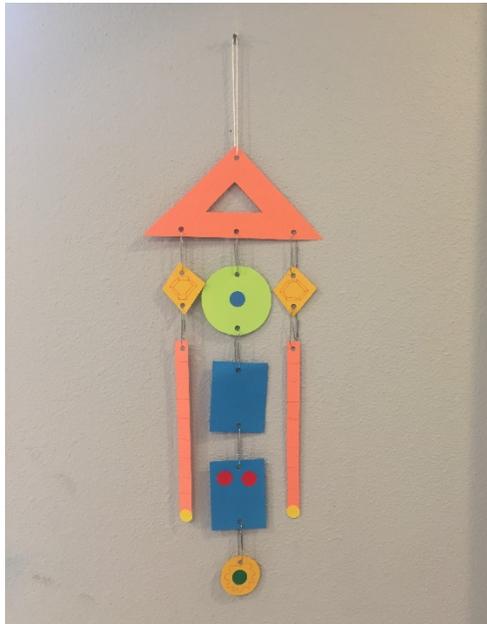


Geometric Mobile



Grade: 3rd

Medium: Kinetic art

Learning Objective: Students will create a kinetic piece of art using balance and symmetry to create a mobile, inspired by the artist Alexander Calder.

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Elements of Art/Principles of Design

Form: an element of visual arts; a 3-dimensional object that has height, length, width, and depth.

Balance: the arrangement of elements that makes individual parts of a composition appear equally important; an arrangement of the elements to create an equal distribution of visual weight throughout the format or composition. If a composition appears top- or bottom-heavy and/or anchored by weight to one side, it is not visually balanced.

- **Symmetrical (formal balance):** the image or form is equally weighted on both sides of a center line.

- **Asymmetrical (informal balance):** the image or form is unevenly weighted radial; the weight of the image or form radiates from a center point.

Movement: the use of the elements of visual arts to draw a viewer's eye from one point to another in an artwork.

Vocabulary Words

Kinetic: relating to motion or movement.

Mobile: artwork that moves with air. Also three dimensional.

Materials & Supplies

- Vinyl paper clips with stripe patterns
- Construction paper. 80 pound weight in a variety of colors
- Hole punch 1/8" diameter (4 to 5 if possible)
- Sticky labels (bright colored and florescent colored stickers in the shape of circles, triangles, rectangles)
- Examples of geometric shapes
- Examples of Alexander Calder's mobiles (images)
- Scissors
- Rulers
- Pencils
- Markers
- Templates: circles, triangles, squares in a variety of sizes

Context (History and/or Artists)

The mobile as we know it today was invented by an artist named Alexander Calder. For 45 years, he experimented and created every type of opportunity to suspend, balance, and move geometric forms in the air. The sculptures were unpredictable. They moved with airflow, but had to be symmetrically balanced to achieve the continual opportunity for movement.

As a child, Alexander Calder was playful and creative. He spent his time creating three dimensional whimsical forms. As an adult, he studied mechanical engineering, but decided to pursue a creative career. Clearly, he merged his scientific and engineering skills with his creativity. The following is a list of jobs Alexander Calder had: draftsman, adviser to lumber trade journal, efficiency expert, traveling salesman for motorized garden equipment, fireman on a ship, designer of action toys.

Advanced Preparation

Find examples of geometric pattern, images of Alexander Calder's mobiles and/or images of other mobiles or art in kinetic motion.

Prepare the templates.

Tips & Tricks

- Have many choices of different shaped templates to trace and cut out.
- Stickers – have a variety of choices: color and shapes.
- Use cardstock, heavy weight paper for the shapes in the mobile. It provides stability to the mobile.

Discussion Points

Discuss the context and history of the mobile as described above in the context section. Discuss the artist Alexander Calder.

Discuss and define kinetic movement. Show examples of images of a mobile. Point out how the airflow affects the art. Point out how balance and symmetry is critical to the success of the mobile. Point out the visual effect the color has in Calder's mobiles.

Reflection Point (Assessment of Learning Objectives)

Ask the class or individuals the following questions:

Can the student tell me about the artist Alexander Calder and what is significant about his art?

