

Draft Lesson Plan

Arts in STEM: Advancing Meaningful Integration
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Background:

As a Middle School that has students (and faculty) that stem from diverse backgrounds and ethnicities, several grade levels have interdisciplinary units embedded in curriculum.

Even though this lesson (or series of lessons) was highlighted in Methods of Stem Education, I feel that including the National Core Arts Standards of Art Media would enhance and heighten the learning of the students, the ability to visualize, feel and create solutions. The target grade level for this lesson is Grade 6.

The lesson showcased is included in an integrated Math /Science and Humanities unit where core teachers jointly facilitate the lesson. This year as a goal for our middle school we have also been exploring student agency within summative assessments.

Overarching Essential Question for Integrated Unit

How can a community build resilience when faced with natural hazards?

It is envisage that the following National Art Core Standards may be utilized;

National Art Core Standards – Media Arts

Anchor Standard 1: Generate and Conceptualize Artistic Ideas and Work.

Enduring Understandings: Media arts, ideas, works, and processes are shaped by the imagination, creative processes, and by experiences, both within and outside of the arts.

Essential Question (s): How do media artists generate ideas? How can ideas for media arts production be formed and developed to be effective and original?

MA: Cr 1.1.6 –

- a. Formulate variations of goals and solutions for media artworks by practicing chosen creative processes, such as sketching, improving and brainstorming.

Anchor Standard 2: Organize and develop artistic ideas and work.

Enduring Understandings: Media artists plan, organize , and develop creative ideas, plans and models into process structures that can effectively realize the artistic idea.

Essential Question (s): How do media artists organize and develop creative ideas and models into process structures to achieve the desired end product?

- b. Organize, propose, and evaluate artistic ideas, plans, prototypes, and production processes for media arts productions considering purposeful intent.

Anchor Standard 5: Develop and refine artistic techniques and work for presentation

Enduring Understandings: Media artists require a range of skills and abilities to creatively solve problems within and through media arts productions?

Essential Question (s): What skills are required for creating effective media artworks and how are they improved? How are creativity and innovation developed within and through media arts productions? How do media arts use various tools and techniques.

MA: Pr5.1.6 –

- a. Develop a variety of artistic, design, technical, and soft skills through performing various assigned roles in producing media artworks, such as invention, formal technique, production, self-initiative, and problem - solving
- b. Develop a variety of creative and adaptive innovation abilities, such as testing constraints, in develop solutions within and through media arts production.
- c. Demonstrate Adaptability using tools and techniques in standard and experimental ways in constructing media artworks.

The lesson

The lesson for our interdisciplinary unit # Resilience is one of several that students may choose from. In a series of short lessons over a week period students will review content, which has been gained earlier in the unit. Students will have the opportunity to not only design a structure that will assist communities in reducing the impact of natural hazards, thus allowing them to recover and rebuild quicker but may also showcase survivor stories via media arts.

This lesson provides an opportunity for students to apply knowledge gained and have this assessed with the following standards; Common Core Math, NGSS Engineering, Common Core Writing as well as Listening and Speaking. In our region, natural hazards affect numerous communities annually; as such this lesson allows students to reflect on ways in which their ideas could help communities to lessen the impact of natural hazards in turn providing an avenue for quicker recover and long-term preparedness.

Background knowledge

After exposure to the 7-week interdisciplinary unit in Math, Science and Humanities (Social Studies and English) classes, students are well versed in the natural hazards that are experienced by countries located in the Ring of Fire. In addition, they have gained knowledge and understandings related to: -

- Weather patterns
- The earths structure and boundary systems
- Current and historical data related to natural hazards
- The need for disaster preparedness, and the Disaster Preparedness Cycle.
- The Social and Economic factors that affect communities that are exposed to natural hazards.

Adding a media arts element could also provide students with the opportunity to showcase their learning through survivors narratives; sculptures, stories or indeed visual art.

Students who choose a Media Arts element for their culminating activity will have the opportunity to curate and showcase their artifacts in a gallery-viewing format

At the end of the day, rubrics are also given to media arts participants for self-reflection not only on previously identified standards but also non-academic assessment such learn enthusiastically.