Program Overview

Hear tales from the Conservancy’s von Arx Wildlife Hospital and explore the many causes of injury to wild animals. Students will become junior veterinarians to diagnose and treat an animal patient in a hands-on activity and discover how they prevent injury to wildlife.

Learning Objectives

Students will be able to:

1. Infer based on observation
2. Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.
3. Recognize ways plants and animals, including humans, can impact the environment.
4. Attempt reasonable answers to scientific questions and cite evidence support.
5. Recognize and explain that scientists base their explanations on evidence.
6. Recognize and explain the difference between personal opinion/interpretation and verified observation.

Lessons:

- Pre-Activity 1: Stick up for Wildlife! (pp. 2-9)
- Pre-Activity 2: Secrets of the Swamp (pp. 10-16)
- Post-Activity 1: Glue Traps are not the Answer! (p. 17)
- Post-Activity 2: Inner Workings of a Wildlife Hospital (pp.18-23)
Pre-Program Activity 1: Stick up for Wildlife!

Duration of Activity: ~1 hour

Materials: photos from the Von Arx Wildlife Hospital blog, wildlife blog

Background: Glue traps have been an indiscriminate threat to a variety of wildlife, not just rodents! The Von Arx Wildlife Hospital receives animals suffering from glue trap related injuries frequently. Glue board traps capture birds, snakes, and a variety of small mammals. We have seen numerous species of wildlife admitted to the wildlife hospital after getting stuck to glue board traps. The injuries we have seen animals endure after being stuck to the glue board traps are horrific. Many times, animals struggle so violently in the futile effort to free themselves from the glue that they can tear their skin, legs or wings from their body. The only true long-term way to control rodent populations is to make problem areas unattractive or inaccessible to rats and mice. Eliminate potential food sources by storing food items such as bird seed and pet food in chew-proof containers. Securely seal trash cans, pick up fallen fruit, never feed pets outside, and never feed wildlife. Eliminate hiding places by trimming grass and vegetation and keep brush piles away from buildings. Humane rodent control options exist and should be considered.

During this exercise, students should recognize the threat glue traps pose for a variety of animals, how they can harm them and why glue traps are not the best solution for rodent control.

Directions: Have students examine the following photographs (pp. 5-9) of actual patients from the wildlife hospital and answer the following questions:

- What kind of injuries do these animals appear to have from the glue traps?
- Why do you think these specific animals got caught in glue traps?
- Where do you think some of these glue traps were located to cause animals to get caught?
- What characteristics do these animals have in common that might have caused them to get caught? What specific characteristics for each animal might have caused them to get caught?
- What kinds of things do you think the wildlife hospital had to keep in mind when trying to help the animal?
- What kind of treatments do you think these animals had to go through?
- How can we as people prevent these injuries?

For more information about the following animals the wildlife hospital treated, see the links below and pp. 3-4 in this lesson plan for more information.


About the Photos (info from the von Arx wildlife blog)

**Photo description:** Staff checks the feather condition on a northern cardinal admitted to the wildlife hospital after he became stuck in a glue trap.

A *northern cardinal* was admitted late in the evening after he was found stuck to a sticky glue trap set as a means of rodent control. The person who found the cardinal cut all of the wing feathers on the cardinal’s right wing as a way of removing him from the glue. The cardinal was missing all of his tail feathers which pulled out as he futilely struggled to free himself from the glue. Upon arrival, hospital staff administered a sedative and pain medication and placed the cardinal in an animal intensive care unit to rest. The cardinal required daily baths over several days to fully remove the glue from his wings, head and body feathers. Although the repeated washings removed the glue, having all of cardinal’s wing feathers cut means he is not able to fly properly and will not be able to be released until the cut feathers molt and new feathers grow. It could take up to a year for the cardinal to molt.

**Photo description:** As hospital staff work on removing a coral snake from a glue board, a section of glue is stretched up to demonstrate the deadly stickiness of the adhesive.

