

STEAMing Ahead: Integrating the Arts into STEM Instruction
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1. Overview

2. Beginning the Process

- Review of respective standards
- Summer planning examines standards and curricular objectives in each discipline
- Exploration of community-based resources

3. The Science of Sound

- *Science: Sound Vibrations*
 - Sound is vibrations: create instrument
 - Sound can make matter vibrate: experimental centers
 - Pitch and Volume: experimental centers and wave observations
 - Decibels: Ipad measurement and discussion of safety
 - Science of Sound: Audiologist visit
 - Sharing instruments via Google Meet with out-of-state peers
 - Multimedia: Brainpop, Bill Nye, Magic School Bus, YouTube
- *Visual Art: Exploration to Construction*
 - Art space as makerspace
 - Artist-in-residency program and xylophone construction
 - Design and sculptural goals and display of student work
 - Artists at work
- *Music: Recycled Play to Composition*
 - Sculpture as musical instrument and sound classifications
 - Notating in non-traditional ways with young children
 - Musicians at work

4. Ways of Bridging the Curriculum

- Resources
- A model for arts integration that can be applied to STEAM curricular planning
- Levels of integration
 - Connection
 - Correlation
 - Integration

5. Patterns in Space

- Science: *Pattern Profiles*
 - Activate background knowledge of constellations
 - Discuss use by astronomers
 - Explore nonfiction resources for children
 - Integrate multimedia resources
 - Create a constellation
 - Include community resources: Mobile Planetarium
- Music: *Constellations Come to Life*
 - Discuss constellation poem
 - Explore the use of expressive voices
 - Add dramatization with movement and instruments
- Visual Art: *Forming New Galaxies and Exploring Stars*
 - Integrate technology using Ipads and drawing apps
 - Explore the art of sun prints

6. STEAM Planning Process

- Planning grid
- Assessment piece
- Process review
- Challenges
 - *What are the challenges inherent in the planning process?*
 - *Where do we go from here?*
 - Rainforest Unit in 2nd Grade
 - Weather Unit in Kindergarten

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