

Frozen Squirrel Poop Opens an Ice Age Window

Ancient squirrel droppings from Canada are helping scientists rebuild a lost world of plants, insects, and animals.



An icy cutaway of an ancient squirrel burrow shows preserved pellets, seeds, insects, and a small bone fragment.

Scientists have learned about Ice Age animals from something small and silly: **frozen squirrel** poop. According to Science News Explores, researchers studied **ancient** droppings from ground squirrels in Canada's Yukon. The droppings were found in frozen ground where miners had exposed old squirrel **burrows**. Some samples were thousands of years old. One was nearly 700,000 years old.

The frozen ground is called permafrost, which means soil that stays frozen for a long time. It can keep old plants, bones, and animal homes from rotting away. These squirrel homes were like tiny time capsules. They had **tunnels**, food storage spots, and latrine areas, or bathroom spots. The poop did not smell much while frozen. It smelled more when it thawed in the lab.

Inside the poop, scientists found DNA. DNA is the instruction material inside living things. It can help show what an animal was, and what it ate. The team studied 13 pieces of prehistoric poop, called coprolites. They expected mostly squirrel DNA. Instead, they found clues from many plants and animals.

The menu included grasses, willows, beetles, grasshoppers, bison, horses, wolves, and mammoths. That does not mean squirrels hunted huge animals. Scientists think the squirrels may have chewed old bones for **calcium**. Calcium

is a **mineral** that helps build strong bones. Some rodents do the same thing today.

The findings also changed an old idea. Scientists had thought the ancient Yukon squirrels were the same kind as squirrels there now. The DNA suggested something different. The oldest sample may even come from a squirrel line not known today. Its closest known relatives may be squirrels now found in China.

This matters because big fossils tell only part of a place's story. A mammoth bone can show that a mammoth was there. Squirrel poop can show a busy neighborhood. It can point to plants, insects, and other animals sharing the same land. That is an ecosystem, or a community of living things and their surroundings.

The discovery shows why scientists study ordinary things, not just giant bones or shiny rocks. A squirrel's bathroom spot can hold a record of a lost world. It is messy evidence, but it helps scientists imagine a real place. There were tunnels underfoot, plants nearby, insects moving, and hungry squirrels storing food for later.

Written from reporting by Science News Explores.

THINK IT THROUGH

1. If you were choosing what to study from an ancient site, would you spend time on tiny messy samples or focus on big fossils? Defend your choice.

A strong answer: A strong answer weighs excitement and ease against the richer, smaller clues that can reveal daily life in an ecosystem.

2. How can one small clue change the way scientists understand a whole place? Explain with this story or another example.

A strong answer: A strong answer explains how a small piece of evidence can connect to larger patterns, while noting that one clue is not everything.

3. What would scientists need to know before saying the oldest sample came from a new kind of squirrel?

A strong answer: A strong answer considers comparison, more samples, careful testing, and the limits of making claims from very old evidence.

