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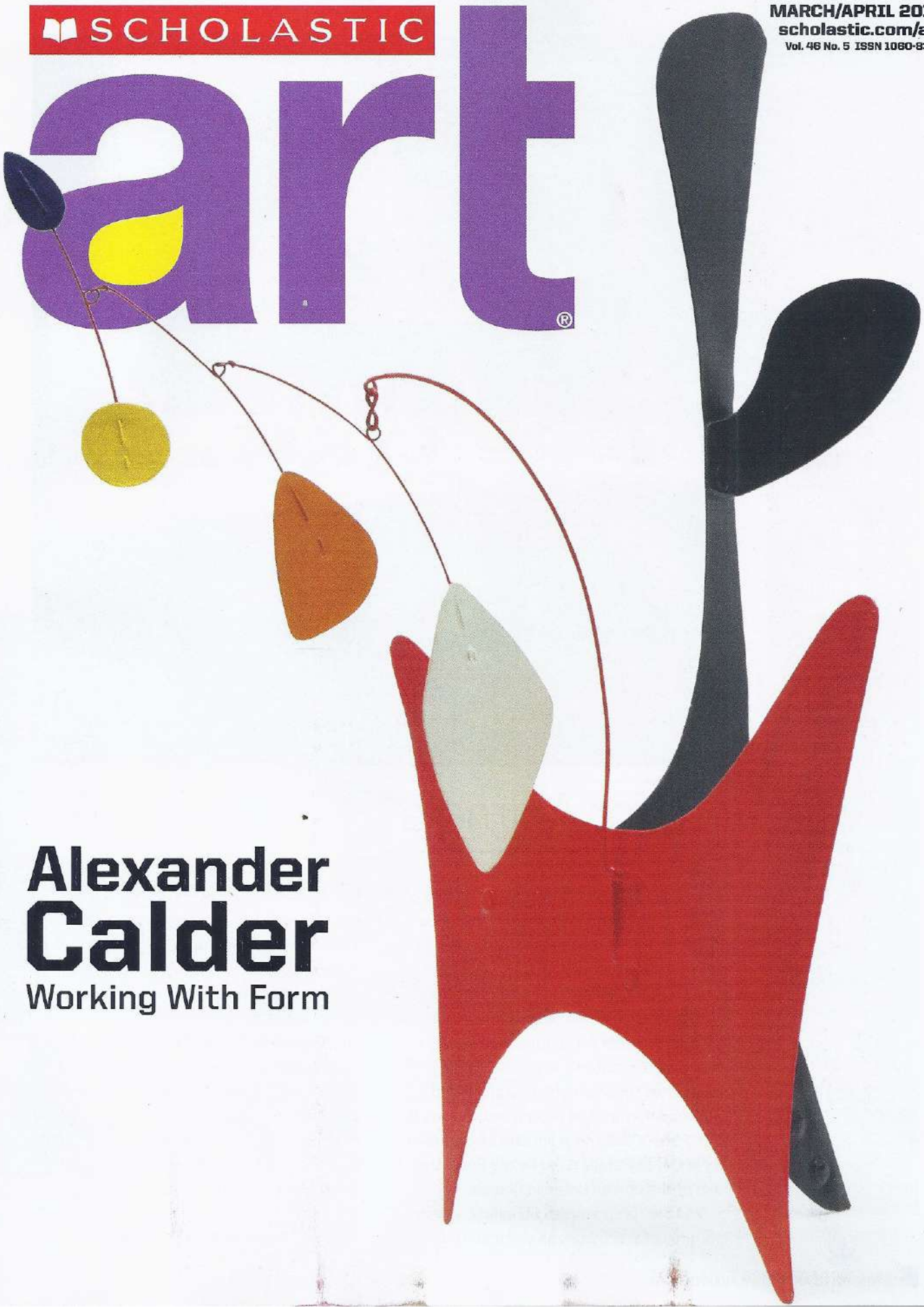

Alexander Calder

Working With Form

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Slide Show: Connections to Calder

Debate: Ai Weiwei Against the LEGO Group

How-to Video: Create a Standing Mobile

How does the scale of this installation help communicate its message?

Penguins projected on St. Peter's Basilica. Photography by David Doubilet. Artistic rendering by Obscura Digital.

Art for Animals

Many biologists say that half of the animals on Earth will be extinct by 2100. To highlight this critical issue, Louis Psihoyos (sih-HOH-yuhs), a photographer and film director, and Travis Threlkel (threl-KEL), a lighting designer, and other artists created a larger-than-life installation. For one night in December, the team transformed the façade (exterior wall) of St. Peter's Basilica in Vatican City. Vatican City is the city-state ruled by the Pope, the head of the Roman Catholic Church.

The team programmed 50 industrial-size light projectors to work as one unit. The projectors shined moving images of animals, like the penguins above, onto the building. The combined lights overpowered the competing glow of the nearby city lights.

The installation at the Vatican follows a similar event held in New York City last July. There, the team projected images of endangered animals onto the side of the Empire State Building. That installation promoted a documentary by Psihoyos called *Racing Extinction*. The artist hopes the scale of the works will inspire people around the world. "Everyone can make a huge difference by altering their behavior just a little bit," Psihoyos tells *Scholastic Art*.

Big Blooms

Until recently, people had no reason to linger in Vallero Square, in the heart of Jerusalem, Israel. People passed through the small park on their way to and from work. Despite its central location, there was nothing to attract people to gather there. Hoping to brighten the stark city square, designers from HQ Architects installed four giant artificial flowers in it.

Known as the Warde project, the bright-red flowers are nearly 30 feet tall and 30 feet wide. Pressurized air allows the flowers to "bloom" and "wilt" in response to the motion of people nearby. Lights inside the flowers create a warm, soft glow after sunset. "The urban space suddenly reacts to the people using it," explains a representative from HQ Architects. The project's designers hope the flowers will make the square a friendlier place for community events.

How does the Warde project bring new life to this urban space?

Image credit: ©Dor Kedmi, 2014 for HQ Architects.

What do this sculpture's materials say about our culture?

Will Ryman, *Cadillac*, 2014. Courtesy of WR Studio Inc. (2)

CADILLAC OF BOUNTY

After World War II, industries like auto manufacturing boomed in America. And for the first time in years, people had the money to indulge in big purchases like the enormous, luxurious Cadillac.

