

NEWS BREAK

Article: **Are these really dire wolves? Depends who you ask**

Section: **MAIN, A5**

Sunday's News Break selects an article from **Sunday, April 13, 2025**, 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 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 explore the ethical question of “de-extincting” animals and whether this is a good thing or whether resources should be allocated to saving the animals that are going extinct. They will also talk about the ethical considerations around this practice.

Pre-Reading Discussion:



- What do you think the article will be about, using this picture?
- Are there any 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.

Beth Shapiro, Colossal's chief science officer, said she understands the **scientific skepticism** that came with the announcement.

Scientific Skepticism Guess:

Scientific Skepticism Definition:

Comprehension Questions:

1. Biotech company Colossal Biosciences announced last week that it had “_____” the dire wolf, using ancient DNA from two dire wolf fossils and performing multiplex gene editing with a genome from the gray wolf.
2. Researchers at the Natural History Museum's La Brea Tar Pits, where a wall is decorated with hundreds of dire wolf skulls, had questions. Namely, what specific one?
3. Turns out, it depends on how you define it. “What they have created is basically a _____ gray wolf that has been given genetic traits so they can express morphological or physical traits

- that more resemble dire wolves,” said Kayce Bell, a terrestrial mammal curator at the Natural History Museum.
4. “The technology and the tools that they are developing with this work are incredible and very powerful, but the terms that are being used to discuss it, I think, are _____.”
 5. Over 18 months, experts extracted and sequenced ancient _____ from two dire wolf fossils — a 13,000-year-old tooth from Sheridan Pit, Ohio, and a 72,000-year-old inner ear bone from American Falls, Idaho. With that ancient DNA, scientists identified gene variants specific to dire wolves and then performed multiplex gene editing with a genome from the gray wolf, dire wolves’ closest living relatives. They used domestic dogs as surrogate mothers to birth the three pups.
 6. Southern California has a jackpot of dire wolf fossils relative to other sites, extracting DNA from the local samples is difficult. Shapiro said she’s been trying and unable to collect DNA from local samples for _____ years.
 7. What makes it challenging to collect samples?
 8. _____ has the highest concentration of dire wolf fossils in the world, with remains from over 4,000 dire wolves found there. They lived in the region for at least 50,000 years, disappearing about 13,000 years ago.
 9. _____, native to Southern California but not limited to the region, were highly adaptable and had a wide range of environmental tolerances before the species went extinct about 10,000 years ago, Lindsey said.
 10. Where do the three pups live?
 11. In 2016, the International Union for Conservation of Nature published a report that focused on de-extinction and defined it as what?
 12. Part of Colossal’s announcement last week included news that it had also successfully created four _____ of the endangered red wolf using a new noninvasive cloning technology.
 13. The company’s other de-extinction hopes include reviving what four animals?
 14. To Lamm and Shapiro, de-extinction and conservation can work in _____.

Class Discussion Questions:

- What surprised (or stood out to) you in the article?
- At first, I thought _____, but now I think _____?

Deeper-Dive comprehension questions for small groups, entire classes or journal entries and/ or essay prompts for extended enrichment assignments:

- The article mentions that Colossal Biosciences "de-extincted" the dire wolf. What does it mean for a species to be extinct? Why might people be excited about bringing back an extinct animal?
- The scientists used gene editing to make the gray wolf look more like a dire wolf. What is gene editing, in simple terms? Do you think it's okay for scientists to change the genes of animals? Why or why not?
- The article quotes a scientist from the Natural History Museum who says the new animals are "basically a genetically engineered gray wolf" that looks like a dire wolf. Why do you think there's a debate about whether these are "real" dire wolves? What makes something "real"?
- Colossal Biosciences named the pups Romulus, Remus, and Khaleesi. Why do you think they chose these names? What does this tell you about how people connect with these animals?
- The article mentions that the pups live on a protected preserve. Why do you think it's important to have places like this for animals? What responsibilities do humans have towards animals, both living and those that might be brought back from extinction?
- Some scientists think it's better to focus on saving animals that are currently endangered instead of trying to bring back extinct ones. What are some arguments for focusing on conservation? What are some arguments for trying to bring back extinct animals?
- The article touches on the idea of "effective science communication." Why is it important for scientists to communicate clearly with the public? How could Colossal Biosciences have communicated their work differently?
- The CEO of Colossal Biosciences hopes this project will inspire more people to get interested in science. Why do you think exciting projects like this could encourage young people to pursue science careers?
- The article mentions the movie "Jurassic Park." Why do you think people might compare bringing back extinct animals to the events in that movie? What are some potential positive and negative consequences of bringing back extinct animals?

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