



I want to make things that are
fun to look at. **Alexander Calder, 1957**

Alexander Calder in his studio,
circa 1950 / unidentified pho-
tographer. Alexander Calder
papers, 1926–1967. Archives
of American Art, Smithsonian
Institution

who? what? how?

1

Meet Sandy

Alexander Calder (1898–1976) was born in Lawnton, Pennsylvania, to a family of artists. Known as Sandy to friends and family, Calder loved to tinker. When he was eight, his parents gave him tools and a workspace where he constructed toys and gadgets with bits of wire, cloth, and string. Calder earned a college degree in mechanical engineering, but after several dissatisfying positions as an engineer, he enrolled in art school in New York and worked as a newspaper illustrator.

Relocating to Paris in 1926 proved to be a pivotal moment in his life. Calder started making imaginative, miniature circus animals and performers similar to the toys he invented as a child. He then created a whole circus, complete with balancing acrobats and a roaring lion, and put on performances for his friends. These circus characters—made of wire, cork, cloth, and string—were an early form of moving sculpture. Through the popularity of “Calder’s Circus” he met other artists living in Paris, including surrealist Joan Miró and Piet Mondrian, whose abstract paintings inspired him: “When I looked at his paintings, I felt the urge to make living paintings, shapes in motion.” Calder then created his first motorized abstract sculptures, dubbed “mobiles” by his friend Marcel Duchamp. Developing an ingenious system of weights and counterbalances, Calder eventually invented works that, when suspended, moved freely with air currents.

The mobiles combined Calder’s sense of play with his interest in space, chance and surprise, movement, toys, and engineering. By 1933, Calder returned to the United States and set up a studio in Connecticut, where he continued to produce innovative works, mobile and stationary, on both large and small scale. During his lifetime, he received more than 250 commissions from public and private institutions, including the National Gallery of Art.

When everything goes right, a mobile is a piece of poetry that dances with the joy of life and surprise. **Alexander Calder, 1958**



above: Alexander Calder holding his mobile on a Parisian street, 1954 / Agnès Varda. Alexander Calder papers, 1926–1967. Archives of American Art, Smithsonian Institution

right: Alexander Calder, *Untitled*, 1976, aluminum and steel, Gift of the Collectors Committee, National Gallery of Art, Washington



People think monuments should come out of the ground, never out of the ceiling, but mobiles too can be monumental. **Alexander Calder, 1969**

2 A monumental challenge

In 1971, when the East Building of the National Gallery was under construction, Calder was asked to create a giant mobile for the atrium space. After consulting with architect I.M. Pei, Calder made a maquette (a small three-dimensional model) for the museum to approve. The mobile's colorful organic shapes complemented Pei's geometric architecture.

After the design was approved, Calder was faced with a challenge: how to construct the mobile at thirty-two times the size of the model. If constructed from steel, as he had originally planned, the finished work would weigh about 6,600 pounds—so heavy that a motor would be required to make it move. Calder collaborated with artist-engineer Paul Matisse, who used unique

aerospace technology to solve the weight and movement problems. Matisse fabricated the mobile's panels of high-strength honeycombed aluminum with thin skins; although the panels appear to be solid steel, they are instead hollow and buoyant. As a result, the mobile weighs 920 pounds, moves solely on air currents, and maintains a sense of lightness and delicacy in spite of its grand scale.

When asked to title the mobile, Calder replied, "You don't name a baby until it is born." The East Building mobile remains untitled because Calder died one year before it was hoisted up to the frame of the roof. Thus, Calder never saw the completion of his last and one of his largest mobiles. *What would you name it?*



3 Perfectly balanced

Connected to the ceiling at one point, the mobile has twelve arms and thirteen shaped panels clustered into two groups. The upper group, described as "wings," includes six black panels and one blue panel, all hanging horizontally. By contrast, the lower group consists of six vertical red panels, described as "blades." To facilitate motion, these blades are fastened to the arms at an angle so that air hits them just as the wind hits a boat's sail. The speed and direction of the mobile vary, depending on air currents.

The mobile has an orbit of just over eighty-five feet—that's the average length of a blue whale and the length of a high school basketball court! Calder carefully planned the arms at different heights so that shapes never hit each other when they move. At times, the red blades seem ready to collide with the building, but, playfully, they avoid contact by mere inches and continue onward in slow revolution.

