

## 4<sup>th</sup> Grade Opinion Writing Prompt

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### PROMPT

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How did the dinosaurs become extinct? After reading "Rock-Solid Theories," "Death from Volcanoes?," and "Possible Theories," use 1-3 paragraphs to state your opinion on how the dinosaurs became extinct, providing reasons to explain your thinking. Be sure to support your opinion with evidence from the texts.

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### STANDARDS CONNECTION

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#### Science Standard 4

Students will understand how fossils are formed, where they may be found in Utah, and how they can be used to make inferences.

*Objective 2:* Explain how fossils can be used to make inferences about past life, climate, geology, and environments.

- c) Research information on two scientific explanations for extinction of dinosaurs or other prehistoric organisms.

#### Writing

**W.4.1** Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

W.4.1.A Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.

W.4.1. B Provide reasons that are supported by facts and details.

W.4.1.C Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*).

W.4.1.D Provide a concluding statement or section related to the opinion presented.

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### LEARNING EXPERIENCE

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#### Materials:

Dinosaur Extinction Theories Text Set

Typed up text from book for students to refer to for evidence

#### Instructional Sequence:

1. Teacher hands out the typed up prompt and text.
2. The teacher introduces writing prompt and explains that students will be listening/reading to a text, and using that text to answer the prompt.
3. The teacher reads aloud "Rock-Solid Theory," "Death from Volcanoes," and "Possible Theories" to the students. As the teacher reads, students may be underlining or highlighting information that they may find useful for responding to the prompt.
4. Upon finishing the read aloud, students will be provided with paper to respond to the prompt.

How did the dinosaurs become extinct? After reading "Rock-Solid Theories," "Death from Volcanoes?," and "Possible Theories," use 1-3 paragraphs to state your opinion on how the dinosaurs became extinct, providing reasons to explain your thinking. Be sure to support your opinion with evidence from the texts.

### **Rock-Solid Theory: Experts Say They Know What Killed the Dinosaurs**

Source: Scholastic News (Lexile: 750L; 188 words)

Hundreds of dinosaur species once roamed the Earth. But about 65 million years ago, that changed. The giant reptiles suddenly disappeared.

For years, experts have debated what happened to dinosaurs. Now, a team of researchers say they are certain that one particular theory is true. They have concluded that a huge asteroid led to the dinos' doom.

To settle the great dino debate, a group of international experts reviewed 20 years of research. They say the evidence points to only one believable explanation. A massive asteroid slammed into Mexico's Yucatan Peninsula and did the dinosaurs in.

Experts say that the 9-mile-wide asteroid traveled 20 times faster than a speeding bullet. The impact caused ash and other particles to cloud the air. This blocked sunlight. Temperatures dropped. Over time, much of the life on Earth died out.

The asteroid theory of extinction was first proposed years ago. In 1991, researchers discovered a large crater in Mexico. Many considered it proof of the asteroid theory. Another explanation for dinosaur extinction is volcanic activity in India. The group of experts who say an asteroid is to blame ruled out that theory.

### **Death from Volcanoes?**

Source: <http://www.factmonster.com/dk/science/dinosaurs/the-end-of-the-dinosaurs.html> (Lexile: 730L; 60 words)

Sixty-five million years ago there were many volcanic eruptions in what is now central India. They blasted huge amounts of dust into Earth's atmosphere. High winds blew them around the planet. The dust blotted out sunlight, sending the world into many years of cold and dark. With no sunlight, plants could not grow. With no food, animals starved and died.

### **Possible Theories**

Adapted from *Where Did All the Dinosaurs Go?* by Russell Roberts and  
*What Happened to the Dinosaurs?* by Franklyn M. Branley

What killed the dinosaurs? Many scientists blame a climate change. They think the climate became cooler. Dinosaurs could not adjust to cooler weather, and they died.

Scientists feel climate change may also explain why so many other species died, both land and sea creatures. But what kind of natural disaster could have caused the climate to change?

Some scientists think that something on the Earth happened to change the climate. Maybe volcanoes erupted. Dust and dirt could have been thrown into the air. The dust and dirt made giant dark clouds that blocked the sun. The Earth got cooler.

Clouds of dust blocking sunlight is not unusual. In 1815 a volcano named Tambora erupted. It put so much dust and dirt into the air that the weather changed. It rained a lot in some places. In other places, it did not rain at all. The summer was cold. In the United States, 1816 was called the "year without a summer."

Other scientists have a different idea. They believe that a giant asteroid struck the Earth. That would have produced a lot of heat. Wildfires would have swept through forests and swamps. Only small animals that could dig into the ground would have escaped.

After the fire had burned out, some people say the air was heavy with soot, ash, and dust. There was so much, the sun could not shine through. Earth got colder and colder. Many plants that had survived the fire could not grow.

Dinosaurs that ate plants could not find enough to eat. So they starved. Meat-eating dinosaurs who ate the plant eaters would have starved, too. The dust cloud may have hung over Earth for many months or even a year. Gradually it settled, making the layers of iridium and soot that scientists have discovered near the fossils of dinosaurs.

Scientists have found evidence for both the volcano and asteroid theory. Which one do you think is true?