

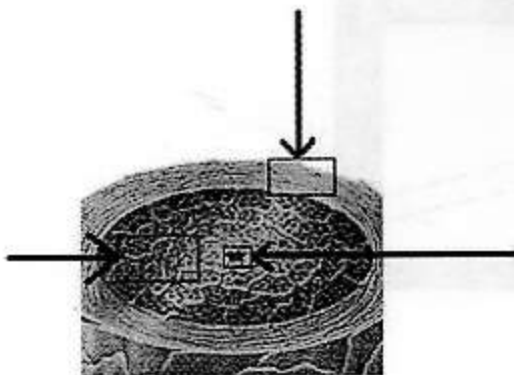
School Name: _____

School Number: _____

Supplemental Questions (20pts)

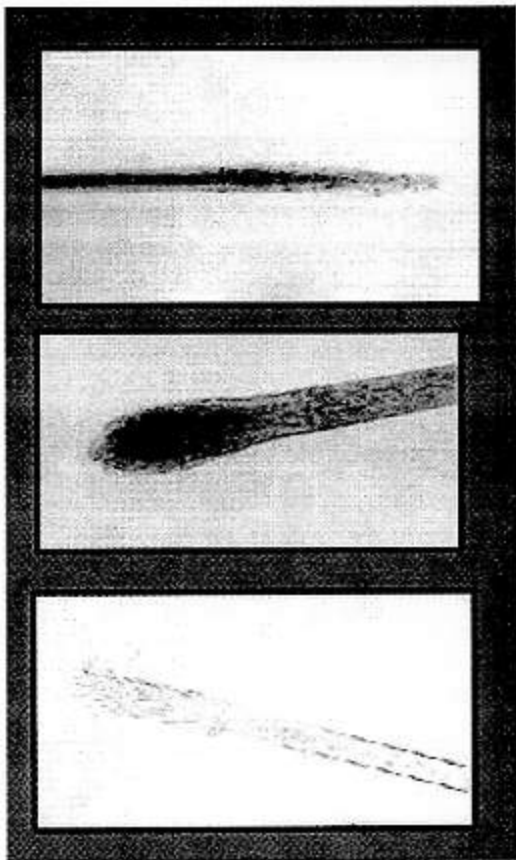
- 1.) In terms of crime scene investigations, what is luminol useful for? Explain the chemistry of how luminol works.

- 2.) Label the correct parts of a hair shaft below using **three** of the following terms:
a.) Medulla b.) Cuticle c.) Follicle d.) Cortex e.) Dermal papilla



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3.) The roots of a hair sample are very distinguishing between human, dog, and cat. Label each of the following pictures of hair roots as either human, dog, or cat. Each choice will be used once.



4.) What is the most common blood type? _____

What is the least common blood type? _____

5.) Which of the following is the “resting phase” for hair growth, during which if a hair is pulled out, it will reveal a solid, dry, white material at the root?

- a.) Catagen b.) Anagen c.) Telogen

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- 6.) Write one or two sentences that describes how a gas chromatography device works. Be sure to include the following terms in your description.

elution time mobile phase stationary phase inert gas adsorbant mixture

- 7.) Complete the following chart by entering "yes" or "no" in each box.

ABO Blood Type	Antigen A	Antigen B	Antibody Anti-A	Antibody Anti-B
A				
B				
O				
AB				

- 8.) Answer each of the following as true or false.

a.) There is no established link between the fingerprint patterns of a child and that of their parents. _____

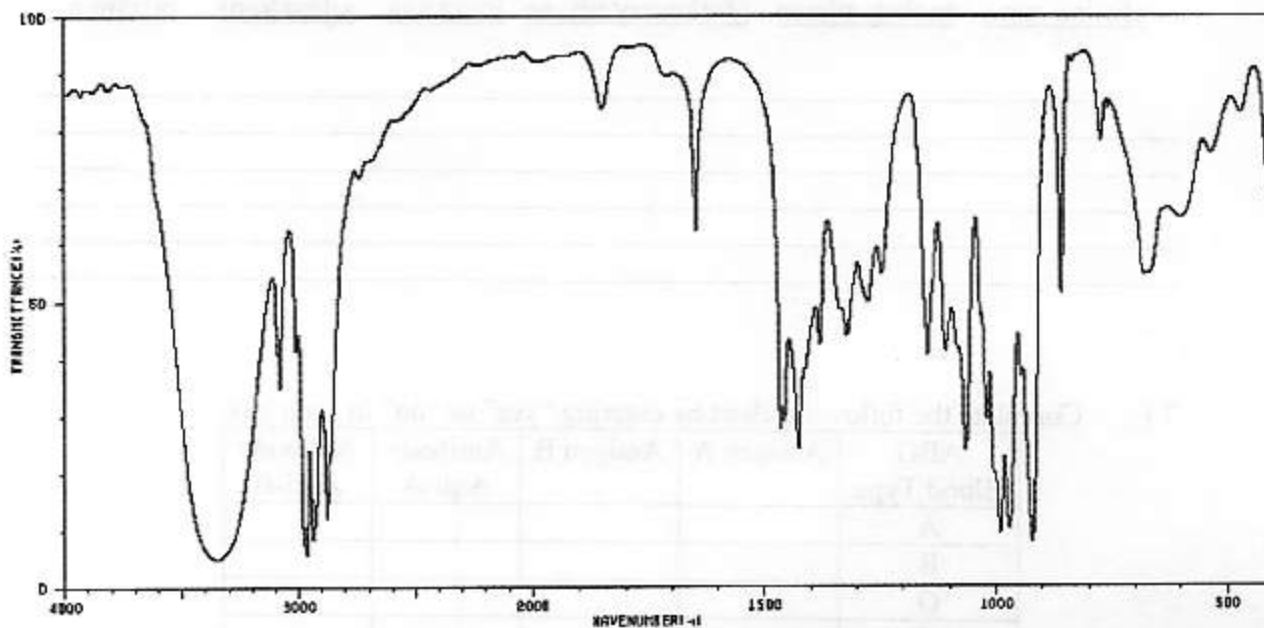
b.) There is no known method of determining the age of a latent print. _____

c.) A ridge that is thinner and shallower than those surrounding it may be termed "incipient". _____

d.) The fingerprinting acronym ACE-V stands for "analyze, collect, evaluate, and verify." _____

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9.)



Which of the following molecules could be represented by the IR spectra above?

In the IR spectra, circle the three most important signals and label what type of chemical bond they come from.

10.)



Identify the type of fingerprint seen above. _____

If possible, circle and identify each of the following characteristics that can be found on the above print. (Some may not be included on this print.)

- Ridge ending
- Bifurcation
- Island
- Ridge dot
- Core
- Delta

What is the ridge count of the above print? _____

11.) Draw the monomer(s) of PETE below.

Is PETE an addition or condensation polymer? _____

True or false: The difference between HDPE and LDPE is in the amount of crosslinking between the polymer chains. _____

12.) From the following list of polymers, circle those which are thermoplastics.

PETE	PVC
PS	PP
PC	LDPE
PMMA	HDPE