

Whose Poop?

Guided Inquiry

The nine fecal samples below were collected from a wooded area in North America. Your team will be assigned one sample to determine what animal deposited it.

Draw a square around the sample your team is responsible for identifying.



1.



2.



3.



4.



5.



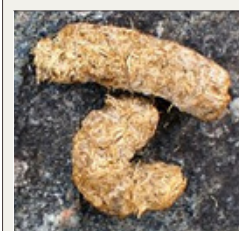
6.



7.



8.



9.

After observing animals in the area, what animal do you think deposited the fecal sample assigned to your group?

Follow the instructions provided by your teacher before answering the questions below.

In 2-3 sentences, describe the evidence you used to make this prediction.

What information could make it easier to identify the animal that deposited the fecal sample? Explain your thinking in 1-2 sentences.

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After receiving a card with an amplified DNA fragment obtained from your sample, compare it to the DNA of animals in the area. Based on the genetic information available to you, what animal most likely deposited the fecal sample? In 1-2 sentences, explain why you reached this conclusion.

In 2-3 sentences, describe how you think eDNA could be used to assess an area's biodiversity.

In 2-3 sentences, describe any problems that could arise by using eDNA as a way to assess an area's biodiversity.

Extension Activity

In this simulated activity, you experienced a simplified version of eDNA collection, amplification, and identification. To see a detailed description of the process and how it is being used to understand how organisms were distributed around the Earth in the past, watch *NOVA: Hunt for the Oldest DNA*, by following the link below:

<https://www.pbs.org/wgbh/nova/video/hunt-for-the-oldest-dna/>

