

## Cochineal: At the Intersection of Cloth and Paint

Lesson Plan  
College Level



### Summary

Explore the relationships between a family of painters and their ancestral ties to the cloth dying industry in Venice. Delve into the origins of the family nickname “Tintoretto” (“the little dyer”) for the Robusti family of cloth dyers and Renaissance painters by getting hands-on experience with cochineal red. Since the vegetable and insect-based dye-stuffs for textile dyes and paints are the same, the Tintoretto name shifted in significance from one generation to the next. This lesson teaches the history and chemistry of pigments to college students interested in studio art, art conservation, and art history.

### Objectives

*Students will be able to:*

- Discuss the context of the Tintoretto family and its history
- Gain an overview of technical study on paintings by Jacopo and Domenico Tintoretto
- Create an organic red lake pigment
- Follow the procedure of textile dyeing using prepared wool
- Experiment freely with oil paint
- Compare and contrast organic dyes and pigments
- Extract dye from colored fabrics

## Lesson Outline

- Powerpoint introduction to the era, region and history of Italian Renaissance painting with an emphasis on the technical study on the paintings by Jacopo and Domenico Tintoretto
- Lecture on the history of organic pigments and the art history of cochineal red
- Pigment extraction activity
- Creation of oil paint activity
- Extraction of dye from cloth shearing activity

## Activities

- Have the students follow the procedure for extracting brilliant red-purple dye from cochineal insects as part of a demonstration on the creation of pigments (See “Historical Materials and Techniques” section of the Kress Reconstruction website)
- Lead students through the process of shearing and washing raw wool in preparation for dyeing
- Use cochineal dye to color prepared wool
- Create and experiment with oil paint (See “Historical Materials and Techniques” section of the Kress Reconstruction website)
- Conduct an experiment to extract a red lake dye cloth shearings and compare the qualities of this dye to the one created directly from cochineal insects

## Materials

### Red Lakes

Cochineal insects  
Mortar and pestle  
Alum  
Potassium carbonate  
Glass beakers  
Glass stirring rods  
Hot plate  
Funnel  
Cheesecloth  
Silk  
Cloth shearings

### Oil paint

Linseed oil  
Dropper  
Palette knife  
Muller  
Glass palette  
Odorless mineral spirits  
Assortment of brushes  
Canvas board  
Paper palette

### Wool Dyeing

Raw wool  
Dish soap  
Washing bowl  
Large pot or saucepan  
Hot plate or kettle  
Large tongs  
Clothesline  
Clothespins

## Resources

### Internet Resources:

[Video: “Cochineal Red: The Art History of a Color” Sunday at the Met lecture at the Metropolitan Museum of Art by Elena Phipp](#)

[Video: “In Search of Lost Colour: The Story of Natural Dyes”](#)

["Organic Pigments" on the Kress Reconstruction Website](#)

### Books and Articles:

Butler Greenfield, Amy. *A Perfect Red: Empire, Espionage, and the Quest for the Color of Desire*. New York: HarperCollins, 2005.

Burmester, A., and C. Krekel. “‘Ázurri oltramarini, laache et altri colori fini’: the quest for the lost colours.” In *Tintoretto: The Gonzaga Cycle*. C. Syre ed., 193-211. Munich: Hatje Cantz Publishers, 2000.

[Phipp, Elena. \*Cochineal Red: The Art History of a Color\*. New York: Metropolitan Museum of Art, 2010](#)

Plesters, Joyce, and Lorenzo Lazzarini. “Preliminary Observations on the Technique and Materials of Tintoretto.” In *Conservation of Paintings and the Graphic Arts: Preprints of Contributions to the Lisbon Congress, 9-14 October 1972*, 153–180. London: International Institute for Conservation of Historic and Artistic Works, 1972.

[Saunders, David, and Jo Kirby. “Light-induced Colour Changes in Red and Yellow Lake Pigments.” \*National Gallery Technical Bulletin\* 15 \(1994\): 79-97.](#)

Wilson, Carolyn C. “Domenico Tintoretto’s *Tancred Baptizing Clorinda*: A Closer Look.” *Venezia Cinquecento* 3, no. 6 (July-Dec 1993): 121-138.