Sculptor Will Ryman wanted to re-create this iconic mid-century American status symbol. He assembled his own life-size classic 1958 Cadillac, capturing all of the details—from the massive engine to the delicate tail fins. But he used disposable materials: paper towels and resin. The fragile materials connect the ideas of luxury and disposability. He seems to say that Americans no longer value long-lasting products, instead favoring those that are meant to be discarded, like paper towels.

Alexander Calder (1898-1976), *Cirque Calder*, 1926-1931. Wire, wood, metal, cloth, yarn, paper, cardboard, leather, string, rubber tubing, corks, buttons, rhinestones, paper cleaners, and bottle caps, Overall: 54x94 1/4x94 1/4in. (137.2x239.4x239.4cm). Whitney Museum of American Art, New York; Purchase, with funds from a public fund-raising campaign in May, 1982. 83.36.1-72. Photography by Sheldan C. Collins. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Alexander Calder created *Cirque Calder*, shown above.

Alexander Calder in his Roxbury Studio, 1944. Location: Calder Foundation, New York, NY. Calder Foundation, New York/Art Resource, NY. Digital image: Eric Schaal (1905-1994) ©ARS, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

A Dynamic Artist

Alexander Calder combined sculpture and performance art in *Cirque Calder*

The circus—with its dazzling lights, buttery popcorn, and lively music—is a feast for the senses. In the 1920s, a young artist named Alexander Calder wanted to capture the excitement of the circus. He crafted tiny sculptures representing circus animals, acrobats, and clowns. Together, these figures, shown above, are *Cirque Calder*.

Calder designed the small sculptures so that they could move with his help. For instance, when he pulled on long strings attached to the ringmaster's arms (above right, lower left picture), the figure appeared to wave. Calder performed his circus for audiences in Europe and the United States.

The Ringmaster

Young Alexander (or Sandy, as his family called him) had a workshop in his basement. There, he made small sculptures and gifts for his family. Calder's parents, who were both artists, encouraged him. They "were all for my efforts to build things myself," the sculptor later recalled.

Calder studied mechanical engineering in college. After graduating, he held a

CAN YOU IDENTIFY EACH OF THESE FIGURES IN THE INSTALLATION PHOTO AT LEFT?

variety of jobs, including one at a logging camp in Washington state. Calder wanted to paint the landscapes he saw there, and so the artist asked his mother to send him brushes and paints. In 1923, Calder decided to formally study art.

Cirque Calder

A few years later, Calder met a toy merchant who encouraged him to try designing **mechanical** toys. With his intuitive engineering skills, Calder taught himself how to make toys with pull strings, levers, and gears. By adding these technical elements, he invented toys, like the ringmaster, that appeared to move by themselves.

Calder's experiments with toy design eventually led to *Cirque Calder*. He crafted the animals, acrobats, and clowns in his circus from fabric, wire, leather, cork, and other **found materials**.

To capture the **essence** of each character, Calder observed real circus performers in action. Then he figured out how to **animate** his sculptures so they could move like their live counterparts. For example, Calder turned a small crank to make the horse and rider, above left, "gallop" effortlessly around the small-scale circus ring.

A Star Discovered

Cirque Calder is an early example of **performance art**, meaning that Calder himself presented the work in front of live audiences. He was like a puppeteer, carefully operating each miniature sculpture with weights, string, and wire.

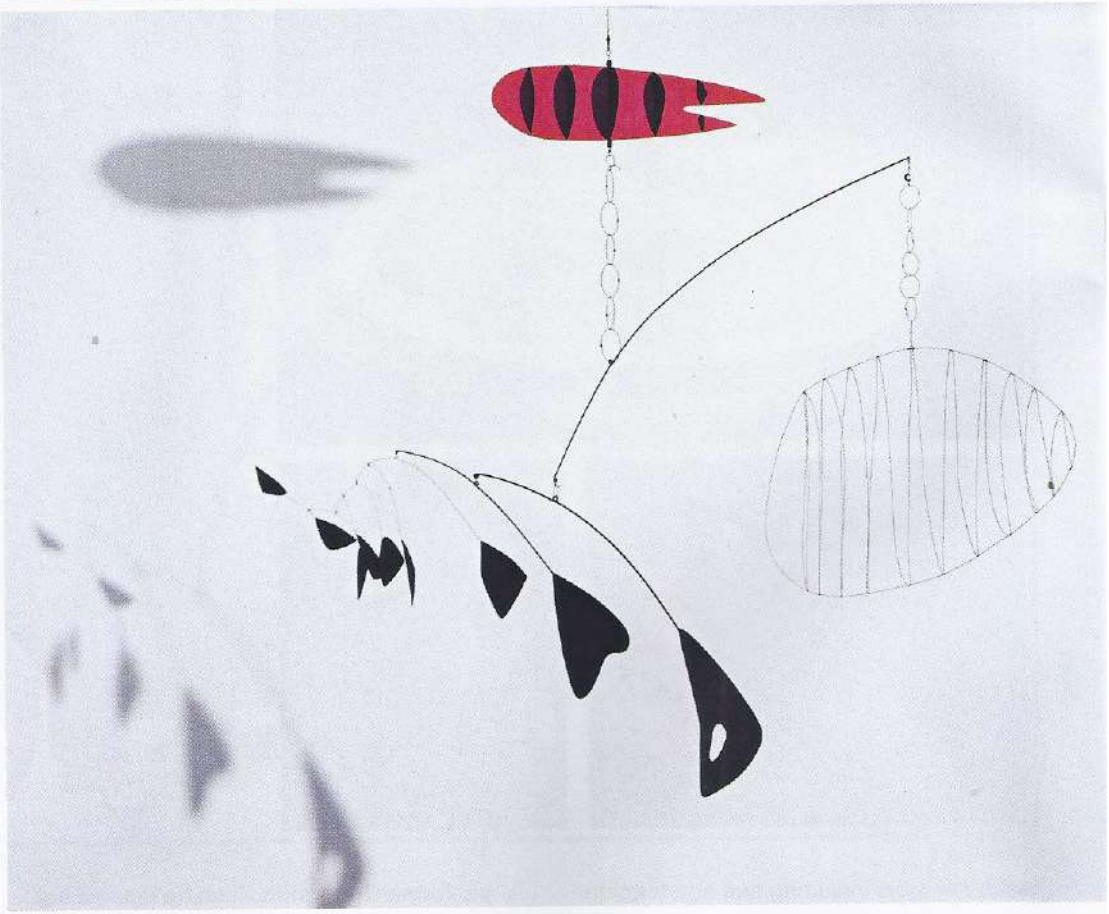
Many notable artists attended performances of *Cirque Calder*. The sculptor impressed these artists with his innovative, unusual art form. Several of them even invited Calder to visit their art studios. Their modern notions of art inspired Calder to experiment with other, more modern types of sculpture. Turn the page to learn more!

