## SI Forensics - Full Discipline Demo

## Toxicology

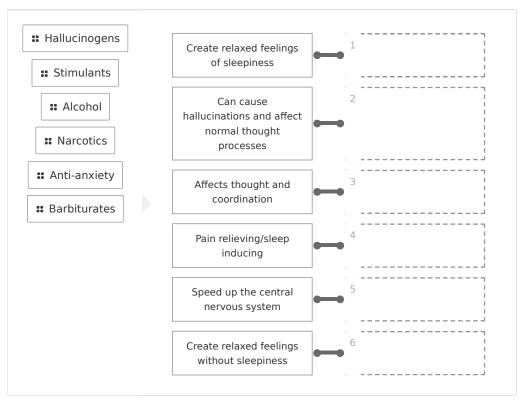
### Final Report - Answer Guide

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### Test Your Knowledge

#### Match each drug class with the best description.

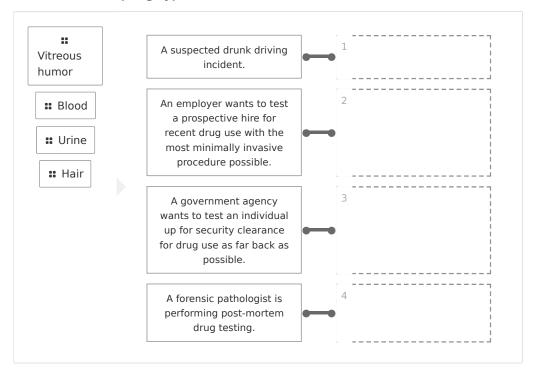


#### Correct answers:

- 1 Barbiturates 2 Hallucinogens 3 Alcohol 4 Narcotics
- 5 Stimulants 6 Anti-anxiety



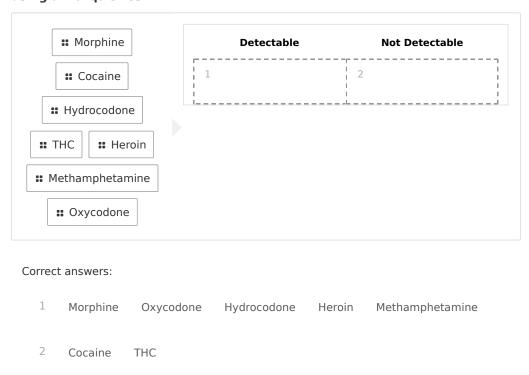
### Match each sampling type with the best scenario for its use.



#### Correct answers:

 $1 \quad \text{Blood} \quad 2 \quad \text{Urine} \quad 3 \quad \text{Hair} \quad 4 \quad \text{Vitreous humor}$ 

# Classify each drug listed based on whether or not it would be detected using a Marquis test.



## Exploration

	are chemical substances that biologically affec	t organisms.
	Poisons	
	Toxins	
	Drugs	
	ch sample type would provide the most accurate re ve drugs present in a person's system at the time o	=
activ I		=
activ	ve drugs present in a person's system at the time o	=
activ	ve drugs present in a person's system at the time o	=



Presumptive tests can be used to definitively identify a specific drug and the quantity present in a sample.

O True		
<ul><li>False</li></ul>		

### Exercise 1

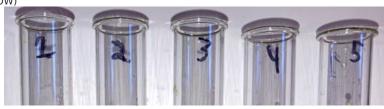
What are the most likely circumstances under which the urine samples you tested would be submitted for analysis?				

In a forensics urinalysis laboratory,	what	would	be th	ne next	steps	following	the	testing
performed in this exercise?								

# Data Table 1: Marquis Test Results (SAMPLE ANSWER BELOW)

(SAMI LE ANSWER BELOW)		
Urine Sample	Final Color	Result
Sample 1	Turned red	Positive for morphine
Sample 2	None	Negative for opiates
Sample 3	Turned light green	Positive for hydrocodone
Sample 4	None	Negative for opiates
Sample 5	None	Negative for opiates

Photo 1: Marquis Test Results (SAMPLE ANSWER BELOW)





# Data Table 2: THC Immunoassay Results (SAMPLE ANSWER BELOW)

(SAMILL ANSWER BELOW)		
Urine Sample	Final Color	Result
Sample 1	Turned red	Negative for THC
Sample 2	Turned red	Negative for THC
Sample 3	Turned dark blue/green	Positive for THC
Sample 4	Turned red	Negative for THC
Sample 5	Turned dark blue/green	Positive for THC



Photo 2: THC Immunoassay Results (SAMPLE ANSWER BELOW)



Data Table 3: Cocaine Immunoassay Results (SAMPLE ANSWER BELOW)

Urine Sample	Final Color	Result
Sample 1	Turned green	Negative for cocaine
Sample 2	Turned green	Negative for cocaine
Sample 3	Turned green	Negative for cocaine
Sample 4	Turned yellow-orange	Positive for cocaine
Sample 5	Turned green	Negative for cocaine

Photo 3: Cocaine Immunoassay Results (SAMPLE ANSWER BELOW)



## **Competency Review**

cannot result in death.	
O True	
○ False	<b>~</b>
Cocaine is classified as a	
○ Narcotic	
Stimulant	<b>~</b>
<ul> <li>Depressant</li> </ul>	
Hallucinogen	
Which sample type will provide the longest historical record of drug use	?
Blood	
O Urine	
O Hair	<b>~</b>
All of the above	
In addition to blood, urine, and hair, tissue samples for postmortem dru- testing are also collected from the liver, brain, kidney, spinal fluid, and to vitreous humor.	
○ True	<b>~</b>
• False	

Drugs are chemical substances that biologically affect organisms but



An immunoassay test is a presumptive test.	
O True	<b>~</b>
□ False	
Which of the following would not show up in a Marquis test?	
○ Aspirin	
<ul><li>Alcohol</li></ul>	<b>~</b>
Heroin	
○ Oxycodone	
In Exercise 1, a positive THC urine test produced a color.	
O dark green	<b>~</b>
o red	
O light blue	
<ul><li>orange</li></ul>	
In Exercise 1, several confirmatory tests were performed to test for the presence of different drugs in urine samples.	
O True	
○ False	<b>✓</b>

## **Extension Questions**

Why do forensic toxicology labs run presumptive tests before running confirmatory tests? (SAMPLE ANSWER BELOW)

Confirmatory tests can be expensive and take a long time, therefore it is impractical to run a confirmatory test for every possible drug that could be present in a sample. Presumptive tests help narrow down substances to determine which confirmatory tests should be run, if any.

