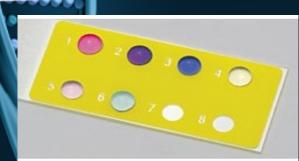
Whodunit and Why?





George Azar- Adams High School Carrie Bidwell- Clay High School Alicia Harkins-Pritchett- Mishawaka High School Emily Zablocki- Adams High School







• DNA Chips: Genes to Disease (211520)

- \$82.00
- Uses microarrays
- demonstrates gene expression and the role of gene expression in cancer
- Genetics of Corn (176360)
 - \$177.00
 - Discusses basics of Mendellian genetics
 - including segregation and independent assortment of alleles, dominance, genotype and phenotype, expected ratios, monohybrid and crosses, and chi-square

Carolina

- AP Biology Lab 7- Genetics of Drosophila (746530)
 - \$137.00
 - Covers basic patterns of heredity
- AP Biology Lab 11- Animal Behavior (746614)
 - \$94.00
 - Investigates isopod behavior
 - Investigates drosophila mating behavior







Flinn

- A Murder Mystery- DNA Fingerprinting (FB 1566)
 - \$104.40
 - The basics of DNA fingerprinting
 - DNA structure and extraction
 - Gel electrophoresis and autoradiography
 - The accuracy of DNA fingerprinting

Fisher



Lyle & Louise: Forensic Entomology (S94587)

- \$209.00
- introduction to techniques of forensic entomology
- use techniques to examine insects collected at the scene of a crime scene

Lyle & Louise: Blood Splatter (S94585)

- \$180.65
- techniques for blood spatter pattern analysis
- experiment designed to determine the relationship between the height and angle of impact of a blood drop with the size and shape of the spatter.

Lab-Aids* Genetics Concepts Kit (S25084)

- \$90.00
- Mendel's Laws of Genetics
- Probability
 - **Revitalizes antiquated labs**









- The Case of the Silent Sentinel (N1013151010)
 - \$79.95

Frey

- Introduces forensic skills to solve a fictitious crime scenario
- Five forensic analyses
 - Toxicological
 - Handwriting
 - ink chromatography
 - Fingerprinting
 - blood group (simulated blood typing)
- CAPSI Human Body Module
 - \$485.95
 - focus on the individual systems of the body and their characteristics



Flinn: A Murder Mystery- DNA Fingerprinting (FB 1566)

\$104.40

The basics of DNA fingerprinting DNA structure and extraction Gel electrophoresis and autoradiography The accuracy of DNA fingerprinting

Murder at Notre Dame: The Football Stadium

Narrated by Mr. Azar

The "Low Down"

- Nevin Longenecker was murdered on the football field during the run through for his honorary doctorates from Notre Dame.
- This gruesome murder is being investigated by 3 teams. These teams are the foremost experts in the field of DNA fingerprinting.
- YOU are a member of one of these teams!



Suspects

- There are 3 suspects who have been identified for this particular murder:
- Suspect 1: Dr. V
- Suspect 2: Charlie Weiss
- Suspect 3: Mike Brey

Ideas and thoughts...

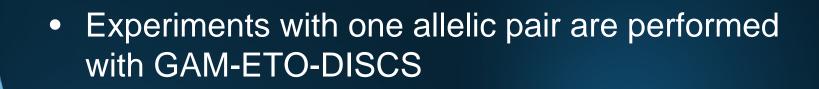
- Demo model
- No H bonds no $5' \rightarrow 3'$
- Build only 1 strand
- Different DNA for each table
- Mark/identify the 3'→5' bead to avoid flipping
- Use models for transcription or translation
- Green should be guanine
- Sticky tab notes to replace the beads

Genetics Concepts Kit

- Simulates Gregor Mendel's eight years of experimentation in five laboratory periods
- Very little teacher input is needed-lab is designed to lead students through the same problems by Mendel
- Allows students to "rediscover" his LAWS OF GENETICS

How it works

- Gametogensis and fertilization are simulated with GAME-ETO-DISCS and TETRADICE
- Produce random genotypes combinations with the same mathematical probability as if the experiments were done with living organisms
- Students not only learn the concepts of Genetics, but practice experimental design and data collection



• Experiments with dihybrid inheritance is simulated using the four-sided TETRADICE

Ideas and Thoughts.....

- Would work well in the classroom with Biology I students
- Sheet that came with lab is redundant and needs revised
- Great student led lab where students can work at their own pace
- Materials are well labeled and easy to use

Inquiry Investigations[™] "The Case of the Silent Sentinel Lab"

- Frey Scientific
- \$79.95
- Includes 5 forensic lab activities
 - 1. Toxicology Analysis
 - 2. Chromatographic Analysis
 - 3. Fingerprint Analysis
 - 4. Document (Handwriting) Analysis
 - 5. Blood Analysis

How it works

- In this lab your students are part of a forensic team that has been assembled to determine if a crime has been committed.
- The "crime" involves a fictional murder in which the teacher constructs the evidence for prior to the class.
- The main piece of evidence in which this lab is centered around is a body found next to a bottle of poison. The identity of the victim is determined by the teacher.
- Each of the five tests included in this kit will provide scientific findings or facts that will help you determine if a crime was committed and who the primary suspect(s) might be.

Ideas and thoughts...

- Vary guilty suspect from class to class to eliminate "sharing" of answers.
- This lab involves a lot of initial set-up, which is outlined in the lab manual. Once the materials have been created, however, you will not need to make another new "crime" scenario.
- The fingerprint analysis included with the lab kit does not produce clear results. (The kit utilizes inkless stamp pads.) Create the fingerprints using an alternate method.