CLOCKWISE FROM TOP LEFT: Alexander Calder, *Equestrian Act*, 1926-1931, from *Cirque Calder*. Wire, cloth, wood, cardboard, paint, rhinestones, nails, and thread, 12 1/2x5x5 1/4in. (31.8x12.7x13.3cm); painted wood, wire, rubber, and thread, 9 1/4x9 3/4x3 1/8in. (23.5x24.8x7.9cm) and painted wood, wire, rubber, and thread, 9 1/4x9 3/4x3 1/8in. (23.5x24.8x7.9 cm). 83.36.17.1a-b, 83.36.28 and 83.36.56a-b. Photography by Sheldan C. Collins. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Alexander Calder, *Clown*, 1926-1931, from *Cirque Calder*. Galvanized steel wire, painted wood, cloth, yarn, leather, metal, and button, 10 1/2x7 3/4x5 3/4in. (26.7x19.7x14.3cm). 83.36.3a-h. Digital image ©Whitney Museum, NY, ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Alexander Calder, *Camel* from *Camel, Clown, and Kangaroo*, 1926-1931, from *Cirque Calder*. Cloth, thread, and wire, 6 5/8x5 3/4x4 1/4in. (16.8x14.6x10.8cm). 83.36.14. Photography by Sheldan C. Collins. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Alexander Calder, *Monsieur Loyal (Ringmaster)*, 1926-1931, from *Cirque Calder*. Wire, cloth, leather, cardboard, cork, paper, and rhinestones, Overall: 8x11x5 3/8in. (20.3x27.9x28.6cm). 83.36.26. Photography by Sheldan C. Collins. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.



> "Just as one can compose colors, or forms, so one can compose motions."
>
> **–Alexander Calder**

What makes this a kinetic sculpture?

Alexander Calder, *Lobster Trap and Fish Tail*, 1939. Painted steel wire and sheet aluminum, 8ft.1/2in.x9ft.1/2in. (260x290cm) in diameter. Commissioned by the Advisory Committee for the stairwell of the Museum of Modern Art. Digital image: ©The Museum of Modern Art/Licensed by SCALA/ Art Resource, NY. ©ARS, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

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Sculpture in Motion

How does Calder use shapes in his abstract work?

Did you have a mobile hanging above your crib when you were a baby? If so, you have Alexander Calder to thank! He invented the **hanging mobile**, a work of art **suspended**, or hung, from above. People loved Calder's bright, dynamic mobiles, like the one above, so much that they began making toy mobiles for children.

Reality Simplified

In 1930, before he invented the mobile, Calder visited his friend Piet Mondrian's (peet MON-dree-ahn) art studio. Mondrian is known for his **abstract** (simplified; nonfigurative) paintings of squares and rectangles. The artist's unusual studio space startled Calder. "This one visit gave me a shock that started things," he later explained. "Though I had heard the word *modern* before, I did not consciously know or feel the term *abstract*."

This experience inspired Calder to try his own hand at making abstract art. Instead of sculpting **realistic** animals and people, he used simple shapes to make sculptures that often evoke them. Look at the hanging mobile above. Do the shapes remind you of anything? The title of the work, *Lobster Trap and Fish Tail*, should help you relate the shapes to what they vaguely recall.

How is this standing mobile different from a hanging mobile?

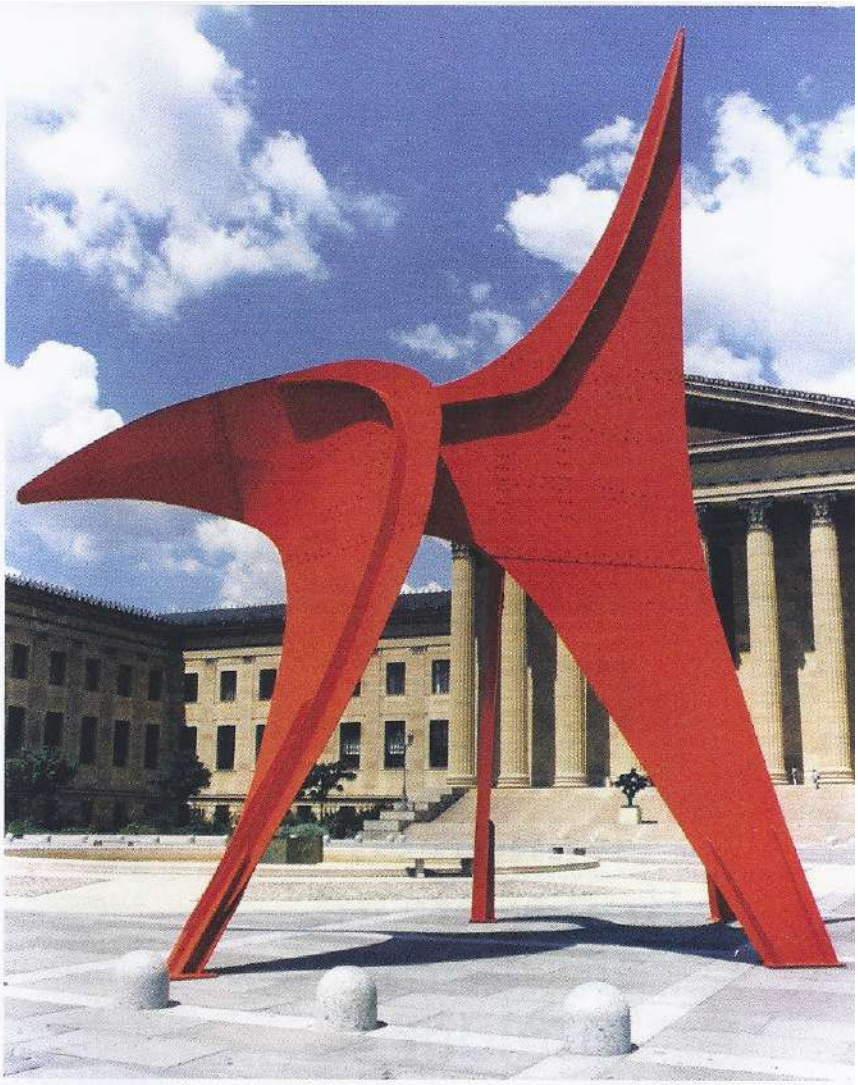
Alexander Calder, *Untitled*, 1939. Standing mobile: sheet aluminum and steel wire, painted, 14 5/8x9x10 7/8in. (37.1x22.8x27.5cm). The Museum of Modern Art, NYC. Kay Sage Tanguy Bequest (1122.1964). Digital Image: ©The Museum of Modern Art/Licensed by SCALA/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Art That Moves

Calder's mobiles are **kinetic**, meaning that they can move. In the example at left, Calder created chains of wire loops. These loops allow the carefully **balanced** sculpture to spin freely as air drifts through the room. The constantly moving shapes might remind you of the way fish effortlessly swim through water.

