

- 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



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 Spatter (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



Frey

- The Case of the Silent Sentinel (N1013151010)
 - \$79.95
 - 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 $3' \rightarrow 5'$ 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

- Gametogenesis 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

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- Experiments with one allelic pair are performed with GAM-ETO-DISCS
 - 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.