

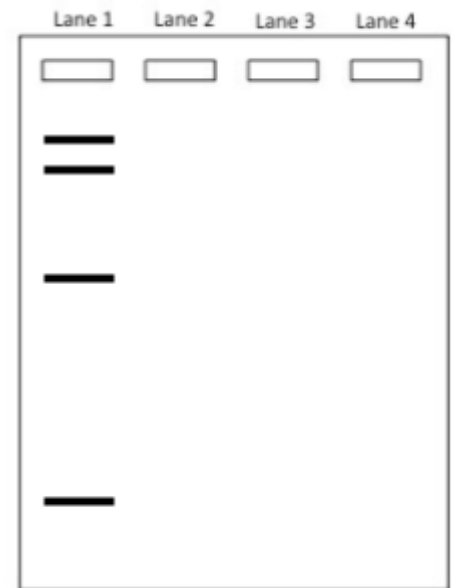
Name _____

CSI Wildlife Activity

Using your notes or research, answer the following questions.

1. What are short tandem repeats (STR)?
2. What are they used for?
3. What is the purpose of gel electrophoresis/DNA fingerprinting?

4. In the diagram to the right, circle the lightest fragment.
5. Why is the one you circled the lightest?



To access the Click and Learn “CSI Wildlife,” go to
<https://media.hhmi.org/biointeractive/click/elephants/dna>

Watch the opening video and answer the following questions.

6. What is a keystone species?
7. Dr. Wasser states that approximately 50,000 African elephants are killed each year. According to the video, it is estimated that there are around 470,000 African elephants. If these numbers are correct, approximately what percentage of African elephants are killed each year? Show your work.
8. In one or two sentences, summarize Dr. Wasser’s research and how it is being used to conserve elephants.

Click on Case One in the black bar at the top. Watch the crime scene video on the right and read the text below the video.

9. Summarize the goal of case one.

Click the arrow on the far right to advance. Click on the gray application box. Read the text in the white box.

10. What does it mean if an elephant is homozygous for a particular marker?

11. What do homozygous alleles look like on a gel?

12. What does it mean if an elephant is heterozygous for a particular marker?

13. What do heterozygous alleles look like on a gel?

14. On the left side of the simulation, click on each marker label to have the fragments appear on the gel. In the data table below, record if each elephant is homozygous or heterozygous for each marker.

	Marker A	Marker B	Marker C	Marker D
Left Elephant (gray)				
Right Elephant (right)				

Click on Finding a Match in the brown toolbar at the top. Read the text and then click on each marker to add all the markers to the gel. After looking at the gel with all the markers, select the DNA profile that matches the unknown elephant.

15. Was there a match? Why?

Click Next Page. Read the text and then click on each marker to add all the markers to the gel. After looking at the gel with all the markers, select the DNA profile that matches the unknown elephant.

16. Was there a match? Why?

Click on Ivory Trade in the black bar at the top of the simulation. Watch the video and read the text.

17. Name two reasons that elephants are threatened.

18. Most of the ivory is bought by Asian countries, but the United States is the second largest market. Name two actions that you could take to help reduce elephant poaching.