Calder also made **standing mobiles**, which he placed firmly on flat surfaces. *Untitled*, above and on the cover, stands on three narrow points. Red and black **planes** make up the main structure of the sculpture. Calder used wire to suspend small shapes from the red plane. The shapes move with a breeze just like those in one of Calder's hanging mobiles.

The Eagle, above right, is a **stabile**, which means it is stable, or not moving. Even when making **static** sculptures, Calder wanted to represent movement. Although the artist made *The Eagle* with rigid steel, the metal seems to swoop through space. The gracefully curved lines echo the movements of a bird in flight.



The Art of Experience

Calder thought about every aspect of his sculptures, including the ways in which viewers would interact with them. "You have to walk around a stabile or through it," Calder once explained. "A mobile dances in front of you."

Viewers must move around and under a **monumental** (larger than life) stabile, like *The Eagle*. By seeing it from many different angles, people experience the shape of the sculpture in relation to their own bodies. As the viewer moves, the massive shape gradually shifts.

As air moves a mobile, such as *Lobster Trap and Fish Tail*, the positions of the shapes change in relation to one another. The **negative space** between the shapes also varies. Like most of Calder's sculptures, no matter how many times you see it, the sculpture is always different.

How does Calder create a sense of movement in this stabile?

Alexander Calder, *The Eagle*, 1971. Location: Calder Foundation, New York, NY. Digital image: Calder Foundation, New York/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

SKETCHBOOK STARTER

Sketch a design for an abstract, kinetic sculpture.

How are Calder's wire portraits like line drawings?

Alexander Calder, *Medusa*, c. 1930. Wire, 12 1/4x17 1/4x9 1/2in. (31.1x43.8x24.1cm). Calder Foundation, New York, NY. Image: Calder Foundation, New York/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

5 Things to Know About Alexander Calder

1 WORKED IN WIRE ▲

Calder used wire to create sculptures that are like three-dimensional **line drawings**. Sometimes he suspended his innovative portraits, like this one. These works are not much larger than real human faces. Calder carefully shaped the wire to define the eyes, nose, and other facial features of his subjects. His portraits were often **caricatures** of real people. This portrait represents Calder's wife Louisa, whose nickname was Medusa.

Why did Calder use primary colors?

Alexander Calder, *Flamingo*, 1974. Steel, 53ft. (1,820cm) high. The City of Chicago. Digital Image: ©DEA Picture Library/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

2 PRIMARY PALETTE ◀

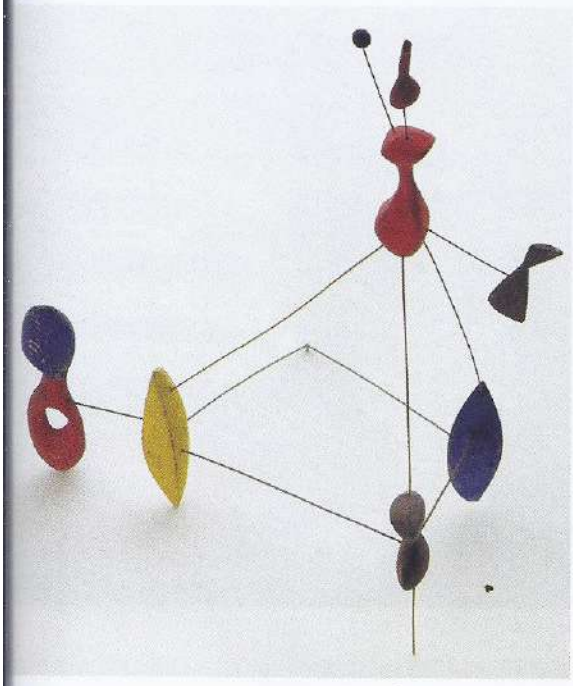
Calder chose the colors for his sculptures carefully. He worked often with black and white, which he called "the most disparate (different) colors," and **contrasting**, vibrant **primary colors** (red, blue, and yellow). Calder also used **secondary colors**, like orange and green, although he once said they "confuse and muddle the distinctiveness and clarity." His favorite color was black, although he once famously announced, "I love red so much that I almost want to paint everything red." Many examples of his public art, such as *Flamingo*, left, are red. The bold color pops against cityscapes, like this one, and natural landscapes alike.

3 DESIGNED WEARABLE ART ▶

Calder also designed jewelry. As a child, he made simple accessories for his sister's dolls. As he grew as an artist, so did the complexity of his jewelry. Frequently working with common materials such as brass, leather, and colored glass, Calder created one-of-a-kind works of wearable art. He saw jewelry as another form of sculpture. He bent his materials into **organic shapes**, like the leaves, spirals, and flower in this brass necklace. Celebrities such as Peggy Guggenheim, a famous art collector, wore Calder's earrings, bracelets, and necklaces.

How are Calder's jewelry designs similar to his other sculptures?

Alexander Calder, *Flower Necklace*, c. 1938. Brass wire, Loop: 24 1/4in. (61.6cm); Flower: 6 11/16x6 3/4in. (17x17.1cm). Calder Foundation, New York, NY. Digital image: Calder Foundation, New York/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.



◀ 4 INSPIRED BY NATURE

Many of Calder's works are abstractions that recall animals, plants, and the natural world. During the artist's life, scientists made many discoveries about the solar system. Calder was especially interested in the mysteries of outer space, and he found ways to represent them in his sculptures. In *Constellation With Two Pins*, Calder hand carved small wood forms. Then he connected the abstract shapes with thin wires, much like stargazers do when tracing lines among the stars that make up constellations like the Big Dipper.

Can you identify other works on these pages that reflect Calder's interest in nature?

