

**Teacher Guide**  
**“The Case of the Stolen Painting: A Forensic Mystery”**  
**By Sydney Bergman**

This video was conceived around the idea that students, particularly students in lower-level biology classes (i.e. not AP classes) have a practical application for knowing about the major divisions between plants, particularly about the details of plant anatomy and reproduction. I had an in-class presenter who was studying to be a forensic investigator come in to present to students about her career path, and the use of plants, particularly pollen, in forensics. Students are interested in forensic science, largely because of TV shows that glamorize (and oversimplify!) forensic investigation. I wanted to show students how knowing about plants could be useful in a career setting that, seemingly, has little to do with plants.

I also wanted to use forensics as a context for students communicating science to one another in understandable terms. Forensic scientists routinely have to communicate their work to non-scientific audiences, and I wanted to give students the opportunity to present their work in a similar fashion to one another. The communication aspect of this lesson will become clearer in the lesson activities.

My objectives for this lesson are as follows:

Students will be able to identify the major evolutionary innovations that separate plant divisions, and classify plants as belonging to one of those divisions based on phenotypic differences in plants.

Students will be able to classify plants by their pollen dispersal methods using pollen dispersal mapping, and justify the location of a ‘crime scene’ using map analysis.

Extension:

Students will be able to analyze and present their analysis of banding patterns from DNA fingerprinting done using plants in a forensic context.

Other activities

- CIBT’s ‘Design the World’s Best Artificial Flower’ activity
- DNA extraction from strawberries or bananas adapted from Utah Genetics
- Flower dissection and plant pollen investigation using online pollen databases