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ANCIENT

BURROWS

CALCIUM

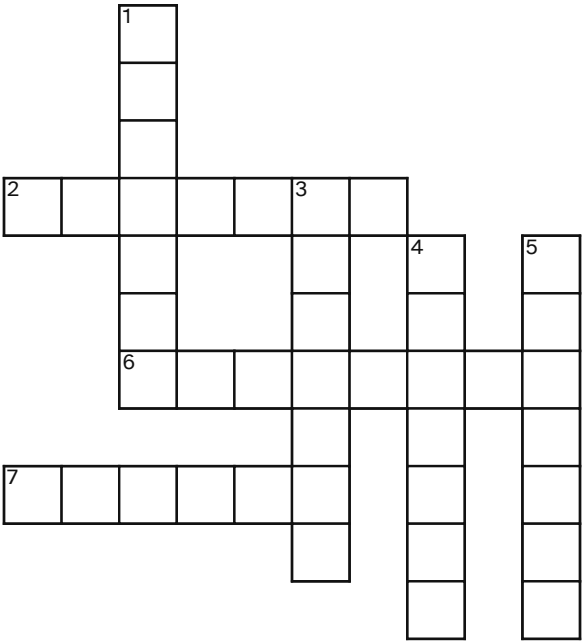
FROZEN

MINERAL

SQUIRREL

TUNNELS

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ACROSS

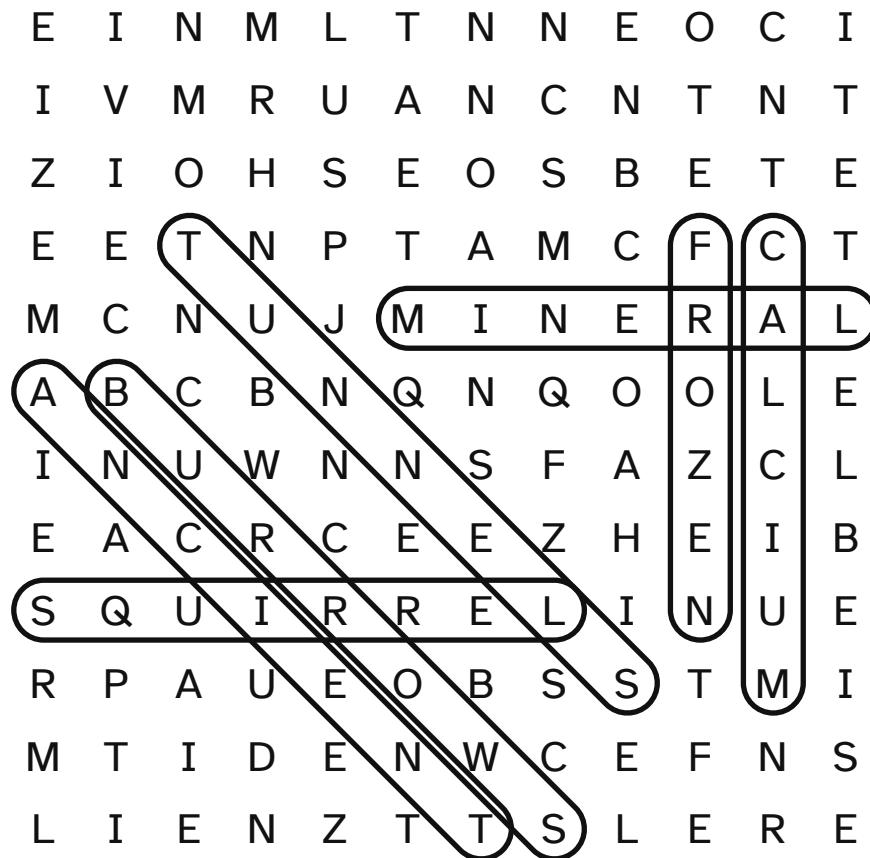
- 2 Natural substance needed in tiny amounts for health
- 6 Small bushy-tailed animal that hides nuts
- 7 Turned hard and icy by very cold temperatures

DOWN

- 1 Long underground passages
- 3 Very old; from long ago
- 4 Underground homes or holes made by animals
- 5 Mineral that helps build strong bones

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— answer key



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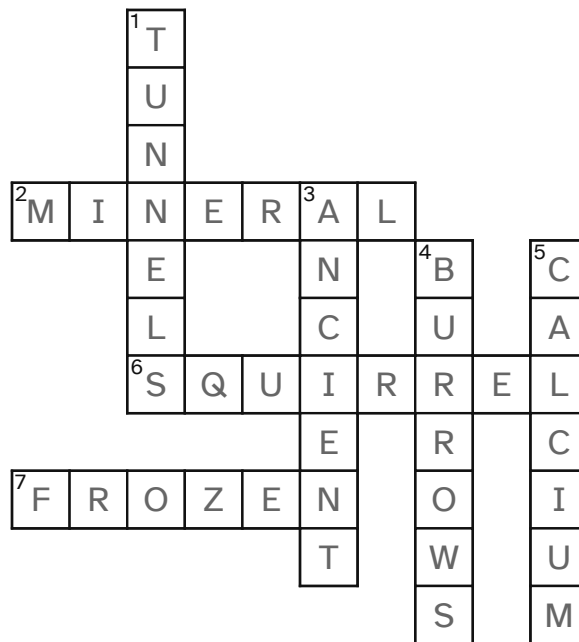
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Where this came from

This article was written for 3andB from the reporting below. It is not a reprint — the wording is ours and the facts are theirs.

Science News Explores

“Frozen poop reveals Ice Age squirrels’ ecosystem”

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Read by us on Wednesday, August 26, 2026

<https://www.snexplores.org/article/ice-age-squirrel-poop-ecosystem>

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The article with a note on each question, a word search, a crossword, and the answer key to both.

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