Alexander Calder, *Constellation With Two Pins*, 1943. Wood, wire, and paint, 15 1/2x17 1/4in. (39.4x43.8cm) Location: Calder Foundation, New York, NY. Digital image: Calder Foundation, New York/Art Resource, NY. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

5 REWORKED AND REVISED ▶

Calder's largest mobile hangs in Washington, D.C.'s National Gallery of Art. Because it is so large, Calder encountered many challenges while designing this work. In fact, he had to change his materials before the work was complete. He originally envisioned it in steel, but the 76-foot-long, 13-panel mobile was too heavy. The artist felt that, because of its weight, air couldn't move the sculpture the way he intended. Calder worked with a friend to redesign it in aluminum, using lightweight hollow tubes and honeycomb panels. Even with these lighter materials, the completed work still weighs 920 pounds!

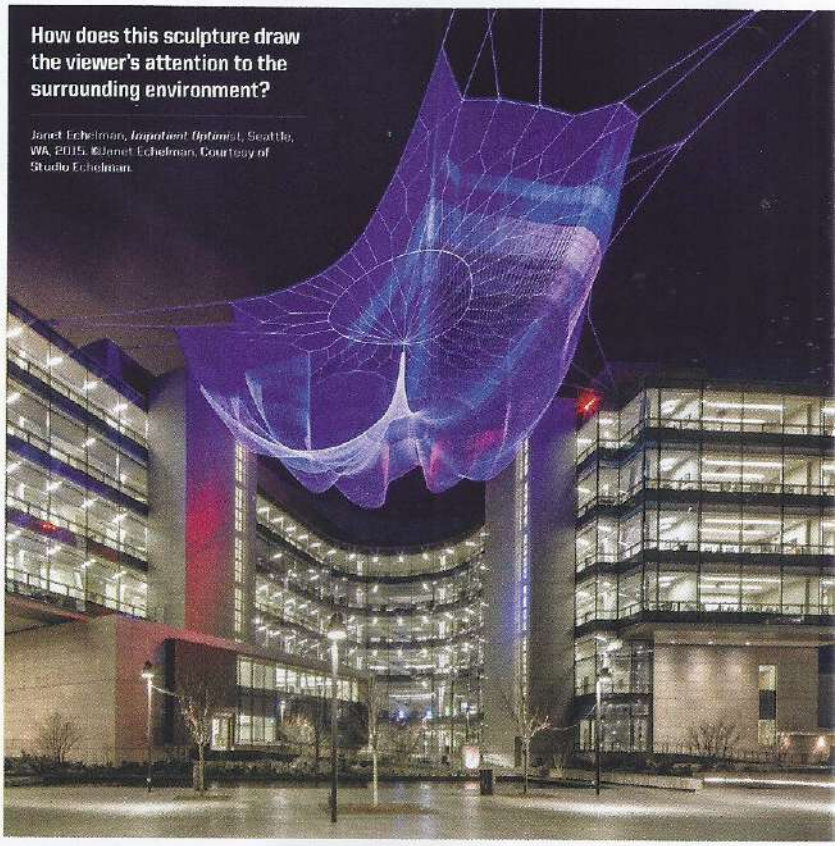
How did the scale of this mobile affect Calder's design process?

Alexander Calder, *Untitled*, 1976. Aluminum and steel, Overall: 358 3/8x911 5/8in. (910.9x2,315.5cm). National Gallery of Art, Washington, DC. Gift of the Collectors Committee. 1977.76.1. ©2016 Calder Foundation, New York/Artists Rights Society (ARS), New York.

Playing With Balance

Three of today's top artists continue Calder's artistic tradition

Calder changed the way people think about sculpture. Instead of putting his work on pedestals, separated from the audience, Calder showed us that sculpture can be interactive, kinetic, and playful. Today, artists continue to push Calder's innovations in new directions, constantly developing sculpture as an art form. Can you find similarities among the three contemporary works shown here and those by Calder?



How does this sculpture draw the viewer's attention to the surrounding environment?

Janet Echelman, *Impatient Optimist*, Seattle, WA, 2015. ©Janet Echelman. Courtesy of Studio Echelman.

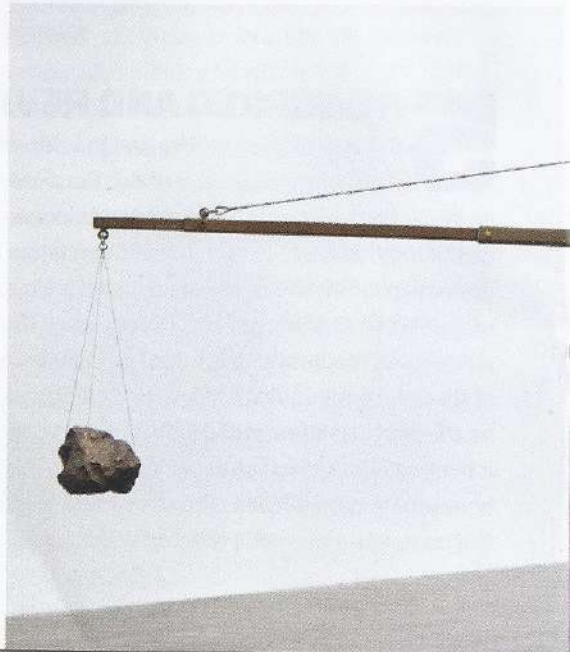
JANET ECHELMAN: Site-Specific Suspension ▶

Massachusetts artist Janet Echelman (eh-KUHL-man) uses ancient Indian techniques to weave sculptural nets. At night, LED lights **illuminate** the work in dazzling and constantly changing colors. The artist suspended her expansive 2015 work *Impatient Optimist* between two buildings in Seattle. Hanging 55 feet above the ground and made of lightweight fibers, the delicate net sways in the breeze. The complex shape shifts in response to its environment—the ever-changing natural light, wind, and rain. Like Calder's mobiles, Echelman's work is always changing.

Impatient Optimist is a **site-specific** sculpture. When designing this work, Echelman took photographs of the sky in Seattle every five minutes for an entire day. She then worked with engineers, lighting designers, and software developers to analyze the data she'd gathered. The color of the LED lights and shape of the net are directly related to the natural light, color, and architecture that surround the work.

WRITE ABOUT ART

Select one of the works on these pages and one work by Calder. Write a paragraph comparing and contrasting the two sculptures.



◀ NICK CAVE: Performing in Wearable Art

While Calder invented his own toys, Nick Cave uses manufactured toys and **found objects** in his work. Cave, who lives and works in Chicago, is an artist, dancer, and fashion designer. He is best known for his Soundsuits, like the two shown here. He **assembles** these sculptures on a **human scale**. Performers dance while wearing the colorful suits, which often create sounds when they move.

