing) system.

Symptoms of Marek's disease may include

- ◆ paralysis in one or both legs or wings, making it hard to stand up
- ◆ failure to gain weight
- ◆ pale eyes (rare symptom)
- ◆ generally unthrifty (e.g., lowered egg production, ruffled feathers)

◆ Upper Respiratory Infection

This common infection in birds is caused by bacteria. Birds have a higher chance of getting an upper respiratory infection if they are stressed, have poor nutrition, or are kept in an unsanitary environment. If a cage is not cleaned or disinfected regularly, decaying food and feces can accumulate, making it a great place for bacteria to grow.

If the infection is mild, it may appear simply as if the bird has a cold. However, if the infection is severe, breathing difficulties and problems with food consumption may result. Symptoms of an upper respiratory infection may include

- ◆ sneezing
- ◆ nasal discharge
- ◆ eyes that are dull, red, or appear irritated
- ◆ swelling around the eyes
- ◆ breathing difficulties (e.g., rapid breathing)

HEALTH ASSESSMENT CHECKLIST



Bird Name: _____ Breed: _____

Gender: _____ Age: _____

General Symptoms

Is there anything you notice that you should be concerned about?

Journal Entry 1: _____

Journal Entry 2: _____

Journal Entry 3: _____

Journal Entry 4: _____

Journal Entry 5: _____

Suspected Diagnosis: _____

(Use the avian disease information sheet)

Observations

Explain which symptoms from the above journal helped you indicate a problem, and explain why.

What other observations do you think might be important?

Why do you think recording daily observations of your bird would be helpful in monitoring your bird's health?

YOUR BIRD'S HEALTH

Subject Overview and Background Information

Youth should use the skills and knowledge acquired from the previous activity to assess their bird's health in this application activity. As important as it is to teach youth about animal health assessments, it is even more vital for youth to apply their knowledge in the real world. This application activity allows youth with animals to evaluate their pets' health and determine the right time to consult a **veterinarian**. Youth should be in a regular habit of checking their animal's overall health and notice any signs of abnormality.

The best way to assess the health of a bird is through observation. There is no clear-cut definition of what is normal; normal varies from bird to bird, so abnormal depends on your bird as well. Observing your bird daily is the best way to monitor its health and be able to identify changes that might be symptoms of disease or injury.

In this activity, youth will fill out the health assessment charts used in the previous activity, except that they will make observations on their own birds. In addition, they should write a short journal entry on the back of the chart about what they did with their bird daily. The daily observations should last a minimum of 14 days.

Birds can be difficult animals to handle and take vital measurements from. We suggest developing an inexpensive kit that may help the youth in their observation and measuring process. This kit could include the following:

- ◆ Latex gloves for general use every time they examine the bird, especially when they make personal contact with sensitive areas of the bird. Wearing disposable gloves is highly recommended when performing any of these procedures to prevent the spread of disease from human to bird and vice versa.
- ◆ Penlight for use when examining the bird's eyes and nares (nostrils). Encourage the youth to note anything that looks abnormal in these areas and compare this with observations from previous days.
- ◆ Magnifying glass for use when looking at the bird's feathers. The youth can look closely at the feathers and external features of the bird and note any interesting observations.

Checking a bird's vitals is important in order to assess its health. Before checking the bird's vitals, make sure the youth understand how to take each of these measurements.

- ◆ **Respiration (breathing) rate:** Get your bird in a comfortable position and watch its breast or chest move up and down as it breathes. One breath is equivalent to the bird's chest moving up and down once. Count how many breaths the bird takes in 1 minute; or count the number of breaths it takes in 15 seconds (using a stopwatch or watch with minute hand) and multiply the number by 4 to get the number of breaths in 1 minute. The breathing rate differs between bird species and increases with activity. Contact your **veterinarian** if you notice that your bird's respiration is abnormal.

It is important to let the youth know that they should not make immediate conclusions about their animals' health. Most of the youth will probably have perfectly healthy pets. Do not give them the impression that they must find something wrong with their animal. Emphasize the concept of **health care maintenance** rather than health diagnosis.

- ◆ **Note:** When caring for sick birds, be careful when cleaning cages because diseases may be transmissible to humans and can be spread in the air. Make sure to wear a dust mask when cleaning cages and wash hands immediately after working with sick birds.