Always changing, the graceful mobile inspires imagination.

What does the mobile remind you of?

leaves on a plant, flower petals, wings, fish fins, kites, planets in the solar system, clouds passing overhead

book nook

These books about Alexander Calder can be found at your local library or bookstore.

Sticker Art Shapes: Alexander Calder

By Sylvie Delpech and Caroline Leclerc | ages 4–8

Sandy's Circus: A Story about Alexander Calder

By Tanya Lee Stone | ages 6–8

Alexander Calder (Getting to Know the World's Greatest Artists)

By Mike Venezia | ages 6–8

Calder Game

By Blue Balliett | ages 9–12

Alexander Calder and His Magical Mobiles

By Jean Lipman | ages 9–12

Fables of Aesop

According to Sir Roger L'Estrange,
with drawings by Alexander Calder
ages 9–12

Animal Sketching

By Alexander Calder | ages 10 and up

Making Mobiles

By Bruce Fox | ages 10 and up

The Essential Alexander Calder

By Howard Greenfield | ages 13 and up

try this!

activity

Calder's Line

While studying at the Art Students League in New York, Alexander Calder developed a talent for *continuous line drawing*: creating an image with one single, unbroken line. He further honed his skills as a draftsman while working for several newspapers in New York City. Calder's exploration of line moved into three dimensions when he began to create sculptures made of wire, a material that he had loved since he was a boy.

Experiment with line in both two and three dimensions

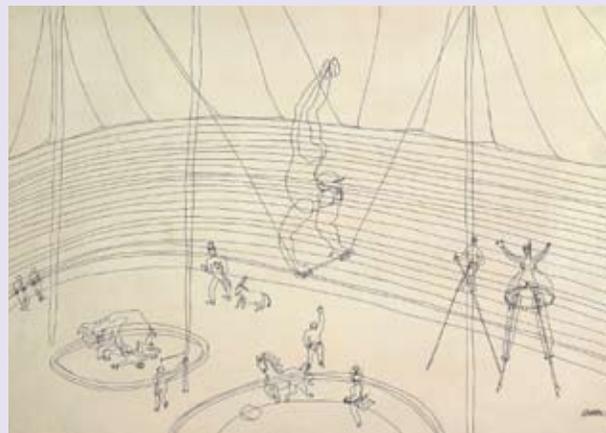
You will need:

Paper

A pencil or pen

A single length of lightweight wire
(such as plastic-coated electrical wire, copper,
or brass wire from a hardware store)

Choose a subject you can closely observe: a family member or friend, a flower, an object in your home, or—like Calder—an animal. Before you pick up your pencil, let your eyes wander over the edges of your subject.



It wasn't the daringness of the performance nor the tricks or the gimmicks: it was the fantastic balance in motion that the performers exhibited. **Alexander Calder, 1964**

below, left: Alexander Calder, *The Circus*, 1932, pen and black ink on wove paper, Gift of Mr. and Mrs. Klaus G. Perls, National Gallery of Art, Washington. © 2000 Estate of Alexander Calder / Artists Rights Society (ARS), New York

below, right: Alexander Calder, *Rearing Stallion*, c. 1928, wire and painted wood, Gift of Mr. and Mrs. Klaus G. Perls, National Gallery of Art, Washington. © 2000 Estate of Alexander Calder / Artists Rights Society (ARS), New York

Next, using your index finger, trace the outlines of the subject in the air and then on your paper. Finally, take your pencil and begin to draw, working slowly without lifting the pencil until the whole picture is finished. Let the continuous line cross over itself and loop from one area to another until the single line has drawn the entire subject. Continuous line drawings take practice, so explore different strategies by making several drawings of the same subject.

Now try it in wire! Think of wire as a single continuous line. Carefully bend and twist a single length of thin wire to create a three-dimensional “drawing” of your subject. (To display your sculpture, stick the ends of the wire into a lump of clay or use string to hang it.)

Think about this. Throughout his life, Calder experimented with materials and learned from them. What was challenging about making a continuous line drawing? What was different about making the sculpture? What did you learn from trying both?



I think best in wire.

Alexander Calder, 1925

I seemed to have a knack for [drawing] with a single line.

Alexander Calder, 1961