U-11

Forensic Science

DNA Questions

Name:_____#____

Date: Block:

1. What does DNA stand for?

2. What does VNTR stand for?

3. What is an exon?

4. What is an intron?

5. What is "coding DNA"?

6. What is "junk DNA"?

7. What is a Locus?

8. Where do a person's VNTRs come from?

9. List a few characteristics, which are governed by DNA.

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10. From what parts of the human body is DNA acquired?

11. Are humans the only source of DNA? If not then were else can DNA be found?

12. Does every cell in the body contain DNA? Explain.

13. DNA strands are read in a particular direction. What are these directions and what do they call them?

14. Each strand contains a sequence of bases (also called nucleotides). What are the four bases?

15. Each base will only bond with one other base. Which bases will bond?

16. Suppose one strand of DNA looks like this: G-A-T-A-G-G-T-C-T-A-G-A-A-C-T

What would the strand bound to it look like?

17. List three practical applications of DNA fingerprinting.

18. What are some of the current problems with DNA fingerprinting

19. The chemical structure of everyone's DNA is the same, so how can each person have their own distinct DNA fingerprint?

20. Is it possible to look at DNA samples and predict if two people or a group of people are related, or non-related. If so, then how?

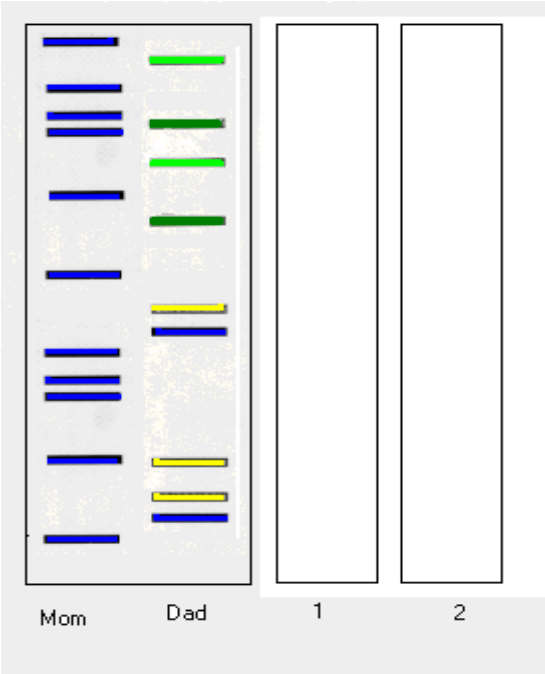
21. What is the relationship between chromosomes and DNA?

22. What are the two main types of DNA testing and what do they stand for?

23. Compare the two main types of DNA testing in terms of reliability and quantity of sample needed for performance.

24. Are there any VNTR's trends in the general population? If so, explain.

25. Suppose the following are DNA samples of a couple who plan on having children. Give a possible DNA coding for two of their children.



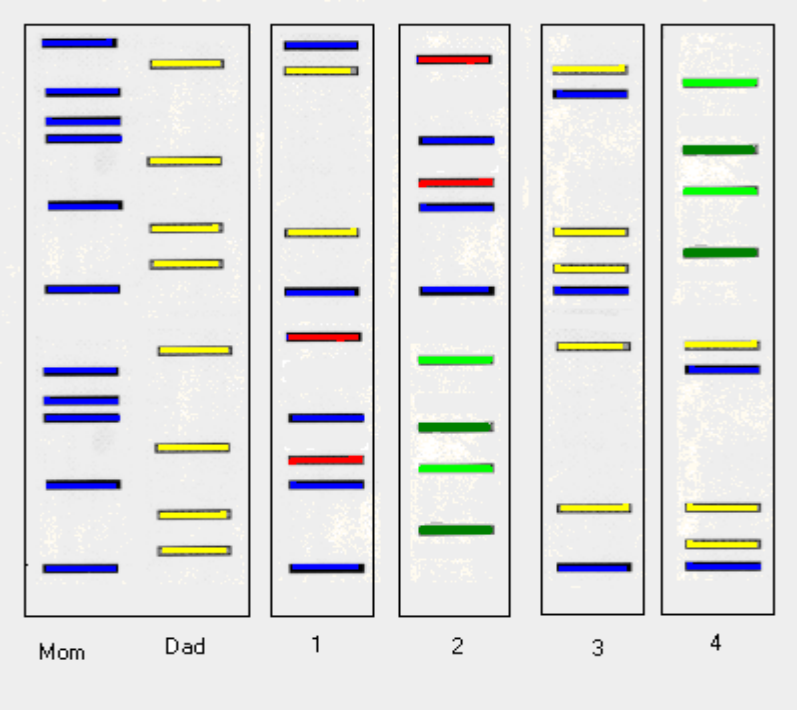
25. On the following page are six different DNA tests. Suppose these DNA tests are of a couple who are married and there possible children.

Which of the kids belong to both parents?

Which of the kids belong to only the mother?

Which of the kids belong to only the father?

Which of the kids belong to neither parent?



26. The following are DNA test performed in order to solve a crime. Sample A is a DNA test is from a group of hairs found at a crime scene. The other samples are DNA test from suspects. What can you conclude?