

Artists as Color Scientists

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Teaching Artist



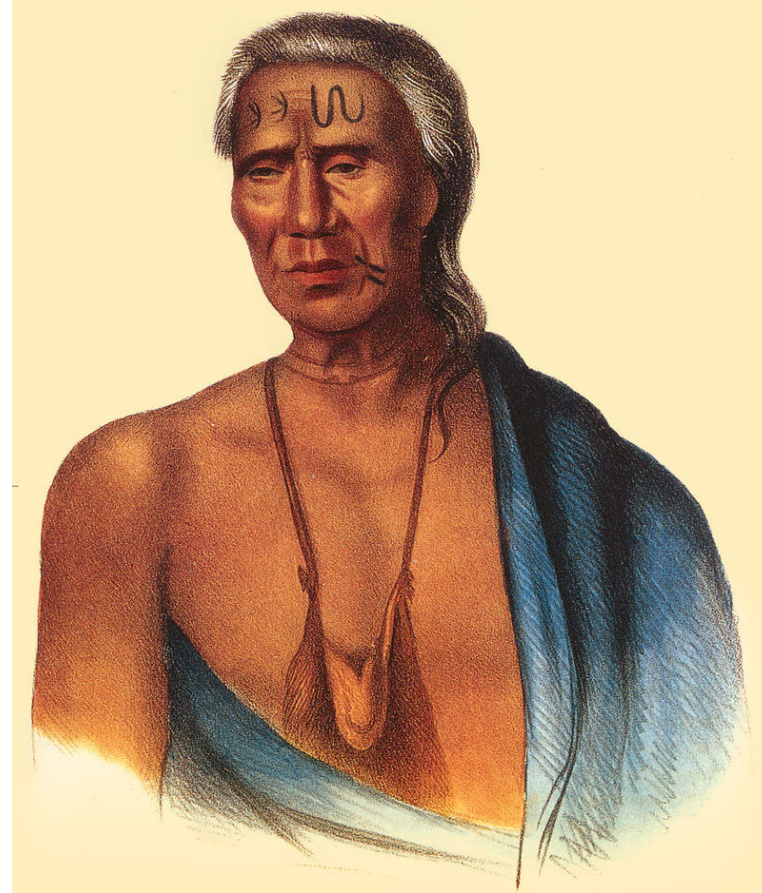
Artists as Color Scientists

- Standards & Objectives
 - identify art materials, techniques, and processes
 - Minerals and pigments as artist color tools
 - Identify Pigment sources
 - ochre, chalk, charcoal as pigments
 - Combine materials to create works of art
 - Create recipes for various artistic media [paint, ink]
 - Explore ratios, fractions to mix materials to create paint
 - Use a variety of technologies to produce works of art
 - Explore various tools and mediums to make paint and ink
 - Mortar and pestle, spatula, pipette, muller, ink stone
 - Gum Arabic-sap from a tree found in N. Africa

Pigments and Early Artists



Cave paintings date from 45K to 65K in Indonesia; France, Spain. Early artists used mineral pigments, often mixed with animal blood to fix or make them permanent.



17th century Lenape male shows pigment marks or tattoos across his forehead. NJ Historical Society image

Lenape woman, 1585 painting by John White. Arm and face tattoos



Pigments

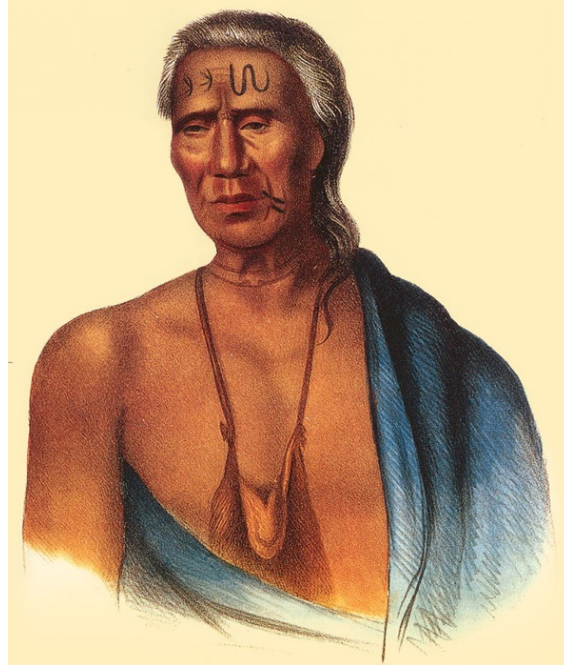


- Pigment-source of color
- **Sienna, ochre** and **umber** = first pigments used by humans, found in many **cave paintings**.
- L: sienna, burnt sienna, ochre=naturally occur in **clay**
- Sienna: Since the Renaissance, sienna is the brown pigment most widely used by artists.
- Black: from coal tar, charcoal. i.e., Chinese ink sticks.



Pigments in Lenapehoking-Lenape Homelands

- Hazleton soil is the **Pennsylvania state soil**, a mixture made up of sand, silt, and **clay**.
- Lenape tattoos = sienna, ochre from **local clay**, plus charcoal from fires.
- Below- ochre



Tools of the trade

- Pigment: minerals from the earth clay, chalk; or bi-products (ink stick= soot)
- Grinding tools
 - Mortar & pestle
 - Mochahete
 - granite+ glass muller
 - Chinese ink stone
- Measuring spoons, cups
- Pipettes
- Media-fixes color for specific use
 - gum Arabic for watercolor;
 - textile medium for fabric



Do it! Create watercolor paint & ink

- Grind **chalk** or **clay** using muller + granite
- Measure, record, test results
 - 1 part pigment,
 - 1 part fixer (gum Arabic)
 - 1 part water
- Grind ink stick
- Add 1 pipette water
- Create ink, paint outlines
- Pumpkin today, pie tomorrow!

