ALEXANDER CALDER
1898 - 1976
AMERICAN SCULPTOR

"I think best in wire."

- Alexander Calder, from *Calder's Universe,* 1976.

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The Calder unit meets the following Mesa County Valley School District #51 Content Standards for elementary visual art:

Standard	K-2 Benchmarks	3-5 Benchmarks
1: Students recognize and use the visual arts as a form of communication	Students create a mobile or stabile in the style of Calder.	Students create a mobile or stabile in the style of Calder. In addition, the student will prepare an oral or written description of what his/her work communicates.
2: Students know and apply elements of art, principals of design, and sensory and expressive features of visual arts.	Students use and identify selected elements of art (e.g., line, texture, color, shape, form, space) in his/her artwork.	Students integrate elements of art (e.g. line, texture, color, shape, form, space) and principals of design (e.g. pattern, balance, contrast, proportion) in his/her artwork.
3: Students know and apply visual arts materials, tools, techniques, and processes.	Students use art tools, materials and processes with care and safety to create a mobile or stabile in the style of Calder. Students can describe the tools, materials, and processes he/she used to create their artwork.	Students use tools, materials, and processes with care and safety to create a mobile or stabile in the style of Calder. Students can describe the tools, materials, and processes he/she used to create their artwork
4: Students relate the visual historical and cultural traditions.	Students recognize and identify the works of Calder. Students examine and produce art that represents the style of Calder. Students learn and understand the terms "mobile" and "stabile."	Students compare and contrast the work of previous Art Heritage presentations with the present artist, Calder. Students examine and produce art in the style of Calder. Students learn and understand the terms "mobile" and "stabile."

SUMMARY

- Alexander "Sandy" Calder was an American sculptor who first trained as a design engineer, not as a sculptor. He was the son and grandson of classical American sculptors, but he did not decide to become an artist until he was 25 years old.

- Calder is most famous for originating the sculpture technique called "mobile", or art that moves. Calder's mobiles were sometimes several feet long from one end to the other and were carefully balanced constructions of metal plates, wires and rods which are moved by the

air or by the help of a gentle push of the hand. The movement makes them a continuous moving and changing design.

- Calder had a gift for recreating something with one continuous line. He created a miniature circus with moving parts out of wire. He traveled Europe and America with his three-ring circus; inviting people to sit in bleachers he erected and eat hot dogs and popcorn while he manipulated his wonderful wire acrobats, animals and clowns.

- Calder also was a master of the "stabile" or large stationary sculptures, usually geometric in shape.

- Calder's work ranged in size from tiny (jewelry) to huge, such as the mobile in the Smithsonian National Gallery of Art that is 76 feet wide and four stories tall. He produced work in every medium, even painting Banff Airline jets in the early 1970's. His work is found all over the world, at public auditoriums, stadiums and buildings.

- Calder was inspired by nature; his first mobiles were his interpretations of snowflakes, stars and planets.

- Many of his huge mobiles might have been impossible to produce without technical advances in glues (epoxy) and lightweight materials like aircraft aluminum. Production of his works demanded advances in welding, machining and metallurgy.

- Calder synthesized many ideas of other modern artists such as Mondrian, Arp, Miro and Duchamp into his own very original art form.

SETTING THE SCENE

Alexander Calder grew up in an America that was growing up. More changes took place in his lifetime than had taken place in history for the 500 years preceding the 20th century. It was a time for ideas and scientific advances that changed how the world was perceived...ideas and observations that were there all the time, but took an Einstein, Picasso, or Calder to translate. Calder's initial and continuous inspiration was nature, but he applied advanced scientific techniques and inventions to man-made materials to produce his mobiles that seemed to have a life of their own. Renowned architect, I. M. Pei, chose Calder to make a mobile for the National Gallery of Art when it was constructed, “to give the building animation and life."

Calder's creations challenged the formal art world to accept a new definition of art. As a reviewer for the *New Yorker* wrote after Calder's first exhibition of mobiles in 1932, "Calder has nothing for your grandmother, but we imagine he will be the choice of your sons. He makes a mockery of the old fashioned, frozen-stone school of sculpture” He was one of the first performance artists... he traveled Europe and America with his miniature three ring circus, inviting people to sit in bleachers he erected and eat hot dogs and popcorn while he manipulated his wonderful wire acrobats, animals and clowns.

