

NEWS BREAK

Article: **Pig cells injected into sea lion with epilepsy in novel brain surgery**

Section: **MAIN, A11**

Sunday's News Break selects an article from **Sunday, October 11, 2020** of The Seattle Times print replica for an in-depth reading of the news. Read the selected article and answer the attached study questions.

You are encouraged to modify this lesson to fit the needs of your students. For example, some teachers might use this as a take-home assignment and others might read and answer the questions in a small group or larger, class discussion.

****Please be sure to preview all NIE content before using it in your classroom to ensure it is appropriate for all of your students.***

Standards:

CCSS.ELA-Literacy.RI.4.1

- Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS.ELA-Literacy.RI.4.2

- Determine the main idea of a text and explain how it is supported by key details; summarize the text.

Objectives:

Students will discuss climate change and its impact on our environment and animals. They'll talk about whether they knew, prior to reading this article, that sea lions and sea otters were experiencing sickness, epilepsy and death due to eating toxins in the ocean. They will talk about the new medical strategy of implanting pig brain cells to help strengthen and heal a sea lion's brain? Students will talk about how to prevent toxins in our water and that the ocean needs our attention.

Pre-Reading Discussion:



- What do you think the article will be about, using only this picture? Are there clues?
- What can you infer?

Vocabulary Building:

Read this sentence, what do you think the highlighted words mean using *context clues*? A **context clue** is a word or words that are hints and refers to the sources of information outside of words that readers may use to predict the identities and meanings of unknown words.

His veterinarian and the caretakers at Six Flags Discovery Kingdom began discussing whether it was time for **palliative care**. “We’d tried everything,” said Dr. Claire Simeone, Cronutt’s longtime vet. “We needed more extreme measures.”

***Palliative Care* Guess:**

***Palliative Care* Definition:**

Comprehension Questions:

1. The adolescent patient turned sullen and withdrawn. He hadn’t eaten in 13 days. Treatment with steroids, phenobarbital and Valium failed to curb the symptoms of his epilepsy. Then, on Sept. 18, he had a terrible seizure — violently jerking his flippers and becoming unconscious in the water. Cronutt, a 7-year-old sea lion, had to be rescued so he didn’t _____.
2. Last week, Cronutt underwent groundbreaking brain surgery aimed at reversing the _____.
3. If successful, the treatment could save increasing numbers of wild sea lions and sea otters from succumbing to a new plague of epilepsy. The cause is _____.

4. As oceans warm, algae blooms have become more widespread, creating toxins that are ingested by sardines and anchovies, which in turn are ingested by sea lions, causing what?
5. Sea otters also face risk when they consume _____ - _____ shellfish.
6. The procedure was done Tuesday by three neurosurgeons at UCSF, who ordinarily operate on humans. What happened during the operation and what did they implant in Cronutt's brain?
7. Over a decade, their technique has proved effective in curing epilepsy in _____.
8. Cronutt, the first higher mammal to get the treatment, emerged from the surgery and anesthesia and was breathing on his own, a first step. Whether the surgery successfully reverses his condition won't be known for several _____.
9. By now, thousands of sea lions have been poisoned by the toxin, _____ . It depletes inhibitory cells that ordinarily help offset excitatory cells in the brain's electrical system. When those cells get out of balance, seizures result.

Discussion Questions (small/large groups), Journal Prompts or Essay Questions:

- ***Do you believe in climate change and its effect on our environment and animals? Why or why not?***
- ***Prior to reading this article, did you know that sea lions and sea otters were experiencing sickness, epilepsy and death due to eating toxins?***
- ***What surprised you the most in this article?***
- ***What do you think about using a pig's brain cells to help strengthen and heal a sea lion's brain?***
- ***Do you think that Cronutt's brain surgery will work? Why or why not?***

"Even if it doesn't work, and there's a chance it won't," Cameron said, pausing and starting to cry before gathering herself, "maybe Cronutt's purpose is to educate that there are toxins in our water and our ocean needs our attention."

- ***Do you agree or disagree with Cameron's statement? Why or why not? Provide details to support your opinion.***
- ***How can we prevent toxins in our water supply? How can we stand up, as an entire world and realize our oceans needs our attention, right now?***

News Break is posted to the Web on Monday. Please share this NIE News Break program with other teachers. To sign-up for the print replica for your class, please [register on-line](#) or call 206/652-6290 or toll-free 1-888/775-2655.

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