

Elephants Help Solve a Medical Mystery

Story Reference: *Chicken Soup for the Soul: Humane Heroes Volume II*, Story 3, "The Elephant Mystery"

Lesson Description: Endangered Asian elephants are helping solve a medical mystery that may lead to new hope for children with cancer. This story serves as an example of the life-changing, even life-saving power of our connection with animals. In this lesson, students identify ways that humans learn from animals and how important they are to us. Students collaborate in small groups to propose a new way we can learn from animals to address a present-day problem.

ELA Alignment:

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

Lesson Objectives:

- Identify valuable lessons animals can teach humans.
- Propose a new way to learn from animals to address a present-day problem.

Materials:

- Animal Capabilities matching exercise (one per pair)
- Notebook paper for story notes and written reflection
- Sticky notes

Resource Links:

- "The Elephant Mystery" additional online resources:
<http://www.chickensoup.com/ah/volume-2/story-3>
- American Humane's "Be Kind to Animals" pledge
<http://www.AmericanHumane.org/BeKindToAnimals>
- *Nature Knows Best* TV series that explores innovations based on copying animals
<http://www.xplorationstation.com/show/Xploration-Nature-Knows-Best>

Introduction: Animal discoveries (5 minutes)

- Sometimes scientific and technological advances come about by attempting to mimic an animal's capabilities. Ask students to think about what kinds of things we can learn from animals. Encourage students to consider both animal behavior and animals' natural abilities.

- Ask students to complete the Animal Capabilities matching exercise with a partner. Call on pairs to share their answers and to explain their reason for the match.
 - Sonar was derived from studying echolocation in dolphins and bats.
 - Snake venom can help stroke victims by dissolving blood clots
 - The shape of shark scales is helping to lead research in how new paint can be invented to reduce drag on boats and airplanes
 - Service animals can help people with physical or emotional problems
 - The way lobsters see has led scientists to develop mobile X-ray flashlights to help detect contraband
- After completing the matching exercise, tell students that animals can teach us more about the world than we might expect. Ask students to think of other things we can learn by studying animal behavior and capabilities.
- Tell students that with extra care and by paying very close attention, animals can show us how to solve our toughest problems.

Read and Analyze: Discuss how we learn from animals to solve present-day problems (15 minutes)

- Explain to students that they will read an informative story about how one researcher discovered how elephants can help treat cancer in children. Prior to reading the story, move students into small groups of four to six and hand out notebook paper to each group. Tell the groups to elect one person to begin reading “The Elephant Mystery” aloud while others take notes and then take turns reading. The notes should describe why elephants were selected for this study and how the elephants were treated during the process.
- After students have read the story and taken notes, show the video “Why Do Elephants Rarely Get Cancer?” Tell groups that as they watch the video, they should gather more details about the purpose of the study and prepare to discuss why elephants were so important to this effort. Students should add additional details from the video to their reading notes.
- Explore the value of learning from animals by asking students to answer the following questions:
 - *What does the text tell me about how we can learn from animals?*
 - *What do I already know about learning from animals to solve present-day problems?*
 - *Using the story and the video, what conclusions can I draw about things animals might teach us about present-day problems?*

Guided Practice: Propose a new way to learn from animals (15 minutes)

- In their current group configurations, ask students to identify an animal and develop a research question using the following prompts:
 - *Identify an animal.*
 - *List what you know about this animal. What special qualities and abilities does it have?*

- *Based on these qualities and abilities, what present-day problem could this animal help answer?*
- *Propose a question that connects your animal's special ability with your identified problem. For example: How can the migration patterns of whales help conservationists track and preserve fish populations?*
- *How will you ensure the safety of the animals that will help you answer the question?*
- Encourage students to conduct online research as needed.
- Direct each group to present their proposal to class.

Closing: 3-2-1 (5 minutes)

- Ask students to reflect in writing on the following questions:
 - *List three things I learned while listening to the student group presentations.*
 - *List two reasons why we should treat animals humanely.*
 - *Write one new opinion I have based on reading the story and watching the video about what we can learn from animals.*

Animal Capabilities

Instructions: With a partner, discuss the following animal capabilities and draw a line to match the animal capability with the correct scientific discovery. Provide an explanation for the match.

Animal Capability	Scientific Discovery
echolocation in dolphins and bats	dissolves blood clots in stroke victims
snake venom	mobile X-ray flashlights to help detect contraband
shark scales	help for people with physical or emotional problems
senses of service animals	sonar technology
lobster vision	new paint to reduce drag on boats and airplanes

Instructions: With a partner, discuss the following animal capabilities and draw a line to match the animal capability with the correct scientific discovery. Provide an explanation for the match.

Animal Capability	Scientific Discovery
echolocation in dolphins and bats	dissolves blood clots in stroke victims
snake venom	mobile X-ray flashlights to help detect contraband
shark scales	help for people with physical or emotional problems
senses of service animals	sonar technology
lobster vision	new paint to reduce drag on boats and airplanes

Instructions: With a partner, discuss the following animal capabilities and draw a line to match the animal capability with the correct scientific discovery. Provide an explanation for the match.

Animal Capability	Scientific Discovery
echolocation in dolphins and bats	dissolves blood clots in stroke victims
snake venom	mobile X-ray flashlights to help detect contraband
shark scales	help for people with physical or emotional problems
senses of service animals	sonar technology
lobster vision	new paint to reduce drag on boats and airplanes