Next Generation Sunshine State Standards

- SC.1.N.1.2; SC.1.N.1.3; SC.1.L.17.1
- SC.2.N.1.1; SC.2.N.1.5; SC.2.L.17.1; SC.2.L.17.2

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. Use the five senses as tools, make careful observations, describe objects on terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.
2. Keep records as appropriate – such as pictorial and written records – of investigations conducted.
3. Recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
4. Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.
5. Distinguish between empirical observation (what you see, hear, feel, smell, and taste) and ideas or inferences (what you think).
6. Compare and contrast the basic things that all living things, including humans, have for survival.
7. Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

Lessons:
- Pre-Activity 1: Secrets of the Swamp (pp. 2-8)
- Pre-Activity 2: What does this Animal need? (pp. 9-13)
- Post-Activity 1: Design your own Enclosure! (p. 14)
- Post-Activity 2: Create a Toad Abode! (p.15)
Pre-Program Activity 1: Secrets of the Swamp
Duration of Activity: ~1 hour

Materials:
- 1 copy of Secrets of the Swamp for each group of 2-4 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 telling students they will be talking about the 5 senses. Ask students to name the 5 senses humans use.
4. Discuss with students how we learn about the world around us using our senses – sight, hearing, smell, taste, touch. Have them give examples of what can be sensed with each.
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](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 saw (observed) in the video/picture.
8. Students take 20 more seconds to watch the video (or look at the picture) to come up with ideas of why the scene is how it is. 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. 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
- 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
  - Talking points: bee, flowers, grass, water in background, trees in background, possible fishing area, and why bees pollinate and collect nectar.

**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
**Pre-Program Activity 2: What Does This Animal Need?**

*Duration of activity: 30 minutes*

**Materials:**
- Animal pictures
- Animal species
- Food sheet
- Shelter pictures
- Construction paper
- Scissors
- Glue
- Pen/pencil
- Colored pencils or crayons

**Background:** Raccoons, Squirrels, Rat Snakes, Owls and Pelicans all need the same basic things to survive. They need food, water, space, air and shelter.

**Directions:**
1. Instruct the students to cut out the animals, their shelters and list of foods they eat.
2. Fold the construction paper into thirds.
3. Copy the foods and shelters onto the board and work together as a class to write the matching needs underneath each animal. When you’ve finished, point out that while some of the animals share food items or places for shelter, they’re all very different!
4. Then glue the five animal pictures and their names on the outside flaps of their construction paper.
5. Cut slits in the “doors” in between the pictures.
6. Glue the correct food items and shelters on the inside of each type of animal. When the foldable is complete, the animals will all be on the outside, with their foods and shelters on the inside. The foldout will resemble the image below.

![Image of the foldable]

**Source:** Guided Nature Center Experience Pre & Post Program for grades 1-2 Activity 1
https://www.allaboutbirds.org/guide/Brown_Pelican/lifehistory#at_nestin
<table>
<thead>
<tr>
<th>Raccoon</th>
<th>Squirrel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Moccasin</td>
<td>Burrowing Owl</td>
</tr>
<tr>
<td>Pelican</td>
<td></td>
</tr>
</tbody>
</table>
Animal Needs

By: ____________________
### Answer key:

<table>
<thead>
<tr>
<th></th>
<th>Raccoon</th>
<th>Squirrel</th>
<th>Water Moccasin</th>
<th>Burrowing Owl</th>
<th>Brown Pelican</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td>Omnivore: eats a little bit of everything like meat, plants, fruit, nuts &amp; trash (Represented by pictures of trash, a rat, corn &amp; berries)</td>
<td>Nuts &amp; seeds (Represented by a picture of acorns and seeds)</td>
<td>Fish, small mammals, amphibians, lizards, birds &amp; eggs (Represented by pictures of a mouse and fish)</td>
<td>Small mammals, amphibians, lizards, birds &amp; insects (Represented by a picture of a mouse and grasshopper)</td>
<td>Fish (Represented by a picture of a fish)</td>
</tr>
<tr>
<td><strong>Where they live</strong></td>
<td>Tree cavities, man-made structures &amp; burrows (Represented by picture of tree cavity)</td>
<td>Tree cavities (Represented by picture of tree with cavity in it)</td>
<td>In or near water (Represented by a picture of water)</td>
<td>Burrows (Represented by picture of the burrow)</td>
<td>Mangrove islets &amp; on the water (Represented by picture of the mangrove tree)</td>
</tr>
</tbody>
</table>
Post-Program Activity 1: Design Your Own Enclosure!

Duration of Activity: ~1 hour

Materials: Paper, Pencils, colored pencils (crayons or markers work too)

Background: After learning about our wildlife hospital and what animals need to get better, students should be able to create their own animal enclosure to give the animal the perfect place to recover.

Directions: Review as a class what everyone learned about injured wildlife and what the von Arx Wildlife Hospital does to help them. In particular what the animals need (Food, water, warmth.) and what the hospital needs in each enclosure in order to help the animals feel comfortable and recover quickly. Also talk about how some animals have different needs (Birds vs. Mammals vs. Reptiles). Once everyone seems to have a good idea of what different wildlife needs to recover and thrive, they can draw their own animal enclosure for one of the following animals: an Opossum, Gopher Tortoise, American Kestrel, Brown Pelican or Florida Box Turtle. The teacher can even draw their own on the board for the kids to see an example in case they need some inspiration. A sample drawing has been attached.
Post-Program Activity 2: Create a Toad Abode!

Duration of Activity: ~1 hour

Materials: clay gardening pots, non-toxic paint, items found outside (leaves, twigs, etc.), liquid glue, hot glue gun

Background: Creating a backyard that provides animals what they need also provides healthier habitat for animals. This can include planting native plants (originally found in FL) which provide natural shelter and food sources for animals, adding a bird bath that provides water to animals, and even creating a shelter for a toad. Toad abodes provide an opportunity for students to use their creativity and bring home what they have learned about wildlife. For many reasons, humans should never feed wildlife in their yards, but providing a space that provides animals the opportunities to carry out natural behaviors on their own is the best formula to help them. Backyard habitats allow for animals to forage for food, find water, and carry out other natural behaviors such as resting, nesting, hiding from predators, etc.

Directions:
1. Review as a class what they learned about wildlife habitats and how animals use them.
2. Explain some of the background information provided to students. Why is it important to create a yard that meets animal needs? What can we do to create a great backyard habitat? Explain today they will make their own toad abode to place in their own backyards.
3. Take the students outside if possible to gather materials with which to decorate their “toad abodes”. Encourage the campers to decorate their pots with as many natural supplies (leaves, twigs) as possible so that the animals will be more inclined to utilize them.
4. Decorate the abodes! Use glue (hot glue works best) to attach outdoor materials gathered and/or earth toned paint colors to decorate toad abodes.
5. Students can take their creations home and place them in a spot in their yards! Students should turn pots on their side so toads can have a shelter and hiding spot. Encourage them to observe wildlife that visit their yard respectfully from a distance and check their toad abodes for visitors.