

Science, Technology, Engineering, **ART**, Mathematics
Dr. Debby McGann – UCF Art Education

Topics Covered:

- Why teach Art?
- Why add “A” to STEM?
- Look to Art History
- Current day Artists whose artwork relies heavily on STEM
- Resources to bring these topics into the classroom
- Activity

EXAMPLES OF ARTISTS WHO HAVE CREATED ARTWORK RELATED TO STEM:

Leonardo Da Vinci

The Complete Works

<http://www.leonardoda-vinci.org/>

Notebooks

<http://www.bl.uk/onlinegallery/ttp/leonardo/accessible/introduction.html>

Metropolitan Museum of Art – Timeline of Art History

http://www.metmuseum.org/toah/hd/leon/hd_leon.htm

Alexander Calder

Lesson Plan Related to Math

<http://www.nga.gov/content/ngaweb/education/teachers/lessons-activities/counting-art/calder.html>

Interactive Mobile

<http://www.nga.gov/kids/interactive/mobile.htm>

Spiral Patterns Activity

<http://www.nga.gov/content/dam/ngaweb/Education/learning-resources/lessons-activities/counting-art/spiral-patterns.pdf>

Lesson Plan Related to Engineering (Force)

https://www.teachengineering.org/view_lesson.php?url=collection/cub_/lessons/cub_art/cub_art_less_on01.xml

Artist in Engineering Lesson Plan

<http://nedkahn.com/>

Maya Lin

Previous Memorials

<http://www.mayalin.com/>

World Map of What is Missing

<http://www.whatismissing.net/>

Video

<http://www.sfartscommission.org/pubartcollection/pubart-press-releases/2009/09/17/press-kit-maya-lin-debuts-final-memorial-at-california-academy-of-sciences/>

Article Based on Writing and Architecture

<https://www.arts.gov/NEARTS/2011v4-what-innovation/maya-lin>

Ned Khan

<http://nedkahn.com/video-gallery/>

Rafael Araujo

Drawings

<http://cielbleumedia.com/2015/12/04/calculo-24-extraordinary-geometrical-fibonacci-and-logarithmic-drawings-by-rafael-araujo/>

Studio Set-Up

<http://www.thisiscolossal.com/2014/01/architectural-renderings-of-life-drawn-with-pencil-and-pen-by-rafael-araujo/>

Stem Related Art Concepts

- How Drawing and Science Interrelate:
http://www.hostos.cuny.edu/MTRJ/HTRT/Drawing_Science%202011.pdf
- Chemistry – Paint, Ceramics
- Biology - Life Drawing
- Physics – Color Theory
- Anatomy & Physiology – Medical Illustration
- Perspective
- Measuring
- Space
- Distance
- Photography

Mathematics Resources:

- <http://www.studentguide.org/the-best-math-art-on-the-web/>
- <http://www.fractal.org/Bewustzijns-Besturings-Model/Fractals-Useful-Beauty.htm>
- <http://britton.disted.camosun.bc.ca/jbsymteslk.htm>
- <https://www.khanacademy.org/math/math-for-fun-and-glory/vi-hart/mobius-strips/v/math-improv-fruit-by-the-foot>
- <https://www.khanacademy.org/math/math-for-fun-and-glory/vi-hart/spirals-fibonacci/v/doodling-in-math-spirals-fibonacci-and-being-a-plant-1-of-3>

Article About Math and Art:

- <http://www.mathaware.org/mam/03/essay3.html>

General Resources:

<http://steamedu.com/>

Activities:

<http://handmadekidsart.com/blog/>

<https://www.smores.com/tgcne-steam-art-lessons>

http://www.paep.net/images/images/Catalogue%20Year%202020_final-for%20web.pdf

Article:

<http://ww2.kqed.org/mindshift/2015/01/13/how-integrating-arts-into-other-subjects-makes-learning-come-alive/>

Questions:

How have you used Visual Arts to make connections with Science, Technology, Engineering, and Mathematics?

Why Teach Art?

<https://arteducators-prod.s3.amazonaws.com/documents/1/6e45f2c7-43ec-468d-a75f-7a082a5a44a6.pdf?1450825980>