

Name: \_\_\_\_\_ Cohort: \_\_\_\_\_ Date: \_\_\_\_\_

## Toxicology: Drugs and Poisons

### What is Poison?

1. \_\_\_\_\_ can be a poison
2. A poison is any substance that, when taken in sufficient quantities, causes \_\_\_\_\_  
\_\_\_\_\_

In other words...

- A poison is basically a substance that either \_\_\_\_\_
- The key: Sufficient Quantities:
  - Examples: arsenic, water intoxication, oxygen doping

To you... What does "sufficient quantities" mean?

### Intoxicant vs. Poison

- Intoxicant: requires that you \_\_\_\_\_ to be lethal
- Poison: only requires you ingest \_\_\_\_\_

### Context Clues:

- What does INGEST mean? \_\_\_\_\_
- What does LETHAL mean? \_\_\_\_\_

### Toxicology

- Toxicology deals with \_\_\_\_\_ and how these substances alter or harm living organisms

### Forensic Toxicology

- A forensic toxicologist finds a toxin and figures out what would happen to a person that \_\_\_\_\_  
\_\_\_\_\_

### Toxicologist Examples:

- A toxicologist:
  - Assess the state of \_\_\_\_\_ an automobile or industrial accident victim
  - Determines whether someone died from \_\_\_\_\_
  - Assesses whether drugs played a role in \_\_\_\_\_

### Looking for toxins:

- Most toxins don't \_\_\_\_\_
- Therefore, the toxicologist must look for other \_\_\_\_\_
- Biotransformation
  - When one chemical \_\_\_\_\_
  - Also called \_\_\_\_\_
- Metabolites
  - The \_\_\_\_\_ that happen when the body tries to break down/get rid of a toxin

**Metabolite Example:**

- Heroin is made from \_\_\_\_\_
- When someone ingests heroine, \_\_\_\_\_ morphine
- What should a toxicologist look for?

**Check for Understanding:**

- What is the difference between *metabolism* and *metabolite*?

**A note on metals:**

- \_\_\_\_\_ also cause disease and death
  - Iron, mercury, lead, and copper all lead to \_\_\_\_\_
  - Mercury, lead, arsenic, antimony, selenium, and other metals can \_\_\_\_\_

**Collecting Samples:**

	Most useful sample! Modern technology can reveal almost all poisons this way
	Doesn't show how much or when the toxin/drug was ingested
	Are removed, washed, and tested. Doesn't relate to how much was in the blood
	Location where most drugs are metabolized. Can show level of drugs before death
	Liquid of the eyeball- resistant to decay
	Absorbs heavy metals and provides a timeline of drug use and toxin ingestion
	Test insects that feed on dead bodies when the body is very decomposed

**Levels of drugs in the body:**

	Level expected in the normal population
	Level a doctor wants a patient to reach on prescription medicine
	Level that may cause harm (nausea, vomiting, etc
	Level that consistently causes death