Much of Calder's work was possible because of advances in technology and lightweight materials, primarily metals. One wonders what Calder would have conjured up if he had graphite, titanium, super glue, Kevlar, resin and other high tech materials of today to work with.

BIOGRAPHICAL INFORMATION

Alexander Calder, who made a big impact on the art world, was born in a big way, weighing in at eleven pounds on August 22, 1898 in Philadelphia, Pennsylvania. His sister, Peggy, was two years older. He was named for his father and grandfather, both “Alexander”, who were also both well-known sculptors. The third Alexander was called "Sandy" to distinguish him from all the other Alexanders.

Alexander Milne Calder, Sandy's grandfather, was the sculptor responsible for a huge statue of William Penn in Philadelphia and other monumental size sculptures in that town and others. Sandy's father, Alexander Stirling Calder, one of six sons, was attracted to sculpture after dabbling in the theater. He made excellent living producing public statuary. He especially liked portraying robust, muscular gods, goddesses, Indians and allegorical figures. He believed creating statues for public view was the highest goal to which a sculptor could aspire.

Sandy's mother, Nanette, was a painter. Both parents often wanted Sandy to model for them, which he hated. One of the more whimsical statues created by his father was called, "The Man Cub" which was a rendering of Sandy at the age of four. He was required to stand naked for hours, holding an orange in his hand. As he got older, Sandy demanded and received hourly modeling rates from both parents.

In 1905, Sandy's father was forced to go west to Arizona to help ease his symptoms of tuberculosis. Seven year old Sandy and his sister stayed with a family friend on Philadelphia's ritzy "Main Line” for a year until they, too could go west and join their parents. Calder hated the views blocked by heavy curtains and the repressive atmosphere where, to keep the rugs from being bleached by sunlight, newspapers were put on the rugs by the windows.

Their lives were just the opposite when Sandy and his sister traveled to Oracle, Arizona (near Tucson) to join their parents at a TB sanitarium. Arizona wasn't even a state yet (statehood in 1912). The conditions at the ranch were simple but the children could have cared less. They had a small donkey to ride and a dog. They loved playing with Apache Indians and the drovers from the mule trains that came through the area.

The family moved further west in late 1906 to Pasadena, California. They lived in a large old house. Sandy was allowed to have his own workshop in the basement. With his Uncle Ron as a mentor, he made a coaster and a miniature castle for his sister's dolls. He even fashioned wire jewelry for the doll with pliers his mother gave him for Christmas. He was in great demand in his neighborhood to invent and fabricate toys. When he was nine, Sandy designed a small toy cannon to shoot tiny ladyfinger firecrackers. The barrel of the cannon was a .22 caliber shell cartridge. Although he tried sports, Sandy was clumsy and not good at them ... his small motor skills and inventiveness were his talents.

In 1910, the Calder family moved back to New York to be closer to the center of the American art world. Even though he had regained his health, Sandy's father insisted on sleeping either outside or with the windows open most of the year, a habit his son later copied. A notable event of his high school years was the 1913 Armory Show in Manhattan. Over 1,200 works were assembled from Europe, most of them modern. This was the first exposure to what was happening in Europe for the general public. Thousands of people toured the exhibit. The painting attracting the most attention was "Nude Descending a Staircase" a cubist work by Marcel Duchamp. Ironically, it was Duchamp who named Calder's moving sculptures "Mobiles" 20 years later. The show created a furor in America's art world and divided the public sentiment; those who welcomed the new art and realized how far behind America was and those that felt the new art was "mad" and "degenerate."

The Calder's were removed from the New York art scene for a while when they returned to California. Sandy's father was given the job of chief sculptor for the Panama-Pacific International Exposition. More than 40 sculptors displayed their creations. Sandy seemed unaffected by all the sculpture, becoming fascinated instead by a mechanical device that used two parallel needles to transfer sketches and plans onto marble or stone. Says Calder, “I was particularly fascinated by the mechanics, the rotating motions and the parallel needles of the process." Calder also enjoyed taking cable cars and trolleys to school. He loved the motion of the mechanisms of the cars.