The *coral snake* was brought to the wildlife hospital by a volunteer Critter Courier after hospital staff was contacted by the homeowner who had placed the glue board trap to catch an unwanted rodent. The homeowner was unable to drive due to a recent surgery; hospital staff quickly dispatched a volunteer knowing the snake could injure itself struggling to break free from the sticky glue. Conservancy veterinarian Dr. PJ Deitschel sedated the snake to ensure staff could safely work to free the venomous snake without any fear of being bitten. The snake showed signs of stress from the trauma of being stuck to the glue board but after approximately 40 minutes the snake was freed from the glue and placed in an animal intensive care unit to rest.

The *young rabbit* was injured after being found stuck to a glue board rodent trap that had been placed in a garage. The homeowners had cut the rabbit’s fur to free her from the sticky glue trap. A precursory exam at the hospital showed the rabbit was extremely stressed and still had glue stuck to her feet. The rabbit was given pain medications and placed in a quiet area of the hospital to rest. The following day the rabbit showed signs of contact dermatitis on the areas of her body that had been stuck to the glue trap. The rabbit had lost patches of fur and had other health concerns caused by the extreme stress of the situation. Chinese herbs, an anti-parasitic, and an anti-inflammatory were added to her daily treatment plan.
Along with being wrapped in the insect tape, the **blue jay** had patches of glue coating its wings and body feathers.

Adult blue jays are notoriously high stressed when in a captive rehabilitation setting and this jay was no exception. Before we could even begin to remove the tape, the jay showed signs of increased respiratory effort and began open mouth breathing. The blue jay was quickly extricated from the sticky tape and placed in a darkened animal intensive care unit to rest. After several hours of rest, the blue jay’s stress level had returned to normal. An injectable sedative was administered in order to keep the blue jay calm while staff began the process of removing the glue from the bird’s feathers. Unfortunately, the jay was unaffected by the first dose of the sedative so an additional dose was administered. The second dose provided the appropriate amount of sedation to calm the jay. Staff used a liquid soy based solvent to remove the glue. Once the glue was removed, the jay was given a bath in soapy water to wash the soy product from its feathers. A rinse in fresh water finished the cleaning process. The jay was moved to a larger, more naturally furnished recovery space in the bird room. Two days after being admitted, the jay was cleared for release.

**Screech owl** admitted to hospital after he was found stuck to glue trap that was meant to kill rats.
Photo description: Staff checks the feather condition on a northern cardinal admitted to the wildlife hospital after he became stuck in a glue trap.
Along with being wrapped in the insect tape, the blue jay had patches of glue coating its wings and body feathers.
As hospital staff work on removing a coral snake from a glue board, a section of glue is stretched up to demonstrate the deadly stickiness of the adhesive.
Screech owl admitted to hospital after he was found stuck in glue trap that was meant to kill rats.
Pre-Program Activity 2: Secrets of the Swamp

Duration of Activity: ~1 hour

Materials:
- 1 copy of Secrets of the Swamp for every 1-2 students
- Internet access
- Projector
- 3 habitat pictures – printed, or projected (if video/Internet not available)
- Instructions for Changes game

Background:
Observations and inferences are daily parts of the job of a wildlife hospital worker. Through observations (what is seen, smelled, heard, tasted, or touched), inferences (what we assume, or think has happened) can be made to help guide the staff, volunteers, and interns of the von Arx Wildlife Hospital at the Conservancy of Southwest Florida in how to best care for wildlife patients admitted each day.

This pre-lesson has been designed to prepare students for their visit with the Conservancy of Southwest Florida. Through a Seek and Find game, video, and class discussion, students will learn about how to use what they sense (observe) to figure out what is happening or has happened (infer). In the event that video technology or Internet is not available or not working, pictures have been included to be printed or displayed for students to use.

