

**C - Practice Forensics Test - Nov 7 Country-wide SO Practice - 11-07-2020**

You are here to solve a crime and answer questions about evidence found at the scene of this crime and collected off suspects. You will use your knowledge of solids, powders, and many other physical forms of evidence, as well as your reading comprehension skills and creative thinking to complete this test. Read each question carefully.

The following was found at the crime scene: 4 powders, 2 fingerprints, 3 hairs, 2 fibers, 3 plastics and a blood sample.

**1. (1.00 pts)** Powder 1 is a white powdery substance that fizzes in HCl, has a pH of 8, and produces a yellow flame when burned, what is it?

- A) Calcium Carbonate
- B) Sodium Carbonate
- C) Sodium Bicarbonate
- D) None of the above

**2. (1.00 pts)** Powder 2 has cylindrical crystals, is soluble in water, has a pH of 6, has no other reaction to the other solvents, and boils off when put in a flame, what is it?

- A) Lithium Chloride
- B) Calcium Nitrate
- C) Magnesium Sulfate
- D) Ammonium Chloride

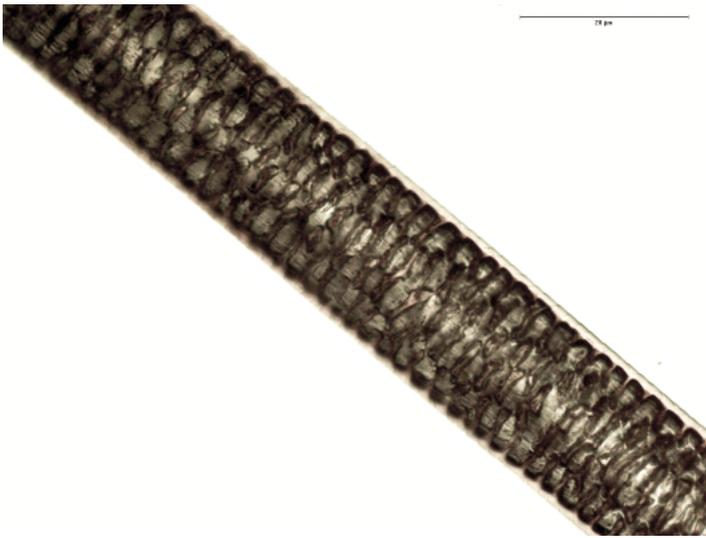
**3. (1.00 pts)** Powder 3 is a lumpy white powder that is insoluble in water, fizzes in HCl, and glows but does not burn when burned, what is it?

- A) Calcium Carbonate
- B) Sodium Bicarbonate
- C) Sodium Carbonate
- D) Calcium Sulfate

**4. (1.00 pts)** Powder 4 is a fine white powder that is soluble in water, has a pH of 8, and has no reaction to the other solvents, what is it?

- A) Sodium Bicarbonate
- B) Sodium Carbonate
- C) Sodium Acetate
- D) Cornstarch

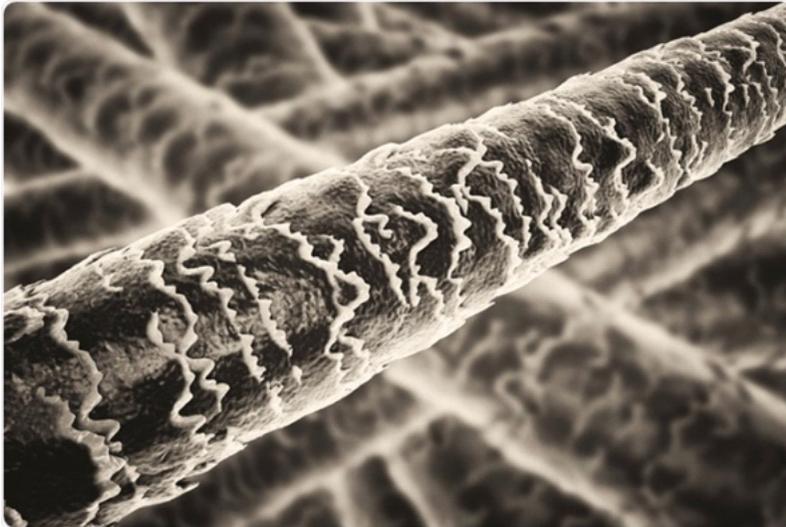
**5. (1.00 pts)**



Identify Hair 1 pictured above.

