

Foot for a King

Story Reference: *Chicken Soup for the Soul: Humane Heroes Volume III*, Story 4, “In Hiss Majesty’s Service”

Lesson Description: At the American Humane Conservation-certified Shedd Aquarium in Chicago, a beloved caiman lizard named “Hiss Majesty” was diagnosed with a cancerous tumor in his foot. Unfortunately, to keep the cancer from spreading, Hiss’s foot had to be amputated just above the ankle. While Hiss adapted well after the surgery, doctors and caregivers collaborated to design a prosthetic foot for Hiss using a 3D printer. In this lesson, students investigate veterinary and animal care professions in zoos and aquariums and how these careers serve animals in innovative ways using science, technology, and design.

ELA Alignment:

- Write narratives to develop real or imagined experiences or events using effective techniques, well-chosen details, and well-structured event sequences.

Lesson Objectives:

- Research professions in zoos and aquariums and the science and technology they use.

Vocabulary:

- Prosthesis
- Anesthesia
- Prototype
- Fabrication

Materials:

- Problem Solution Graphic Organizer
- Career Ideas Graphic Organizer

Resource Links:

- <https://seaworld.org/en/animal-info/animal-infobooks/zoo-careers>

Introduction: Write a paragraph about possible future career choices (8 minutes)

- Tell students that they will be exploring some possible career options related to veterinary and animal care. Distribute the Career Ideas Graphic Organizer for each student and ask them to choose one of the prompts and spend the next five minutes writing a paragraph.
- Post students’ paragraphs on the walls around the room.

Read and analyze: Develop a narrative retelling of the story from the lizard's point of view. (22 minutes)

- Prior to reading "In Hiss Majesty's Service," inform students they will be learning about a caiman lizard and an innovative team of veterinarians and aquarists at Shedd Aquarium in Chicago who cared for him. Tell students to take notes of the sequence of problems encountered by the lizard and the solutions developed by his animal care team.
- Guide students to keep notes on the technology, design, and medical terms they encounter and include these along with the sequence of problems and solutions.
- Organize students in pairs to identify the original problem and note details from the text using scientific terms to describe how each solution led to the next problem, which then led to the next solution, etc. Hand out the Problem Solution Graphic Organizer. Student notes may look something like this:
 - Problem: Hiss Majesty had a sarcoma (cancerous tumor) on his foot.
 - Solution: Save his life by amputating his foot to prevent the spread of cancer.
 - Problem: Hiss Majesty did not have good mobility.
 - Solution: Develop a prosthetic foot using a 3D printer.
 - Problem: The toes were not flexible and were getting caught in the tree roots.
 - Solution: Streamline the design of the foot without toes.
 - Problem: The angle of the prototype was wrong.
 - Solution: Adjust the angle and create a flexible joint.
- Check for understanding by calling on pairs to briefly share answers from their notes (e.g., ask one student pair to provide the first problem, and then ask a second student pair to provide the first solution).
- Next, students remain in their pairs to collaborate and retell the lizard's experience in first person from the point of view of Hiss Majesty. The supporting character could be someone who was directly or indirectly involved with the lizard's healing, for example, an engineer who programmed the 3D printer, a lab technician who analyzed blood and tissue samples to aid in diagnosis, or the veterinarian who managed the treatment. Students may use a variety of formats, such as a comic strip, an interview with Hiss Majesty, or a short skit.

Guided practice: Write an occupational bio-poem (12 minutes)

- Students explore potential occupations and research them online. Some students may have career aspirations in animal care, while others may have other interests. As a general discussion question, ask students to consider the following question:
 - What are some ways any profession might contribute to animal care (e.g., teacher, lawyer, engineer, small business owner)?
- Have students write a free-verse bio-poem about their favorite occupation:
 - Line 1 – Write your first name.
 - Line 2 – Who [Write an occupation that might interest you]

Line 3 – Who can [Write something important you will do for animals in this occupation]

Line 4 – Who graduated from [Write a college you'd like to attend]

Line 5 – Who knows how to [Write the knowledge necessary for this occupation]

Line 6 – Who values [Write value(s) related to the occupation]

Line 7 – Write your last name.

- **Example:**

Sarah

A zoo habitat designer

Who creates interesting features and exhibits for animals

Who graduated from UTEP in biology with a minor in art

Who knows design skills, 3-D printing technology, and wildlife biology

Who values animal kindness and compassion

Jones

- Students may revise the prompts and lines as needed to fit their descriptions and make a rhyming poem in the style of a limerick.

- **Example:**

Sarah

A vet at a zoo

Who knows a thing or two about a lion...or a gnu

Which UTEP taught her over many an hour

So now she knows about the power

Of a few little pills for a sickly kangaroo

Jones

Closing: Share future occupation bio-poems (5 minutes)

- Students read their occupational bio-poems to the class.
- Students provide feedback and ask questions about each other's bio-poems.

Problem Solution

Identify the problem: Hiss Majesty had a sarcoma (cancerous tumor) on his foot.
What was the solution?



Identify the next problem:
What was the solution?



Identify the next problem:
What was the solution?



Identify the next problem:
What was the solution?

Career Ideas

Choose one of the following prompts to write a paragraph about career ideas:

- Think of a job that you would consider ideal. Now think of reasons why this might be a good job for you and write a paragraph to explain.
- You have the chance to be a veterinarian at a zoo. Would you accept the job? Write a paragraph to give reasons why or why not.
- Think of a career that would be an asset to animal wildlife. Write a paragraph explaining why the work is important to you and why it would be beneficial to the wildlife.
- You've always had an interest in aquariums for fish or reptiles. Write about the type of career you might find if you want to work with aquariums.

[illegible]