Bell-Ringer

☐ Forensic Science

☐ What are the classifications of Heroin/Cocaine?

☐ What is the primary system these types of drugs effect?

☐ What is the typical cause of death with overdose>
Altering Perception and Dirty Deeds

Forensic Science
Part #D
Introduction

- Hallucinogens alter perceptions and mood, lead to delusional thinking, and caused hallucinations.
- Delusions basically are false beliefs that have little or basis in reality.
- Hallucinations are sensory experiences that aren’t real and may affect any or all of the senses; that may be visual, auditory, olfactory, taste or tactile.
The most frequently encountered hallucinogens come either from the plant world.

- Marijuana
- Peyote
- Mushrooms

Or in the Chemistry Laboratory

- LSD
- PCP
Smoking Mary Jane

- By far the most commonly used hallucinogens is Marijuana.
- It’s a cannabinoid, which means it’s derived from the **Cannabis sativa plant**.
- The active ingredient, Tetrahydrocannabinol (THC) is found in marijuana at a concentration of 2% to 6%.
- Hashish is the oily extract of the plant, contains approximately 12% THC.
The body breaks down THC into a series of compounds, the most important being 9-carboxy-tetrahydrocannabinol (9-Carboxy-THC), which is the major urinary metabolite.

Drug testing of the urine looks for this compound, which can be found up to two months after the most recent use.

One problem, however is that even passive exposure can lead to a positive urine test. For example, if you’re in the area when someone is smoking, your urine may reveal low levels of (9-Carboxy-THC).
Mary Jane’s Friends

- In suspected users, presumptive chemical testing typically involves the Duquenois-Levine Test, which shows a purple color change in the presence of cannabinoids.
- A positive reaction occurs when all the cannabinoids are not just THC, so urine testing can’t absolutely identify THC.
- Because most states prohibit the procession of any cannabis resins and not just THC, this test is typically all the police need. Other tests include TLC, GS and MS.
Cacti and Mushrooms

- Peyote is a small Mexican cactus. It’s active ingredient is mescaline, which is a hallucinogen in the alkaloid family.
- The surface of the cactus is covered with small round bumps called Peyote buttons.
- These buttons are divided into sections like an orange, and each section contains a cotton like tuft inside.
- Either TLC or GC can confirm the presence of alkaloids. Further testing is not necessary because having the plant or any part of it is illegal.
Mushrooms present a different problem. The mere possession of marijuana and peyote is illegal, but the possession of mushroom isn’t. And that means the toxicology lab must identify the psychoactive components of the mushroom before they can be deemed illegal.
Testing

- Labs typically use two color-change tests to screen for the presence of (psilocin and psilocybin), the active ingredients in mushrooms.
- Van Urk’s reagent turns purple, and Fast Blue B turns red in the presence of these chemicals.
- Often the toxicologists use TLC to separate the components, which he or she then sprays with Van Urk’s solution.
- Alternatively, the toxicologists views the bands produced by TLC, under ultraviolet light, which cause the psilocin and psilocybin to glow.
A wide variety of chemically-produced hallucinogens are made. The most common ones are Lysergic Acid Diethylamide (LSD) and Phencyclidine (PCP).

LSD is potent, as little as 25 micrograms can cause a trip that lasts for 12 hours.

Although LSD is not directly fatal, the hallucinogens it produces are typically vivid.

The primary screening tool for LSD is the Van Urk Color Test.
Date-Rape Drugs

- Date-rape drugs have been the subject of considerable number of criminal actions and civil litigations.
- The recent conviction of Andrew Luster, the heir to the Max Factor fortune was based on his illicit use of GHB (gamma-hydroxybutyrate).
- The major date-rape drugs are Rohypnol, Ecstasy, GHB and Ketamine.
Chemically Speaking

☐ These drugs call sedation, a degree of compliance, poor judgment and amnesia of the events that occurred under the influence of the drug.

☐ Only later does the victim realize that something happened, but his/her memories are spotty or absent all together.
Recreational use of any of these drugs is a proverbial crapshoot.

The quality and purity are variable, Users don’t know what drugs or exactly what amount they are ingesting, and because reaction vary widely from person to person and are unpredictable.

This unpredictability puts thousands of people in the morgue every year.

Ecstasy is an amphetamine and appears in most routine drug screens, but other drugs in this category are not typically part of the screening, however they can be detected using GC/MS.
Thanks for Your Attention

☐ Refer to the “Plan of the Week,” for upcoming assignments and Experiments.

☐ Before you leave today!

☐ A) Bell-Ringer

☐ B) Journal Entry