Even when on static display in a gallery, this work, completed in 2013, conveys a sense of potential motion. It seems as if the masked bear in the **foreground** could disrupt the seesaw's balance and the standing mannequin in the **background** could topple at any moment. The toys extend from the mannequin in a complex arrangement, while the repeating circular **pattern** on the suit energizes the sculpture.

How are Cave's Soundsuits similar to *Cirque Calder*? How are they similar to Calder's jewelry?

Nick Cave, *Soundsuit*, 2013. Mixed media including vintage toys, synthetic hair, beaded and sequined garments, hot pads, metal, and mannequin, 115x148x36 in. ©Nick Cave. Photo by James Prinz Photography. Courtesy of the artist and Jack Shainman Gallery, New York.

CHRIS BURDEN: Physics Equation ▼

Calder balanced abstract shapes on slender wires to create his standing mobiles. American artist Chris Burden pushed this technique to its extreme in his 2013 *Porsche With Meteorite*. The sculpture is like a three-dimensional math equation. Burden figured out where the **fulcrum** (central support) needed to be to **counterbalance** a 390-pound meteorite and a working 1974 Porsche.

The unusual suspended objects also add humor to the sculpture. Though wildly different, they both contain metal. "A really good German craftsman, with a good hammer, could make a really great Porsche out of that meteorite," Burden once joked. "It's a silly fantasy."

How does Burden use humor in this sculpture?

Chris Burden, *Porsche With Meteorite*, 2013. ©Chris Burden. Photography by Benoit Pailley. Courtesy of the Chris Burden Studio and Gagosian Gallery.

DEBATE

Tiny Toys, Big Uproar

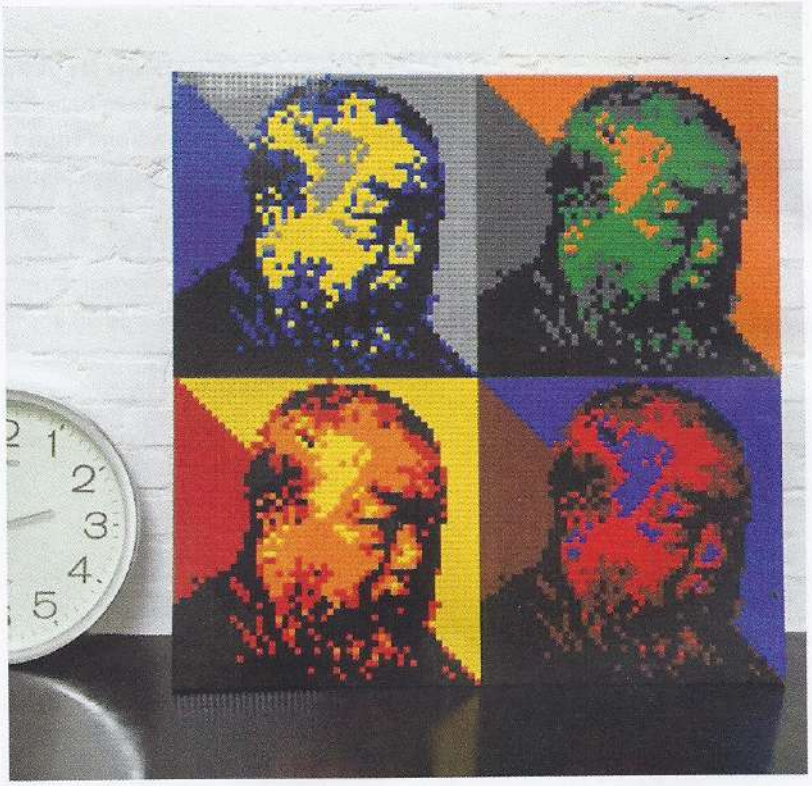
Was the LEGO Group right to refuse an artist's order?

One of the world's most popular toys, LEGO® bricks, have inspired children for generations. The LEGO Group sells approximately 46 billion of the colorful, interlocking blocks every year—enough to circle Earth 18 times if laid end to end. But now the beloved toys are at the center of a controversy. It all began when Chinese artist Ai Weiwei (aye wayway) placed a bulk order for the bricks and the LEGO Group rejected the order.

Ai makes art installations that highlight human rights issues. In 2014, Ai used LEGO bricks in an installation at Alcatraz, a former prison located on an island off the coast of San Francisco, California. He used the colorful blocks to create portraits of 176 people who are imprisoned or in exile because of their political or religious beliefs.

Last October, Ai began preparing for a new exhibition in Australia. He tried to place a bulk order of several million LEGO bricks for an artwork he planned to include in the show. Knowing that Ai's work can cause controversy, the LEGO Group denied the artist's request. Officials at the company said that their products are children's toys meant for creative play, and should not be used to express political messages.

Ai says that this is censorship. He points out that, just like a company that sells pens can't dictate what authors write with their products, the LEGO Group shouldn't decide what people build with their toys.



The LEGO Group wouldn't allow artist Ai Weiwei to make a bulk purchase.

Ai Weiwei, *Letgo Room*. ©Ai Weiwei.

Ai took to social media to share his experience. In response, people from all over the world donated LEGO bricks for Ai's new exhibition, which opened in December. One of the works in the show, *Letgo Room*, features portraits of Australian political activists made of donated and imitation bricks.

Following the public's response, the LEGO Group changed their bulk sales policy. Beginning in 2016, the company no longer asks people to explain the intended themes of their projects when placing bulk orders. Instead, customers must disclose to the public that the LEGO Group doesn't support or endorse any political message presented with LEGO products.

What do you think? Was the LEGO Group right to deny Ai's order?

Tell us what you think!
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CRAFT AN ARGUMENT

1. What is the LEGO Group's reasoning for refusing Ai's order?
2. Why does Ai view the LEGO Group's refusal as censorship?
3. Should artists be allowed to use or depict consumer products in their artworks? Why or why not?

STUDENT OF THE MONTH

How does Ellie use balance, form, and suspension in her sculptures?

Sci-Fi Sculptures

This artist crafts tiny critters with wire and metal

Ellie Bodor's art is fueled by her passion for science fiction. She shapes metal wires into futuristic sculptures. A ninth-grader at Pine View School in Osprey, Florida, Ellie's dream is to someday make prosthetics (artificial limbs) for humans. "I want to be on that frontier," she adds excitedly, "where we'll blend humans with machines."

