

# STEAM : "Art" in STEM at the FAC

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Museum Education at Colorado Springs Fine Arts Center at Colorado College

## Science, Technology, Engineering, Arts, Mathematics

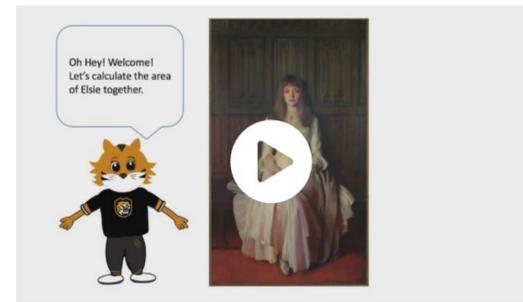
*"The disciplines are stronger together than apart." - Babette Allina from RISD<sup>1</sup>*

### LONG-TERM GOALS

- 1) Emphasize the value of arts education and creativity across disciplines, including STEM
- 2) Introduce multiple perspectives in looking at art and science
- 3) Using "Art" as an access point for welcoming students from different backgrounds into the field of STEM

### PROJECT B. ELSIE INTERACTIVE; PROJECT C. VoiCCes

#### Part I. Area of Elsie



#### MATH IN ART:

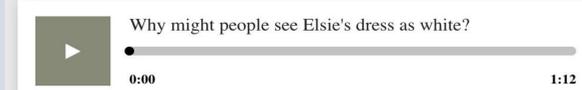
Use the grid model to calculate the area of Elsie Painting. Used Adobe Character Animator and Premier Pro to create a CC Tiger that narrates the math lesson

#### VoiCCes Project

Collected voices from CC students who are Science and Art majors to give their perspective on the perception of the colors of Elsie's dress. Perspectives ranged from a Psychology, Physics, to an Artistic approach. Interpretive Scavenger Hunt also incorporates VoiCCes.

*Portrait of Miss Elsie Palmer, or A Lady in White.* John Singer Sargent. 82 X 53 in. FA 1969.3.1

Carissa '21 (Molecular Biology), CJ '20 (Physics), Honor '21



#### Martha Graham, Taybor Utley

"I'm feeling nervous for my first block class. It's been a long time since I was in a class. The artwork depicts a woman's movement, maybe dancing? From her facial expression, it seems like she isn't absolutely certain about her movement. It makes me think of my own nervous and uncertain emotions."

FAC Mobile Guide  
Interpretive Scavenger Hunt



FAC eMuseum



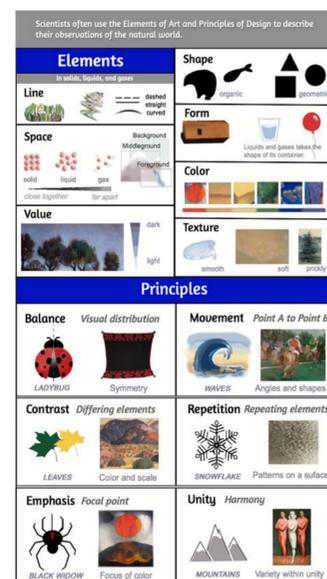
Poster  
Citations



### ABSTRACT

As a Molecular Biology major and a Student Guide Facilitator at the Colorado Springs Fine Arts Center at Colorado College (FAC), I am interested in the intersection of education, science, and the arts. I pursued the Noyce Summer Fellowship at the FAC to explore different possibilities of STEAM in Museum Education. STEAM is an integrative educational approach that has gained attraction over the years for its emphasis on creativity ("A" for Arts) in the STEM field. As a Noyce Fellow working alongside the Museum Education Team, I combined my experiences in the science and art disciplines to inform my design of the (A) STEAM Card, (B) Elsie Interactive, and (C) VoiCCes Project. All projects encourage students to make observations of their natural surrounding as artists and scientists.

### PROJECT A. STEAM CARD



#### Art and Science

"When we integrate art and science, we explore three different subjects: **Nature, Science, and Art.**"  
(Marshall et al in *Integrating the Visual Arts Across the Curriculum*)

- Scientists observe **patterns** in nature...
  - SPIRALS in plants, shells, and galaxies
  - FRACTALS in trees, rivers, and blood vessels
- Scientists observe **contrasts** in nature...
  - LIGHT & DARK of day and night
  - COLORS of the rainbow and seasons
- Scientists observe **unity and variety** in nature...
  - CLASSIFICATIONS animals, plants, bacteria
  - ECOSYSTEM living and nonliving
- Scientists observe **balance** in nature...
  - INTERDEPENDENCE food chain, equilibrium
  - CYCLES water cycle, conservation of energy
- Emphasis** by nature draws scientific study
  - COLOR pollution of air, water, land
  - SHAPE growth and transformation

#### PURPOSE:

Use the elements and principles of art as a tool for students to describe their natural surrounding as both artists and scientists

Offers examples of how art and science overlaps in terms of making observations of our surroundings

For citations of works of art, please scan the QR Code "Poster Citation."

### ACKNOWLEDGEMENT & FUNDING

I would like to thank Professor Mike Taber at the Education Department of Colorado College for offering me this opportunity to pursue the Noyce Scholarship Program. I would like to thank Kris Stanec and Alie Ehrensaft for their thoughtfulness, mentorship, and insights using their educator backgrounds for my project throughout this summer. Thanks to the Fine Arts Center Museum for allowing me to create educational interactives using their permanent collection. I would also like to thank my fellow friends majoring in Sciences and Art for being a part of my VoiCCes interviews!