https://www.youtube.com/watch?v=lOLb21bii-A
Narcotic Drugs = natural or synthetic substance that produces bodily (physiological) or mental (psychological) effects in humans or other higher order animals.

The regular use of a narcotic drug leads to physical dependence.

Controlled Substances Act: legal classification system created to prevent and control drug use and abuse.
Laws, Collection, & Preservation

Classification is based on a drug’s:

1. potential for abuse
2. potential for physical and psychological dependence
3. medical value

A field investigator MUST properly package and label drugs for the lab.

Packaging MUST:
- prevent loss and cross-contamination
- Follow Chain of Custody

Often, original container is OK.
# Drug Classification

<table>
<thead>
<tr>
<th>Schedule I</th>
<th>Schedule II</th>
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</thead>
<tbody>
<tr>
<td>Schedule III</td>
<td>Schedule IV</td>
</tr>
<tr>
<td>Schedule V</td>
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</tbody>
</table>
Drug Classification

SCHEDULE I DRUGS:
- High potential for abuse
- No accepted medical use.
- Ex: Heroin, marijuana, methaqualone and LSD.

SCHEDULE II DRUGS
- High potential for abuse
- Have medical use with severe restrictions.
- Ex: Cocaine, PCP, and most amphetamine and barbiturate prescriptions.
Schedules of Classification

Schedule III drugs

- Less potential for abuse.
- Accepted medical use.
- Ex: All barbiturate prescriptions not covered under Schedule II, codeine, and anabolic steroids.
Schedules of Classification

**SCHEDULE IV DRUGS**
- Low potential for abuse.
- Current medical use
- Ex: darvon, phenobarbital, and some tranquilizers such as diazepam (valium) and chlordiazepoxide (librium).

**SCHEDULE V DRUGS**
- Low abuse potential
- Medical use.
- Ex: Opiate drug mixtures that contain non-narcotic medicinal ingredients.
## Analysis, Identification, & Confirmation

### Preliminary (First) Analysis

<table>
<thead>
<tr>
<th>Screening Tests</th>
<th>Color Tests</th>
<th>Micro-Crystalline Tests</th>
</tr>
</thead>
<tbody>
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</table>

### Drug Identification

<table>
<thead>
<tr>
<th>Drug Identification</th>
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</table>

### Drug Confirmation

<table>
<thead>
<tr>
<th>Drug Confirmation</th>
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<tbody>
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</tbody>
</table>
Preliminary Analysis

- **Screening tests** are used to narrow down the possible drug choices to a small and manageable number.

- **Color tests** that will produce characteristic colors for the more commonly encountered illicit drugs.

- **Microcrystalline tests** identify specific drug substances by studying the size and shape of crystals formed when the drug is mixed with specific reagents.
Drug Identification

- The difficulty of forensic drug ID comes in selecting analytical procedures to ensure a specific ID of a drug.
- This plan is divided into two phases:
  - Screening test - narrow down all the possibilities
  - Confirmation test - specifically identifies a substance.
Drug Confirmation

- Uses a specific test to identify a drug substance to the exclusion of all other known chemical substances.

- Typically infrared spectrophotometry or mass spectrometry is used to specifically identify a drug substance.
### Anabolic Steroids

**Notes**

<table>
<thead>
<tr>
<th>Pic/Drawing (do for homework!)</th>
<th>Schedule</th>
<th>Explain:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Anabolic Steroids

- Synthetic compounds related to the male sex hormone, testosterone.
- Abused to increase muscle growth.
- Side effects (only write 3): Unpredictable effects on mood and personality, depression, diminished sex drive, halting bone growth, and liver cancer.
<table>
<thead>
<tr>
<th>Background Info</th>
<th>Methylenedioxymethamphetamine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ketamine</td>
<td>Drawing/Picture (do for homework)</td>
</tr>
</tbody>
</table>
The term *club drugs* refers to synthetic drugs that are used at nightclubs, bars, and raves.

Include, but are not limited to, MDMA (Ecstasy), GHB (gamma hydroxybutyrate), Rohypnol (“Roofies”), ketamine, and methamphetamine.

GHB and Rohypnol are depressants connected with drug-facilitated sexual assault, rape, and robbery.
Club Drugs

METHYLENEDIOXYMETHAMPHETAMINE

- Known as MDMA, Ecstasy or “E”
- Synthetic mind-altering drug
- Exhibits many hallucinogenic and amphetamine-like effects.