When did you first get serious about art? In middle school, people started noticing my sculptures and liked them. Their comments made me realize that what I was doing was much more than a hobby. They inspired me to keep working.

How did you come up with your ideas? I wanted a visually exciting hummingbird, so I added lots of wild colors. I made the robotic bug after I looked at pictures of scorpions and other spiny bugs. I worked with screws and sharp machine parts to make the bug look scary.

What made you decide to work with industrial materials? I try to portray a fictional world of robots, machines, gears, and cogs as much as I can in my sculptures. Metal wire is a perfect medium for me. I love how malleable the wires feel as I bend them into shape.

How did you create your sculptures? Using wire cutters and pliers, I bent 16-gauge wire to create a frame for each sculpture. Once I shaped its pose, I used a higher gauge but thinner wire to add the "skin" and other details, like feathers. I used copper-colored wire to add color. I continued to make adjustments and improvements as I worked.

What was the biggest challenge creating these figures? My figures don't have eyes, so I have to suggest attitude through their forms, poses, and gestures.

Do you have a favorite sculpture? Why? I'd have to say the robotic bug. It's the most solid-looking and the most imposing sculpture. I was really surprised how well it turned out. Using screws was the perfect choice to make it sci-fi and scary.

Do you have any advice for aspiring artists like yourself? Be original. Keep pushing yourself to do better. Learn from your mistakes, but don't dwell on them.

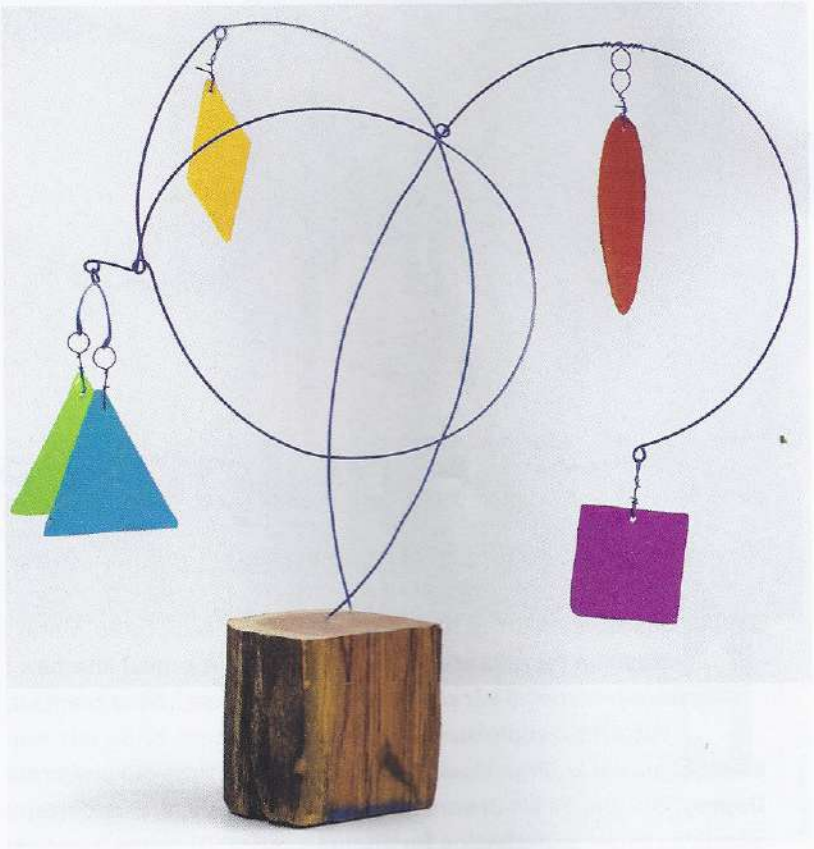
Scholastic Art & Writing Awards

Ellie won Gold Keys for her sculptures in the 2015 Scholastic Art & Writing Awards. To find out more about this program, visit artandwriting.org.

Ellie Bodor

Ellie Bodor, 15, Gold Key, Silver Metal, Sculpture. Images courtesy of the Alliance for Young Artists & Writers and the Scholastic Art & Writing Award Winners of 2015.

The student who designed this work curved the wires to create a graceful, dynamic form.



Create a Standing Mobile

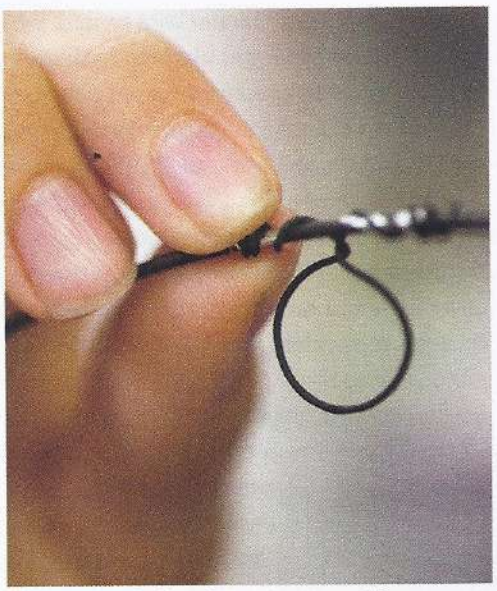
Use what you've learned about balance to design your own standing mobile

You've seen how Alexander Calder used balance in his sculptures. Now it's your turn to create your own standing mobile by experimenting with Calder's techniques.

MATERIALS

- pencil
- sketch paper
- cut wood for bases
- drill
- wood glue
- acrylic spray paint, varied colors
- sheets of thin cardboard
- scissors
- 22-, 18-, and 16-gauge wire
- wire cutter
- pliers
- awl
- hammer

Watch a Video! *scholastic.com/art*



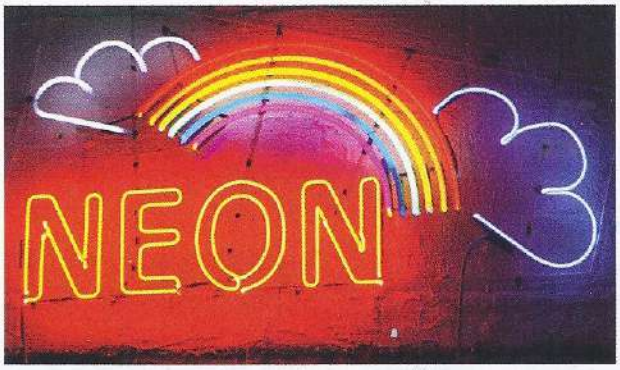
Add loops and other shapes to your mobile by twisting the wires together.

