

Spotlight Saturday

Alexander Calder's *Four Winds*

Saturday, November 12, 2016

Calder's Artful Balance: Juggling the Elements of Art

Curriculum areas

Art, Science

Introduction

Alexander Calder, educated as a mechanical engineer, created movable sculptures called mobiles. Suspended in the air with wire, organic shapes in bold colors move freely in an ever-changing composition. Using the simple materials of steel, aluminum, wire, and paint, Calder created elegantly floating sculptures that range from tiny to giant. Learn the physics of the elements of art by creating a mobile, which is actually a simple machine. Inspired by Calder's creative process, use careful trial and error to find the balance and master the mechanics of a lever.

Objectives

- Observe and learn about the physical characteristics of a mobile.
- Design and cut shapes in the style of Calder. Pay attention to the colors of the shapes and the placement of the wire in order to achieve a mid-air balanced sculpture.
- Use trial and error to design a mobile you find visually appealing. During this process you might move shapes around to different levels in order to avoid tangling lines or wire in your composition.

Related Artwork in *Telling Tales*

Top, Alexander Calder, *Four Winds*, 1963. Painted steel and aluminum. Collection of the McNay Art Museum, Bequest of Robert H. Halff.

Alexander Calder, *Standing Mobile*, ca. 1940. Steel wire and painted aluminum. Collection of McNay Art Museum. Mary and Sylvan Lang Collection.

Alexander Calder, *Fake Snake (Snake of Table)*, 1944, cast 1969. Collection of the McNay Art Museum, Jeanne and Irving Matthews Collection.

Materials

- Scissors
- Glue and clear tape
- Matboard or lightweight materials including fabric scraps, paper, foam sheets, and plastic sheets
- 20 gauge floral wire
- Needle nose pliers
- .20 inch mono filament
- Xacto blades and cutting mat

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- Fiskars hand drill, dremel drill, or tack
- Jump rings
- Clear nail polish (to prevent fraying if fabric is used)
- Soft cloth (optional)

Discussion

1. Look at *Four Winds*. How did Calder construct the mobile? Identify all the components of the mobile and their relationships to each other. What shapes are repeated?
2. What colors does Calder use in *Four Winds*? Why do you think he used those colors? Does there seem to be a rationale for placing certain colors in certain places?
3. Compare and contrast *Standing Mobile* with *Four Winds*. How does the standing vs. hanging placement of the sculpture change the mobile? How does seeing the *Standing Mobile* up close help you better understand *Four Winds*? Does this sculpture remind you of anything?
4. Looking at *Standing Mobile*, what colors are also used in *Four Winds*? Which colors are new? How do the colors the artist used in both art works make you feel? (happy, excited, playful, curious...)
5. Why do you think the artist titled the sculpture *Four Winds*?

Studio Procedure

1. Sketch a plan for your mobile. Use your sketch as a template to bend your wire upon or for a reference as you bend the wire to shape with needle nose pliers.
2. Determine where to pivot the wire. You may balance the wire on your finger to determine the balance point (fulcrum). Bend the wire with the needle nose pliers to create a fulcrum.
3. Next, draw shapes upon your mat board. Consider your color options as you choose your board. Cut the shapes with an Xacto blade on top of a cutting mat.
4. Mark the points for attaching the wire on the matboard shapes and then drill small openings for the wire. Thread the wire through the small openings securing with wire by bending onto the back of the organic shapes.
5. Carefully attach your shapes onto a wire structure

For questions about this lesson or information about scheduling a tour, please email education@mcnayart.org or call 210.805.1768.

Lesson plan prepared by Kara Salinas, Artist and Educator, Thomas Jefferson High School, karamichelem@gmail.com.

you build. Consider the size and weight distribution of the pieces as you construct your mobile. Try to create a balanced mobile with several organic shapes of a variety of colors. (Refer to your plan when attaching the pieces. Possibly suspend the fulcrum from a jump ring or tie in place with monofilament.)

6. Once you have achieved creating your mobile successfully, suspend from a hook against a background color of your choice and photograph your mobile. Observe the movement, shapes, lines, and shadows of your sculpture.

Extension

1. After constructing your mobile, write a mathematical equation to describe your design. Use graph paper to plot your points of your equation and draw the line. (Example: I use the parabola in my example, $y=x^2$)

Fine Arts TEKS (Art: Middle School 1) §117.202 (1)

Foundations: observation and perception. The student develops and expands visual literacy skills using critical thinking, imagination, and the senses to observe and explore the world by learning about, understanding, and applying the elements of art, principles of design, and expressive qualities. The student uses what the student sees, knows, and has experienced as sources for examining, understanding, and creating original artworks. The student is expected to: (B) understand and apply the elements of art, including line, shape, color, texture, form, space, and value, as the fundamentals of art in personal artworks using art vocabulary appropriately; (C) understand and apply the principles of design, including emphasis, repetition/pattern, movement/rhythm, contrast/variety, balance, proportion, and unity, in personal artworks using art vocabulary appropriately; and (2) **Creative expression.** The student communicates ideas through original artworks using a variety of media with appropriate skills. The student expresses thoughts and ideas creatively while challenging the imagination, fostering reflective thinking, and developing disciplined effort and progressive problem-solving skills. The student is expected to: (C) produce artworks, including drawings, paintings, prints, sculptures/ modeled forms, ceramics, fiber art, photographic imagery, and digital art and media, using a variety of materials. (c:3) **Historical and cultural relevance.** The student demonstrates an understanding of art history and culture by analyzing artistic styles, historical periods, and a variety of cultures. (4) **Critical evaluation and response.** The student responds to and analyzes artworks of self and others, contributing to the development of the lifelong skills of making informed judgments and reasoned evaluations. The student is expected to: (D) investigate and explore original artworks in a variety of venues outside of the classroom such as museums, galleries, or community art.

Science TEKS (Grade 6) §112.18 (2) Scientific

investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: (A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology; (B) design and

implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology; (8) **Force, motion, and energy.** The student knows force and motion are related to potential and kinetic energy. The student is expected to: (A) compare and contrast potential and kinetic energy; (B) identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces; (C) calculate average speed using distance and time measurements; (D) measure and graph changes in motion; and (E) investigate how inclined planes and pulleys can be used to change the amount of force to move an object.

Sources Worth Consulting

- Calder Foundation, <http://www.calder.org>
- VIDEO: "It's like choreography" Calder's sculpture continues to captivate, PBS News Hour, <https://youtu.be/QSF9C2AuIJM>
- *Meet the Artist! Alexander Calder*, Patricia Geis, Princeton Architectural Press 2014.
- McNay Collection Database, <http://collection.mcnayart.org>.
- Visual Arts Blog: Visual and Organic Shapes, <http://visualartspdsf.blogspot.com/2012/02/organic-and-geometric-shapes.html>