Can the student tell me about kinetic movement?

Did the student create a mobile using symmetry to create balance?

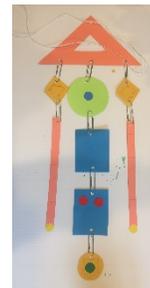
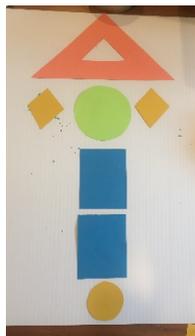
Does the student have design elements on all sides of their mobile?

Instructions for Lesson

Prep all materials for table groups: paper, paper clips, and scissors.

1. Create the paper shapes. Trace and cut out geometric shapes on a variety of colors. Create your own shapes or use templates. The size of the shapes can vary. A good size is 4-6 inches.
2. Cut the shapes out. Be exact about the cutting. This helps with balance and aesthetic.
3. Punch holes in every piece. Do not punch the hole too close the edge. It will be too fragile and tend to tear. Most pieces will need a hole punch at the top and bottom. The shapes at the very bottom of the mobile will only need a hole punch at the top.
4. After all the mobile shapes are cut out, clean-up the extra paper scraps.
5. Add details and designs to the cut shapes. Use the sticky shapes to decorate the paper. Feel free to use scissors to cut the sticky labels to make a unique shape. You may also use markers to add your own design details. Make sure to add details and designs to both sides of each paper. Remind the students that this art piece is 3-D kinesthetic art. You will be able to view it from all sides. All sides should have details.
6. Create the mobile. Layout the design arrangement. Take time to experiment and re-arrange the shapes until you find an image that is both pleasing and balanced. Rearrange the art three times. Have about an inch between each shape. Create a design so that all parts hang free of obstruction or bumping another shape.
7. Next, add the paper clips. Pry the paper clip open and slide through the punched hole. Rotate the paper clip to the bend. Add the second paper and close the end the paper clip.
8. Hang the art work to the ceiling so the artwork can hang freely. Attach fishing line to the mobile and add thumb tack to the top of the fishing line to attach to the ceiling.

Examples:



References and Attributions

Alexander Calder, Biography. The Collection, National Gallery of Art, Washington, DC. Accessed February 8, 2005. <http://www.nga.gov/cgi-bin/pbio?55300>

National Gallery of Art, Washington, DC. Accessed February 8, 2005. <http://www.nga.gov/>

On the Making of Mobiles by Alexander Calder. Calder Exhibition, National Gallery of Art, Washington, DC. Accessed February 8, 2005. <http://www.nga.gov/exhibitions/calder/realsp/room8a-7.htm>

Notes for Educators

21st Century Thinking Skills

Problem Solving – Determining a solution(s) for a problem.

Decision Making – Choosing from alternatives.

Visualizing – Creating a mental image.

Predicting – Determining what will happen next.

WA State Learning Standards

(VA:Cr1.1.3) Elaborate on an imaginative idea.

(VA:Cr2.1.3) Create personally satisfying artwork, using a variety of artistic processes and materials

(VA:Pr4.1.3) Investigate and discuss possibilities and limitations of spaces, including electronic, for exhibiting artwork.

Arts Integration Opportunities:

Connect this lesson to math and science lessons.

Math concepts are symmetry and balance. Use math equations to show balance or equality on both sides of the equal sign. The same principal works in the creation of a mobile. The mobile requires balance and equality. If it does not have balance and equity, the mobile will tilt to one side. Again, compare to math equations.

The science connection is motion and balance.

Motion - Study how motion is created by a force: a burst of wind, a ball rolling down a ramp, a pushing motion. That force puts something in motion. On the mobile the force is create by airflow. The motion of the mobile will keep moving and bouncing when there is airflow or another motion is placed on the mobile. The mobile reacts to that motion and produces another motion. It moves back and forth in a gentle bouncing way.

Balance – Study teeter totters. Use the science concept of balance on the teeter totter. Study the impact adding weight to one side of the teeter totter. Notice and observe how the balance changes. Change the pivot or center point of the teeter totter and notice the impact on balance. Keep experimenting by changing the weight factor and the pivot point.