- A) Horse
- B) Human
- C) Squirrel
- D) Bat

6. (1.00 pts)



Identify Hair 2 pictured above.

- A) Human
- B) Cow
- C) Horse
- D) Bat

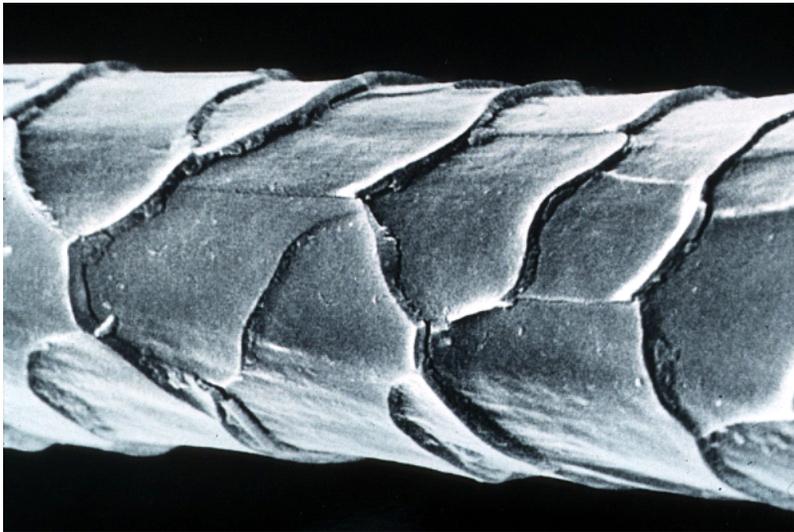
7. (1.00 pts)



Identify Hair 3 pictured above

- A) Cow
- B) Horse
- C) Bat
- D) Squirrel

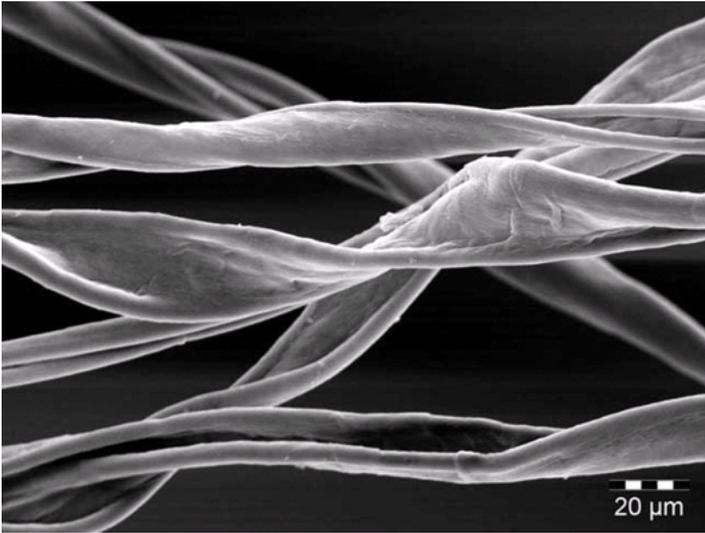
8. (1.00 pts)



Identify Fiber 1 pictured above.

- A) Linen
- B) Wool
- C) Silk
- D) Cotton

9. (1.00 pts)



Identify Fiber 2 pictured above.

- A) Cotton
- B) Wool
- C) Silk
- D) Nylon

10. (1.00 pts)



The fingerprint above was found at the crime scene. What kind of fingerprint is it?

- A) Central Pocket Loop Whorl
- B) Double Loop Whorl
- C) Accidental Whorl
- D) Tented Arch

11. (1.00 pts)



The fingerprint above was also found at the crime scene. What kind of fingerprint is it?

- A) Plain Whorl
- B) Central Pocket Loop Whorl
- C) Accidental Whorl
- D) None of the above

12. (1.00 pts) Plastic 1 produces an orange flame, self extinguishes, creates black smoke with soot and has a faint sweet aromatic odor, what is it?

PC

13. (1.00 pts) Plastic 2 produces a yellow flame and burns quickly, what is it?

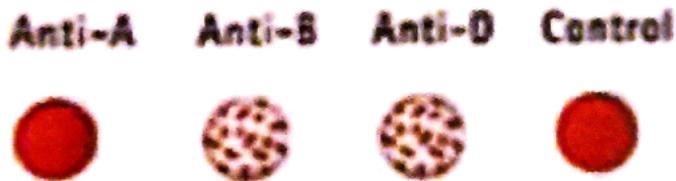
PS

14. (1.00 pts) Plastic 3 produces a yellow flame, burns slowly, has little to no smoke, produces black soot, and melts and bubbles when burned, what is it?

