

# Application of DNA Fingerprinting (Restriction Fragment Length Polymorphism) and Gender Testing

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**Audience:** Grades 10, 11, 12 (specifically molecular biology and biotechnology courses)

**Objective:** Students will develop applications for the tools of biotechnology.

## **Scope of lesson:**

Once students have completed their wet-labs on DNA Fingerprinting, Restriction Analysis, or PCR (PV 92 Alu Insertion), students should view Gender Testing on *The Meaning of Sex: Genes and Gender* DVD. Here, the instructor can first introduce the application by showing the class the introduction, background, PCR, or any other part of the animation. Then show the students how to access the HHMI website (<http://www.biointeractive.org>) on-line, and have the students complete the program in a computer laboratory, classroom, or at home.

## **Assessment/Follow-up:**

Students can develop a flow chart to make copies of the DNA sequence by polymerase chain reaction. See the biointeractive website for a review of the PCR protocol. Also, students can discuss the ethical principles that would relate to gender testing. Students can view the animation/lecture of the evolution of the SRY gene in an earlier section of the DVD or website.