Working with animals can get dirty, so appropriate clothing is required (new clothes are not recommended). Make sure clothes and shoes are comfortable, so that youth can move around and work in them. The recommended dress includes

- ◆ closed-toed shoes
- ◆ long pants
- ◆ long-sleeved shirt
- ◆ a tie for long hair, if necessary
- ◆ no free-hanging earrings
- ◆ secure glasses

When outdoors with birds, sun protection is recommended, such as sunscreen, a hat, and sunglasses. A painter's mask may be needed by those who are asthmatic, sensitive, or allergic to dust and small particles in the air.

◆ Activity Concepts and Vocabulary

- ◆ **Health care maintenance:** The regular monitoring of an animal's health.

◆ Life Skills

- ◆ **Head:** Keeping records, problem solving, decision making, critical thinking
- ◆ **Heart:** Sharing, communication, concern for others, empathy
- ◆ **Hands:** Self-motivation
- ◆ **Health:** Disease prevention, self responsibility, personal safety

◆ Subject Links

Science and Language Arts

◆ State Content Standards

Science

- ◆ Third Grade
 - *Investigation and Experimentation: 5e*
- ◆ Fourth Grade
 - *Investigation and Experimentation: 6c*
- ◆ Fifth Grade
 - *Investigation and Experimentation: 6h, 6i*
- ◆ Sixth Grade
 - *Investigation and Experimentation: 7d*

Language Arts

- ◆ Fourth Grade
 - *Listening and Speaking Strategies: 1.7*
- ◆ Fifth Grade
 - *Listening and Speaking Strategies: 1.5*
- ◆ Sixth Grade
 - *Listening and Speaking Strategies: 1.5*

◆ Purpose of Activity

The purpose of this activity is to have youth record observations of their own bird over a period of time.

ACTIVITY 2

Bird Health Journal

Overview of the Activity



Youth will have the opportunity to assess the health of their bird for a minimum of 14 days. They will make observations of their animal and record what they observed for each day. They will also write a journal entry each day on their animal's activity. During their group meetings, youth will have a chance to share their observations of their animal and discuss any potential diseases or illnesses with their group.

◆ Time Required

Approximately 15 minutes daily for at least 2 weeks

◆ Suggested Grouping

Individual

◆ Materials Needed for Each Youth

(*Materials provided in curriculum)

- ◆ Flip chart paper
- ◆ *Animal health journal:
 - *Animal background information sheet*
 - *Animal health daily recording sheet for each day of observation*
- ◆ Health assessment kit:
 - *Latex (disposable) gloves*
 - *Penlight*
 - *Magnifying glass*
- ◆ Writing tool (pencil, pen, etc.)
- ◆ Stopwatch or watch with second hand
- ◆ Disinfectant
- ◆ Painter's mask (if sensitive or allergic)

◆ Getting Ready

Each individual is expected to observe their bird for 14 to 28 days. Make an animal health journal for each youth, which consists of an animal background information sheet and one blank animal health daily recording sheet for each day the youth will observe their bird.

Opening Questions

Ask the youth to respond to each question below by sharing their ideas verbally and/or by recording them on the flip chart paper provided.

1. When you are sick, what observations might your parents make that would lead them to take you to see the doctor?
2. Describe what you might notice about birds that are not feeling well.
3. What kinds of observations about your bird would prompt you to call your veterinarian?
4. Why might keeping a daily journal about you or your bird be helpful to a doctor or veterinarian?

Procedure (Experiencing)

1. Give each individual an animal health journal packet, which includes the animal background information sheet and one animal health daily recording sheet for each day of observation.
2. Review the terms on the checklist and how to properly take the respiration rate. Make sure the youth know the proper dress code for working with animals.
3. Explain to the youth that they are to fill out the animal background information sheet. If they have more than one animal, they may choose one to work with for this activity. They may need to work with their parents to answer the background information questions.
4. Youth will also fill out an animal health daily recording sheet every day for the chosen number of days (14 days are recommended). The youth should also write a brief journal entry on the back of the recording sheet, describing what they did with their animal each day.
5. Ask the youth to prepare to share a report with their peers at the next group meeting. Reports should include an oral description of observations along with any potential symptoms of illness. Youth

may want to graph respiration rates and could also create a poster or PowerPoint presentation to share their findings.

Sharing, Processing, and Generalizing

Have each youth share his or her report with the group. Follow the lines of thinking developed through the general thoughts, observations, and questions raised by the youth. If necessary, use more targeted questions as prompts to get to particular points, such as:

1. What are some advantages of keeping a daily health journal for your bird? Were there any challenges? Please explain.
2. Did your bird present any symptoms of concern? If so, what were they, and what did you do?
3. In what ways are graphs of respiration rate helpful in assessing your bird's health? Please explain.
4. What similarities, if any, were there between your bird and other birds? What differences, if any, were there? Please explain.

