FUNDAMENTAL PRINCIPLES OF FORENSIC SCIENCE

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There are 7 basic principles of Forensic Sciences:

✓ Law of Individuality.

✓ Principle of Exchange.

✓ Law of Progressive Change.

✓ Law of Comparison.

✓ Law of Analysis.

✓ Law of Probability.

✓ Law of Circumstantial Facts.

1. LAW OF INDIVIDUALITY

“Every object, natural or man-made, is unique."

No two items are exactly the same. This allows forensic scientists to identify and distinguish individuals or objects.

Example: Fingerprints, DNA

2. PRINCIPLE OF EXCHANGE

"Every contact leaves a trace."

When two objects come into contact, there is always a transfer of material between them.

This principle is also known as Locard's Exchange Principle

Example: Fiber, Hair

3. LAW OF PROGRESSIVE CHANGE

“Objects change with time and environment.”

It states that everything changes with the passage of time and its impact on criminal investigation is immense because the crime scene and the criminal undergo changes and sometimes become unrecognizable.

Example: blood, hair, or fingerprints can degrade over time.

4. LAW OF COMPARISON

"Only like can be compared with like."

Forensic analysis must compare questioned material with known standards, this principle allows forensic scientists to identify or individualize evidence by comparing it with a reference sample.

Example: Matching bullet to firearm

5. LAW OF ANALYSIS

"The whole evidence must be preserved and only a part should be used for analysis."

Proper sampling techniques ensure part of the evidence is analyzed while retaining the rest for re-examination if needed. This ensures accurate, unbiased, and reproducible results in forensic investigations.

Example: DNA Profiling

6. LAW OF PROBABILITY

"All findings are based on probability, not certainty."

Forensic conclusions often rely on statistical likelihoods rather than absolute certainties, it helps assess the likelihood of a match or association between evidence and a source.

Example: DNA Match Probability

7. LAW OF CIRCUMSTANTIAL FACTS

"Facts do not lie, though witnesses may."

Physical evidence and circumstantial facts are considered more reliable than oral testimony, which can be influenced by bias or memory flaws Such facts support conclusions when direct evidence is unavailable.

Example: Bloodstains

CONCLUSION

Forensic science, guided by its fundamental principles, plays a crucial role in the recognition, identification, and individualization of evidence collected from the crime scene. These principles ensure the scientific handling of evidence and support the criminal justice system-from the discovery of a crime to the conviction of the accused- by aiding in accurate investigation and legal proceedings.

THANK YOU