

LESSON TITLE: Genetically Modified Art

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Grade Level: K-16

Background Information:

With changes occurring almost instantaneously in science and technology today, art educators have the social responsibility of examining real-world issues while still teaching essential artistic foundations. This collaborative multi-age level interdisciplinary curriculum unit combines formal art skills and entertaining creative expression with research-based knowledge about contemporary global agricultural, economic, and environmental issues. Middle, high school and university art students collaborated on variations of this multi-layered project, utilizing a variety of tools, materials, and processes. Processes include drawing, printmaking, and sculptural techniques to create miniature life-like modified food characters that demonstrate humorous facial and body expressions, followed by students' written summaries and reflection on their artworks. In this hands-on session, participants will make their own characters for genetically or environmentally altered fruits and veggie produce, plan and sketch possible solutions, then construct their own bas-relief or freestanding sculpture using Crayola Model Magic and a variety of mixed-media materials.

CA Visual Arts: (Anchor Standards across grade levels)

1.0 ARTISTIC PERCEPTION

Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations.

2.0 CREATIVE EXPRESSION

Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.

3.0 HISTORICAL AND CULTURAL CONTEXT

Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts

Students analyze the role and development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

4.0 AESTHETIC VALUING

Responding to, Analyzing, and Making Judgments About Works in the Visual Arts

Students analyze, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills.

CA English Language Development Standards: (Anchor Standards across grade levels)

A. Collaborative

1. Exchanging information and ideas with others through oral collaborative conversations on a range of social and academic topics
3. Offering and supporting opinions and negotiating with others in communicative exchanges

C. Productive

9. Supporting own opinions and evaluating others' opinions in speaking and writing

21 St Century Skills: critical thinking, visual communication, interdisciplinary literacy

New National Visual Arts Standards: (Anchor Standards across grade levels)

CREATING: Anchor Standard 1: Generate and conceptualize artistic ideas and work.

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

CONNECTING: Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.

Vocabulary:

Visual: sculpture, scale, proportion, shape, color, value, texture, unity, balance

Content: GMO (genetically modified organism), agriculture, organic, pesticide, toxic

Materials:

- Drawing paper
- 2B pencils, erasers
- colored pencils
- scissors
- craft or butcher paper (brown)
- cardboard
- Brushes
- watercolor, acrylic or tempera paint
- Newspaper or paper toweling
- Air-dry clay
- Computer or electronic device (for researching info and photos)
Printer (optional - to print photos)

Objectives/Learning Outcomes

- Students utilize fact-based research about a selected fruit or vegetable and its environment including photos, agricultural practices, range and economic use and climate change issues.
- Students create sketches to plan sculpture, based on reference photos and researched information.
- Students utilize the elements and principles of design: scale, proportion, shape, color, value, texture, unity, and balance appropriate to selected fruit or vegetable in creating miniature fruit or vegetable characters that demonstrate facial and body expressions.
- Students individually craft a 5” to 8” (approx.) sculpture and apply required media in creating their 3D artworks (see list above)
- Students write two to three paragraphs (included in lesson plan under "content") identifying the fruit or vegetable and related information, issues or problems, with citation of minimum 1 valid resource for information.

Procedure(s):

Student Research

- Instructor facilitates student choices of fruits or vegetables; one method is A to Z, assign each student a letter and they research several options, choose with approval from instructor. *Younger students may be assigned something, or choose through visuals posted on the walls.
- Students find information and photographs of their fruit or vegetable, (internal and external) printout as a reference and resource imagery.
- Based on factual research on whether students' fruit or vegetable is GMO or not (or is undergoing experimentation), students select and printout as photo reference, facial expressions that most closely match the state of modification.
 - Example GMO: monster-like, angry, crazy, mutated.
 - Example for Experimentation: Scared or uncertain.
 - Example Non-GMO: Happy, celebratory, super-hero, powerful.

Drawing for Knowledge and Skill Building

- Practice drawing interior and exterior fruit or vegetable with 2B pencil and contour line, then value; practice value scales and textures first before applying to drawing.
- Apply colored pencil on top of 2B for grisaille effect, or make separate drawings with colored pencil only, using blue as base, complementary or analogous colors to achieve 3D values. *Provide color theory lesson(s) with this step.

Practice Sculpture

Option I:

- On small piece of cardboard (3" x 3" or 4"), create small relief fruit or veggie based on reference photos of real fruit or veggie, and facial expressions. Paint with watercolors, add tempera or acrylic where more saturated color is needed. *Practice mixing and applying colors to get accurate color and application.
- Once practice relief sculpture is complete, critique with students for accurate shape, color, appropriate facial expressions based on factual research; determine what changes should be made for clarity of idea and improved sculpture.
- If desired, continue to full 3D larger version of the fruit or veggie; incorporate improvements as needed. *Can include arms and/or legs with expressive pose appropriate to selected expression.
- When 3D sculpture is complete, can stand alone or be placed on top of a can for display. *Students can create their own labels for their cans with pictures and text that emphasize their research-based idea; or the can may be without a label.

Option II:

- Students could work from their drawings and reference photos to create a small practice sculpture in 3D, then while that version is drying, can work on a larger version. When the smaller version is dry, students practice painting that, then critique with students and instructor for improvements. Students then apply paint to the larger final version.

Written Reflection

- Students summarize their research in one or two paragraphs, citing at least one valid resource (3 are recommended). In a last paragraph, student describes their ideas and how they manifested the ideas in painted sculpture form, using applicable elements and principles of design in their description.

Exhibition

- Students exhibit their sculptures to the school body and or on a family night, with accompanying title card naming the fruit or veggie, where it is produced, and a brief description of its GMO status. Student may also want to describe the idea they are communicating based on their research.
- Instructor posts explanation or statement about the curriculum project, for viewers information.
- If a family night, have a reception with music! Students can be there and explain the subject to visitors.

SCULPTURE RUBRIC (SEE SEPARATE DOCUMENT).