PETE

15. (1.00 pts)

## Test Results



The test results of the blood sample found that the crime scene are pictured above. Identify the blood type.

- A) A+
- B) A-
- C) AB+
- D) B+
- E) O-

### Trivia

16. (1.00 pts) Which of the following is not a thermoplastic?

- A) PETE

- B) PVC
- C) PP
- D) PC

17. (1.00 pts) Which of the following is polymerized through condensation?

- A) PETE
- B) PVC
- C) PP
- D) PS

18. (1.00 pts) What is a thermoset plastic?

- A) A plastic that softens when heated
- B) A plastic that hardens when heated
- C) A plastic that hardens after cooling
- D) None of the above

19. (1.00 pts) What is the most commonly recycled plastic?

HDPE

20. (1.00 pts) What plastic is known as the "poison plastic"?

PETE

21. (1.00 pts) Which of the following is not a type of medulla?

- A) Imbricate
- B) Cuticle
- C) Spinous
- D) None of the above

22. (1.00 pts) What is the medullary index?

- A) Medulla diameter divided by hair diameter
- B) Hair diameter divided by medulla diameter
- C) None of the above

23. (1.00 pts) The medullary index of an animal is greater than or equal to 0.5.

- True
- False

24. (1.00 pts) What does the root of cow hair look like?

- A) Nonexistent
- B) Adjacent to root tapers
- C) Elongated
- D) None of the above

25. (1.00 pts) Which of the following isn't a basic type of animal hairs?

- A) Guard
- B) Fur
- C) Tactile
- D) None of the above

26. (1.00 pts) At what stage are moths attracted to a dead body?

- A) Right after death
- B) During the early stages of decomposition
- C) At the final stage of decomposition
- D) None of the above

27. (1.00 pts) What is the last bug to come to a dead body?

wasps

28. (1.00 pts) When does pallor mortis occur?

- A) Within 15-20 minutes
- B) Within an hour
- C) Within 3-4 hours
- D) Within 24 hours

29. (1.00 pts) What is the correct order of the stages of death?

- A) Pallor mortis, livor mortis, algor mortis, rigor mortis
- B) Livor mortis, algor mortis, pallor mortis, rigor mortis
- C) Algor mortis, pallor mortis, rigor mortis, livor mortis
- D) None of the above

30. (1.00 pts) What does the Kastle-Meyer test use to detect blood?

- A) Hydrogen peroxide

- B) Phenolphthalein
- C) Fluorescein
- D) None of the above

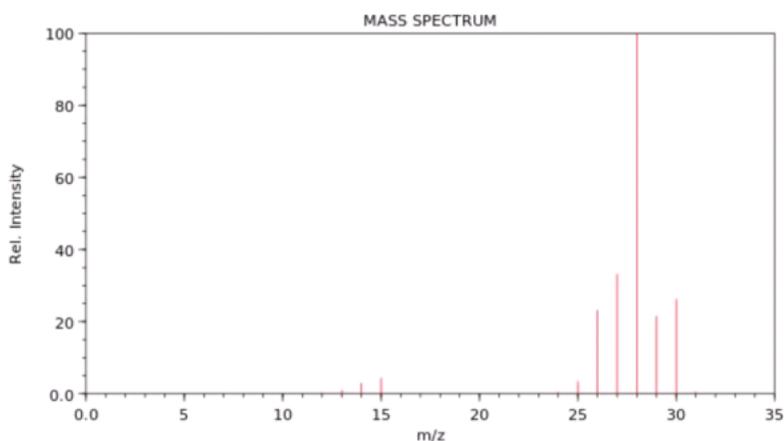
31. (1.00 pts) What is the rhesus factor?

- A) An antibody on red blood cells
- B) An antigen on red blood cells
- C) None of the above

32. (1.00 pts) Which of the following is not used to detect blood?

- A) Luminol
- B) Fluorescein
- C) Phenolphthalein
- D) None of the above

33. (1.00 pts)



Identify the compound from the mass spectrum.

Ethane

34. (10.00 pts) Write Up

Expected Answer:

If you have remaining time, double check your answers and ensure you've answered every question to the best of your ability.