- Enhances self-awareness and decreases inhibitions.
- (write 2) Causes seizures, muscle breakdown, stroke, kidney failure, and cardiovascular system failure often accompany chronic abuse.
low serotonin level

feeling depressed

extremely non-social

extremely tired
Club Drugs

KETAMINE

- Used as a veterinary animal anesthetic that in humans causes euphoria and hallucinations.
- Causes impaired motor functions, high blood pressure, amnesia, and mild respiratory depression.
Homework

Drawings/pictures! And finish any other blank spots in your flipbook.
<table>
<thead>
<tr>
<th>Heroin</th>
<th>Codeine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture/Drawing</td>
<td>Picture/Drawing</td>
</tr>
<tr>
<td>Oxycontin</td>
<td>Methodone</td>
</tr>
<tr>
<td>Picture/Drawing</td>
<td>Picture/Drawing</td>
</tr>
</tbody>
</table>
Opiates: Heroin

- Morphine is made from opium → used to make heroin.
- Addicts dissolve heroin in water → Heat it in a spoon → Inject in the skin.
- Produces a “high” that is accompanied by drowsiness and a sense of well-being
  - last for 3 to 4 hours.
Opiates: Codeine

- Present in opium.
- Prepared synthetically from morphine.
- Given to patients with chronic pain.
Other Opiates: Oxycontin

OXYCONTIN

- Active ingredient oxycodone
- Not an opiate, but has the same physiological effects on the body as opium narcotics.
- Prescribed for treatment of chronic pain.
Other Opiates: Methodone

- Synthetic opiate.
- Methadone which is pharmacologically related to heroin
- Eliminates the addict’s desire for heroin while producing minimal side effects.
# Depressants

<table>
<thead>
<tr>
<th>Used to…</th>
<th>Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>These include…</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>Barbiturates</td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>Aerosol Gas Propellant</td>
</tr>
</tbody>
</table>
Depressants

- Used to depress the functions of the nervous system.
  - calm irritability and anxiety and may induce sleep.
- These include: alcohol (ethanol), barbiturates, tranquilizers, and various substances that can be sniffed, such as airplane glue, model cement, or aerosol gas propellants such as freon and NOS.
Depressants

ALCOHOL

- Ethyl alcohol enters the body’s bloodstream and quickly travels to the brain.
- Lose control of thought processes and muscle coordination.

BARBITURATES

- Called “downers” or tranquilizers.
- Normally taken orally
- Create a feeling of well-being, relax the body, and produce sleep.
Depressants

TRANQUILIZERS
- Produce a relaxing tranquility.
- Do not impair of high-thinking faculties or induce sleep.

AEROSOL GAS PROPELLENT
- Sniffing immediately causes exhilaration.
- Impairs judgment and may cause liver, heart, and brain damage or even death.
<table>
<thead>
<tr>
<th>Stimulants</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>AKA…</strong></td>
<td><strong>Amphetamines &amp; Methamphetamines</strong></td>
</tr>
<tr>
<td><strong>Includes:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Effects on Body:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cocaine</strong></td>
<td><strong>Crack</strong></td>
</tr>
</tbody>
</table>
Stimulants  (don’t write blue)

- Known as “uppers” or “speed”
- Includes Amphetamines, Cocaine, and Crack.
- Taken to increase alertness or activity, followed by a decrease in fatigue and a loss of appetite.
Stimulants

Amphetamine and Methamphetamine

- Crushed into powder, heated on a spoon, and injected into vein
- Cause an initial “rush,” followed by an intense feeling of pleasure.
- Followed by a period of exhaustion and a prolonged period of depression.
Stimulants

COCAINE

- Extracted from the leaves of *Erythroxylum coca*.
- Causes increased alertness and vigor.
- Followed by the suppression of hunger, fatigue, and boredom.

CRACK

- *Crack* is cocaine mixed with baking soda and water, and then heated.
- Smoked in glass pipes.
- Stimulates the brain’s pleasure center.
### Hallucinogens

<table>
<thead>
<tr>
<th>Hallucinogens cause...</th>
<th>Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controversial Drug:</td>
<td></td>
</tr>
<tr>
<td>LSD</td>
<td>Phencyclidine (PCP)</td>
</tr>
</tbody>
</table>
Hallucinogens

- Cause changes in perceptions, and moods.
- Marijuana is the most controversial drug and well known drug in this class
  - long-term effects on health are still largely unknown.
Marijuana

- Derived from the plant *Cannabis*.
- The chemical responsible for the hallucinogenic properties is known as *tetrahydrocannabinol*, or THC.
- The THC content of *Cannabis* varies in different parts of the plant
- Does not cause physical dependency, but risks increases with heavy, long-term use.
Other Hallucinogens

**LSD**
- LSD is synthesized from lysergic acid
- Causes hallucinations that can last for 12 hours.

**PHENCYCLIDINE (PCP)**
- PCP is often smoked, ingested, or sniffed.
- PCP is often mixed with other drugs, such as LSD, or amphetamine, and is sold as a powder ("angel dust"), capsule, or tablet.
- Leads to feelings of strength and invulnerability, which may turn to depression, tendencies toward violence, and suicide.