Directions:
1. Bell ringer – Secrets of the Swamp (attached). May be done in groups of 2-4 students. Allow ~10 minutes.
2. As a class, discuss how students found each item. What clues gave away where the items were? How did they know what to look for? (shape, lines, knowing what items look like, etc.)
3. Start lesson by reviewing the 5 senses. Ask students to name the 5 senses humans use.
4. Discuss with students how we use senses to make observations of the world around us to determine what has happened, predict future events, and react to situations.
5. Introduce main activity by telling students they will be using their sense of sight to learn what is happening in a live video you find on the explore.org website. (can use the picture, if technology is a challenge).
   a. Live videos link: https://explore.org/livecams
6. Students will have 1 minute to quietly watch the video (or look at the picture) and think of what they see. This step is only for observations. Inferences are later in the lesson.
7. Through class discussion, students share what they observed in the video/picture.
8. Students take 20 more seconds to watch the video (or look at the picture) to come up with inferences about the scene in the video/picture. Guide thinking and discussion after this observation time with some of the prompts below:
   a. What habitat is the animal(s) in?
   b. What is going on around the animal(s)?
   c. What type of animal(s) is this? – reptile, bird, amphibian, mammal
   d. What animal(s) is this? – varies by video/picture
e. How old is the animal(s)? – baby or adult
f. What is the animal(s) doing? Why? – answers may vary
g. Is the animal(s) healthy, injured, or sick? How can you tell?
h. If we were to visit this location in person, what else might we be able to observe?
i. What else can we guess (infer) is happening in this video/picture?

9. Repeat steps 6-8 for 2 more Explore.org videos of your choice, or the 2 remaining pictures.

10. Talk about the upcoming visit with the Conservancy and how observations and inferences (what we think is happening/has happened) can help workers determine how to best care for wildlife patients.

11. If extra time allows, have students play the Changes game (attached).

Changes Game (optional)

1. Have each student find a partner (a group of 3 can work, if odd number of students).
2. For 30 seconds, students will use their sense of sight to memorize everything they can about their partner as they stand facing each other.
3. Students turn their backs to each other and change 5 things about their appearance.
   a. Ideas:
      i. Change shoes with someone nearby
      ii. Remove a belt
      iii. Take off glasses, or put them on head/shirt
      iv. Tuck one pant leg into a sock
      v. Redo hairstyle (messy, in a ponytail, out of ponytail)
      vi. Tuck a pencil behind your ear
      vii. Holding a book/piece of paper
      viii. Sitting vs. standing
4. Students turn back and take turns finding each of the 5 things their partner changed. **Leave changes as they are!**
5. Students turn around again and change 3 more things.
6. Students turn back and take turns finding each of the 3 things their partner changed. **Leave changes as they are!**
7. Students turn around again and change 1 more thing.
8. Students turn back and take turns finding the 1 thing their partner has changed. Students may readjust back to how everything was at the start of the game.
Photos:

- Picture 1: scrub ecosystem, gopher tortoise near tree in center right of picture, gopher tortoise burrow in lower left foreground
  o Talking points: arid climate, sand, trees, short and spiky plants, tortoise, and burrow.
- Picture 2: oyster bar, snook hiding behind oysters, spider crab in center of picture, underwater
  o Talking points: photo is underwater, there are 2 animals in this picture, explain that the snook could be hiding from predators, and the spider crab could be out looking for food.
- Picture 3: filter marsh, banks of a freshwater pond
  o Talking points: bee, flowers, grass, water in background, trees in background, possible fishing area, and why bees pollinate and collect nectar.

All photographs were taken by Jessica Blosberg, Environmental Education and Animal Husbandry intern with the Conservancy of Southwest Florida for the purposes of this pre-lesson.

Resources:
Secrets of the Swamp

Can you find the following things hidden in this swamp scene: book, boot, dart, feather, firecracker, flying duck, fork, ice cream cone, kite, paintbrush, pencil, pipe, scissors, sitting duck, sock, umbrella, whale?

Answers, page 161
**Post-Program Activity 1: Glue traps are not the answer!**

**Duration of Activity:** ~1 hour

**Materials:** The internet, PowerPoint, von Arx Hospital blog

**Background:** After understanding the threat glue traps cause, students should research and find humane solutions for rodent control.

**Directions:** Have students research and put together a PowerPoint about alternative and more human methods of rodent control in lieu of glue traps while keeping in mind the following questions:

- What better ways are there to control pests like rodents without unintentionally harming other wildlife?
- What kind of things do you have to keep in mind when attempting humane rodent control?
- How do you think these alternatives will help wildlife?
**Post-Activity 2: Inner Workings of a Wildlife Hospital (45-60 min.)**

**Part 1: Which bird is which?**

**Background:** There are around 3,800 animals admitted to the von Arx Wildlife Hospital each year. The most common type of animal is birds. However, there are over 500 species of birds which can be found here in Florida. Discussion: are there birds that are found here just for a certain period of time? Many birds migrate through Florida. With so many different species, it can be difficult to remember every species. There are many different resources which can help people identify species, like field guides and dichotomous keys. Today, we will be using a dichotomous key to identify 6 different bird species.