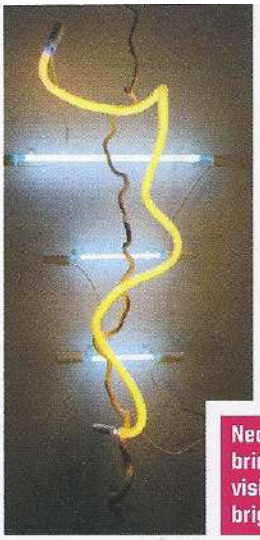
Prepared by: Merlene Schain, Schain Studios of Fine Art, Cincinnati, Ohio

STEP 1 Prepare Your Standing Mobile

Sketch a rough design for your kinetic standing mobile. Think about how you'll suspend the shapes to create a balanced sculpture. Once you're satisfied with your design, select a wooden base. For each of the wires that will be inserted into the base, drill a small hole. Carefully place a drop of wood glue into each hole, and then press a long wire into each. When the glue is dry, bend the wires to form the shapes in your sketched design. Cut off any excess wire. Then cut shorter lengths of wire and twist them into small loops and other shapes. You might even link several loops together to create a chain. You'll use these loops to attach the hanging shapes to your sculpture. Set them aside for later.

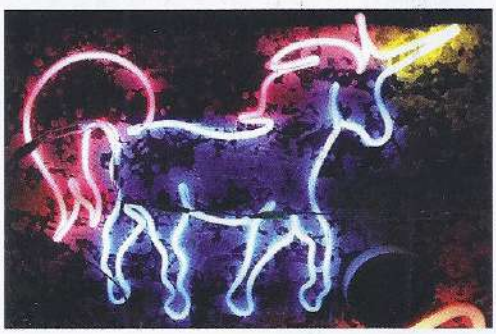
TIP: Continue adjusting the shape of the wires as you work. Trial and error will help you design a dynamic work.

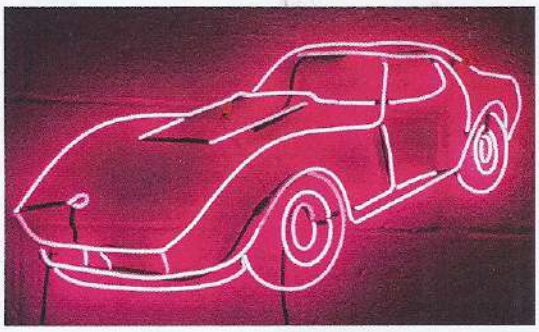




Neon fabricators bring artists' visions to life in bright colors.

David Ablon working with neon tubes in his shop





Sculpting With Neon

David Ablon talks about making glass glow

Scholastic Art: What is your job?
David Ablon: I'm a neon fabrication specialist. I've worked with fashion designers, movie set designers, lighting designers, and artists to create neon works of art—art made from glass tubes that are filled with gas and glow in different colors.

SA: How do you make artwork in neon?
DA: First, I have to decide on the diameter and color of the glass tubing I want to use. Then I draw a pattern. Using the pattern as a guide, I make marks on the tube where I'll make the bends.

SA: How do you bend the tubes?
DA: I hold the marked area of the tube over a flame and start slowly bending the glass to match the pattern. As I bend the tube over the flame, I blow into the tube so that the diameter of the heated area is maintained—otherwise it will collapse.

SA: How do you make different colors?
DA: Colors are made in many different ways. It comes down to the tubing, which can be clear or colored, the fluorescent coating—if there is any—and the gas, either argon mercury, which is a blue gas, or neon gas, which is bright orange.

SA: How did you decide to become a neon fabricator?
DA: I was very fortunate that my college had a neon department. I loved working with my hands. I didn't need any knowledge of physics or electricity or anything. That came later. I just loved working in neon.

SA: What skills do you need to succeed in your job?
DA: You need to be really good at failing. The glass bending part of fabricating neon art is very delicate. So you've got to keep working at it to get past the failures.

CAREER PROFILE

NEON FABRICATOR

SALARY:
Neon fabricators can earn from $35,000 to $55,000 per year, depending on location and experience.

EDUCATION:
Many neon fabricators have a bachelor of fine arts degree (B.F.A.) in glass blowing or a related field.

GETTING STARTED:
- ▶ Find inspiration in the neon around you. Think about how the colors work together and how many times the glass tubing had to be bent.
- ▶ Take a glass-blowing class. Gain a feel for the delicate process of shaping glass.
- ▶ Learn the history. Check out books from your library about vintage neon signs and art.

Images courtesy of Precision Neon; Clockwise from upper left: Howard Freeman, *Neon Rainbow*, 1988; Annesta Le, *Healing Ritual*, 2015; David Rozo; Kate Hush, *Little Pink Corvette*, 2014; Precision Neon, *Neon Unicorn*, 2015.

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The student who created this standing mobile counterbalanced two large shapes on the left with six small ones on the right.

What makes this a kinetic sculpture?

STEP 2 Cut Your Hanging Shapes and Paint

Use a pencil to draw simple shapes on a sheet of thin cardboard. You might want to try varying the sizes, and therefore the weights, of your shapes. Use scissors to carefully cut out your shapes. Trim any rough edges so the shapes are crisp and graphic. Spray-paint both sides of each cut-out cardboard shape and set them aside. Then place your standing mobile in front of a hanging sheet of newsprint. Spray-paint all the wires. Add the paint in thin, even layers to prevent thick drips. This will create clean lines and will help define the shape of your mobile. If you'd like, you can also paint one or more more sides of your wooden base. Let your sculpture and hanging shapes dry overnight.

TIP: Add the same number of coats of paint to each shape. This will make it easier to balance your mobile.

STEP 3 Assemble Your Standing Mobile ▶

Use an awl and a hammer to make a small hole in each hanging cardboard shape. Place a small wire loop through each hole. Then use the loops to attach the shapes to the standing mobile, twisting the wires together. You might add several wire loops to your shapes to help them spin freely. This will emphasize the kinetic nature of your sculpture. Experiment with the arrangement of the shapes. What happens if you suspend all the shapes on one side of the sculpture? Try distributing them more evenly on your sculpture. Which arrangement is more balanced? How can you make the most dynamic mobile? When you're finished with your arrangement, make sure all the wires are twisted together securely.

TIP: Gently adjust the curves in the wires to help balance your sculpture.

Make a small hole in each cardboard shape.

Attach the shapes in a balanced arrangement.