Concept and Term Discovery/Introduction

Volunteers need to ensure that the concept of **health care monitoring** has been introduced or discovered by the youth.

- ♦ **Note:** The goal is to have the youth develop concepts through their exploration and define terms using their own words.

References

- Animal Hospitals USA. Symptoms of bird illness. Animal Hospitals USA Web site, <http://www.animalhospitals-usa.com/birds/symptoms.html>.
- Oliver, A. J. 2000. Are my chickens healthy? South Africa National Department of Agriculture, Animal Health for Developing Farmers Web site, <http://www.nda.agric.za/docs/healthychicks/chickens.htm>.
- Ornithology.com. Respiration and circulation. Ornithology.com Web site, <http://www.ornithology.com/lectures/RespirandCircul.html>.

Animal Health Journal

ANIMAL BACKGROUND INFORMATION SHEET

Date: _____ Youth's name: _____

Animal's name: _____ Species: _____

Breed: _____ Date of birth or age of animal: _____

Gender (male, female, or unknown/fixed or intact): _____ Has this animal been bred? _____

If yes, how many times? _____ Date of last breeding? _____

Health history: Is this animal on any medications? _____ If yes, please list. _____

Does this animal have current vaccinations? _____

Does this animal have any allergies? _____ If yes, please list. _____

Has this animal had any major illnesses or surgeries? _____ If yes, describe. _____

Date of last veterinary checkup: _____

Environment: Please describe the housing for this animal (indoor/outdoor, with other animals/alone, size of enclosure).

Diet: Please describe the diet and the feeding schedule for this animal. Describe how water is provided (bowl, automatic waterer, etc.)

ANIMAL HEALTH DAILY RECORDING SHEET

Date: _____ Time: _____

Animal name: _____

MEASUREMENTS

Respiration (breathing) rate: _____

OBSERVATIONS

Behavior: _____

Activity level: _____

Appetite: _____

Body condition: _____

Posture and flight: _____

Skin, feathers, and nails: _____

Eyes: _____

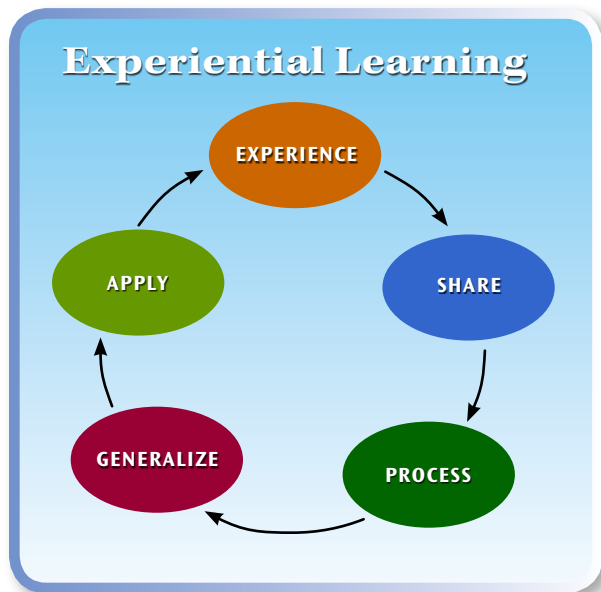
Nose/nares: _____

Body waste: _____

Other: _____

APPENDIX

The activities in this curriculum are designed around inquiry and experiential learning. Inquiry is a learner-centered approach in which individuals are problem solvers investigating questions through active engagement, observing and manipulating objects and phenomena, and acquiring or discovering knowledge. Experiential learning (EL) is a foundational educational strategy used in 4-H. In it, the learner has an experience phase of engagement in an activity, a reflection phase in which observations and reactions are shared and discussed, and an application phase in which new knowledge and skills are applied to a real-life setting. In 4-H, an EL model that uses a 5-step learning cycle is most commonly used. These five steps—Exploration, Sharing, Processing, Generalizing, and Application—are part of a recurring process that helps build learner understanding over time.



For more information on inquiry, EL and the 5-step learning cycle, please visit the University of California's Science, Technology, Environmental Literacy Workgroup's Experiential Learning Web site, <http://www.experientiallearning.ucdavis.edu/default.shtml>.

For Further Information

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