**Materials needed:** “Which bird is which?” sheets

**Directions:**
1. Print out enough “Which bird is which?” sheets to split the class into pairs, plus a group of three if necessary.
2. Explain the directions and background.
3. Have the students work to identify each species, making sure they try to go through each step for each bird.
4. Once everyone is finished, go over the correct answers with the class.
5. Discuss why it is important to identify species before treating (many birds eat different things like seeds, fruit, and/or insects).

**Part 2: Design a hospital**

**Background:** Within the hospital, there are many different resources including an intensive care room, a nursery, a quarantine, and specialized rooms for mammals, birds, and reptiles. This is done to ensure the best care, especially since animals are there for extended periods of time. For example, there are heat lamps to keep cold-blooded reptiles warm in the reptile room. As different kinds of animals need different resources, we will be creating different rooms within the hospital.

**Materials needed:** Large pieces of paper, coloring utensils, the photos of different animals

**Directions:**
1. Print out and cut out the different animal cards, enough for every student to have one.
2. The cards are of different mammals, birds, and reptiles. The students must split themselves into three groups based off the different classifications of animals so there will be a group of birds, mammals, and reptiles. If it is a large class, you can have the students divide into the three large groups and then split them into smaller groups.
3. Once the students are split up, discuss which group is which different classification of animal.
4. Have the reptile group discuss what makes a reptile a reptile and identify different kinds of reptiles. Have the bird group discuss what makes a bird a bird and identify different kinds of birds. Have the mammal group discuss what makes a mammal a mammal and identify different kinds of mammals.
5. Have each group discuss what they came up with; covering anything they may have missed.
6. Then, give them large pieces of paper and coloring utensils.
7. Have them draw a room for their type of animal in the hospital. They can get creative! Have them draw shelters, ways to get food, and ways to keep warm, etc.
8. Once the groups are finished, tape all the pieces of paper together to form your class’s animal hospital
Which Bird is Which?

Some new patients have come into the vonArx Wildlife Hospital at the Conservancy of Southwest Florida! They are all birds, however, no one at the hospital knows what kind. Below are pictures of the birds and a dichotomous (dye-cot-o-mus) key, which are commonly used to help identify species. Can you junior veterinarians help out?

For each bird, go through each step, which are based on the physical features of the birds. Each step will tell you which step you need to go to next or which species the bird is.

A. The bird has a short neck. .................................................. Go to number 2
B. The bird has a long neck. .................................................. Go to number 3

2. A. The bird has all grey and/or black feathers. ..................... Go to number 4
B. The bird has some brightly colored feathers. .................... American Redstart

3. A. The bird has webbed feet. ................................................. Go to number 5
B. The bird does not have webbed feet. ............................... Great Blue Heron

4. A. The bird has a hooked beak. ............................................ Loggerhead Shrike
B. The bird does not have a hooked beak. ............................ Eastern Phoebe

5. A. The bird has red feet. ..................................................... Red-breasted Merganser
B. The bird has yellow feet. ................................................... Anhinga

Bird A:___________________       Bird B:_______________________       Bird C:_____________________________
Bird D:_____________________     Bird E:________________________    Bird F:______________________________
Which bird is which? (Answer Key)

Bird A: Loggerhead Shrike
Bird B: Eastern Phoebe
Bird C: American Redstart
Bird D: Anhinga
Bird E: Great Blue Heron
Bird F: Red-Breasted Merganser

Photo Card ID Guide (2 following pages, going through each image from left to right)

American Alligator
Diamondback Terrapin
Osprey
Brown Pelican
Blue Jay
Ring-Billed Gull
Mourning Dove
Raccoon
Florida Panter
Virginia Opossum
Grey Squirrel
Gopher Tortoise
Bobcat
Florida Box Turtle
Black Racer