Do it! Create a painting using the ink and watercolors we create!

Complete the Circle

Classroom extensions

- Use pigments to create a palette of 2-3 colors

Paint a scene or object using your paints or inks

- Record recipes; make a sample card to record the colors created
- Exchange recipe cards. Recreate the recipe. Compare with original.
- Create new colors by varying the measurements.

Instead of 1 part pigment, add 2 parts pigment.

- Create new colors by mixing 2 different pigments.

Traditional pigments

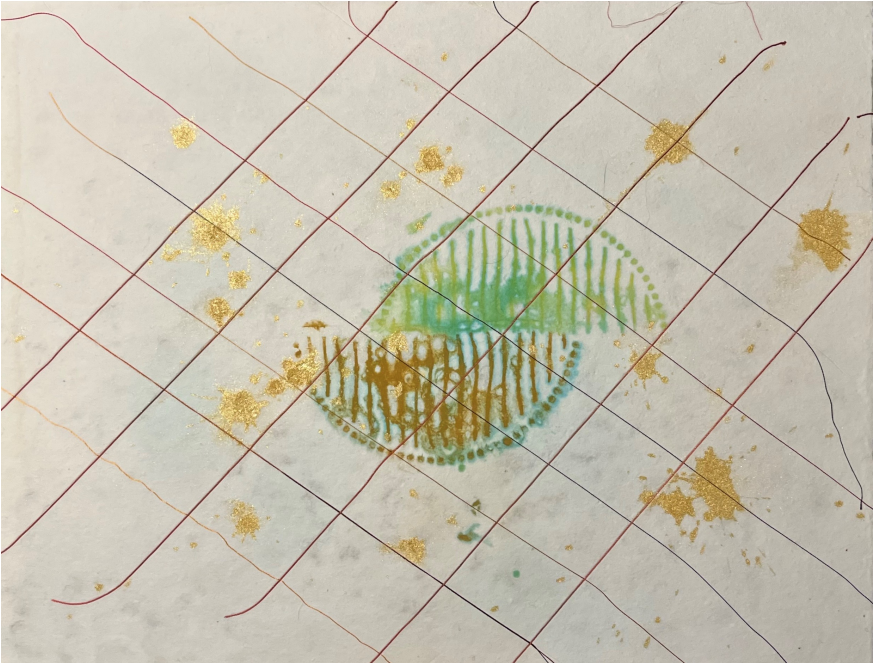
- Back to basics: using local clay, charcoal, grind into a powder, add water, school glue and paint onto brown bags to simulate cave painting.
- Grinding tool: flat rock!
- **Dollar store supplies:** sidewalk chalk, tempered glass or wood chopping blocks, measuring spoons, bottles to hold pigments, paints, brushes, white school glue (binder), alcohol, salt (paint effects).

Closing the circle-Pigments in My Practice

- Palettes for wool works
- Records of color experiments
- Fibers- silk, linen
- Paper-cotton, rice, mulberry

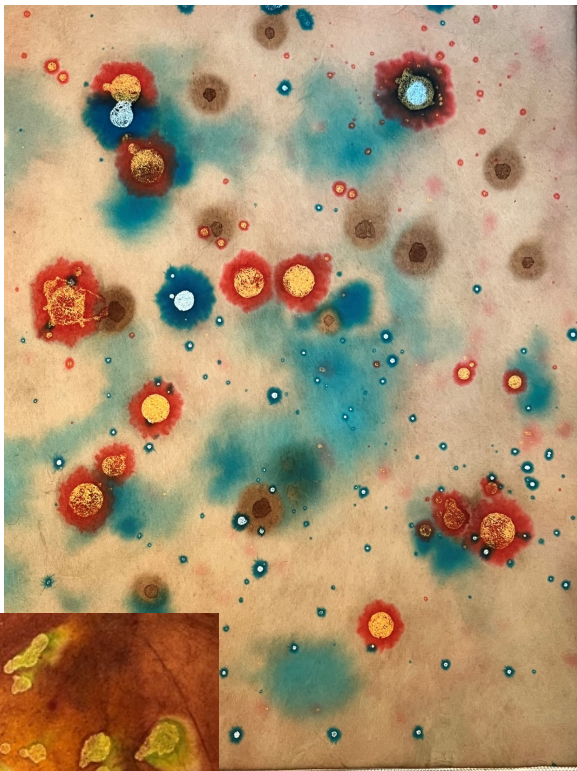


(Top) Kitchen color palate; (Bottom) adinkra on cotton pigmented paper



(l) Cotton paper, gold, silk inclusions (R) woodblock print on beet dyed mulberry





"Sunny Side Up," Wool felt, hand dyed, C.S. Gunkel



(L) Resist dyed paper, fc. (R) Beet juice, fc, mica on mulberry. B: Macha + mica; Hand dyed by C.S. Gunkel

References

- Museum of Indian Culture, Allentown. Has outreach and on site programs: <https://www.museumofindianculture.org/>
- Smithsonian Library exhibition on color: <https://library.si.edu/exhibition/color-in-a-new-light>
- Lenape Delaware Indians 800px-Lapowinsa01.jpg (800×941) (hunterdonhistory.org)
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- Windsor and Newtown: [Home | Winsor & Newton \(winsornewton.com\)](http://Home | Winsor & Newton (winsornewton.com))
- Minerals Education Coalition: Featured Posters - Minerals Education Coalition Store
- Egg tempera paints: How to make Medieval Paint - Egg Tempera Paint Like DaVinci Made - Bing video
- **Rocks and Minerals Eyewitness Books**
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- Image: stone age cave paintings France lascaux-hall-of-the-bulls-3-420x296.jpg (420×296) (culturaltravelguide.com)