Calder had no idea what he wanted to do when he graduated from high school. He knew his sister was having fun at college, so he knew he wanted to party, too. He heard someone talking about how good profession engineering was, so that's what he told his father he wanted to do. Calder enrolled in the Stevens Institute of Technology in New Jersey where he partied his way though school in a fraternity. He was a good student, especially in math, but only played football because the college coach would take any comers on the team. He joined the Navy Reserve, but was too young to participate in World War 1.

After Sandy graduated in 1919, his first job as an auto designer lasted two weeks. He held a succession of jobs over the next three years. “It was a race between being bounced and quitting," he explained. He was fired as a department store efficiency officer because he wasn't efficient. He was fired as a cultivator salesman after he destroyed a garden doing a product demonstration. In 1921, Sandy, at the urging of his father, took an art class from a family friend. He enjoyed it and decided to give up trying to be an engineer which he felt was "boring."

Sandy set out to sea as a fireman in the boiler room on a large cruise ship in 1922. The boat had 1,000 crewmembers and 700 passengers. He took to sleeping on the deck rather than in his crowded berth, snuggled in a huge coil of rope. Stargazing was his favorite pastime. He credits these nights under the huge sky as inspiration later for some of his first mobiles. The ship took him to San Francisco, where he promptly quit and went to visit his sister, now married, in Washington.

Her in-laws gave Sandy a job at a logging camp. He claimed all the motion of cutting logs and hauling them to the huge rivers fascinated him. He held various jobs in the camp depending upon which foreman he was disagreeing with and finally returned to New York, resolving to be a painter in 1923.

He enrolled in the Art Students League of New York. One teacher challenged his students to make sketches with one continuous line. Calder found he had a real knack for doing that, a talent that was to be evident later in his wire sculptures. He worked as a sketch artist, primarily for the *Dolice Oizette,* covering events in the area. He had a tiny apartment filled with his art. He had no clock so Calder fashioned a rooster shape on a vertical rod. The webbed feet were the hands of his modern sundial.

In 1925, while working as a commercial artist in New York, he was assigned to illustrate Ringling Brothers Barnum and Bailey Circus. Given a free two-week pass, Calder became so fascinated he spent nearly the entire time sketching the animals and performers. Shortly afterward, he began working on *Calder's Circus,* one of the first works of "performance art." Calder created his own small movable circus, featuring tiny weight lifters, trapeze artists, clowns, elephants, and lions made from scraps of wire, cork, wood and string. *Calder's Circus* became so elaborate it finally filled five suitcases. *(1)*

When he went to Paris a year later, the artist took his circus with him. The performances he staged during the next few years were complete with music and sound effects and became extremely popular. They brought Calder's work to the attention of the Parisian art world. These shows were filled with drama, suspense, simplicity, humor, surprise, balance and movement. And these same qualities can be seen in all the work Alexander Calder created over the next half century. *(1)*

Calder's mother sent him $75 a month stipend. He had a tiny (9 foot by 15 foot) apartment. At the urging of a friend, he began sculpting his circus animals and acts from wire instead of wood and wire. Many of the animals he designed for the circus became models for toy designs he sold later. Revenue from the circus and selling his ideas to toy companies sustained Calder while he created the wire sculptures for his first small art show in 1926.

While he was in Paris during the 1920's, Calder enjoyed the freedom of expression he felt *Calder's Circus* had given him. Always unconventional, he became a character to match his circus. He wore a suit of "racy tweed cloth, orange with a yellow stripe" and bright red socks. The hat he wore with this outfit and the orange bicycle he rode about Paris earned him the nickname, "the cantaloupe with the straw hat". Calder wanted somehow to transfer the movement and color he felt in his life into his art. *(1)*

Around 1926, the artist began to make motorized and hand-cranked sculptures like *Red Panel*. He also worked in wire, doing many portraits such as one of his friend, French painter, Fernand Leger (Leh-JAY). He hung this work and many of his other wire sculptures from the ceiling, to see how the lines and shapes related to each other as they moved in the air. As the portrait vibrated and turned, the thick and thin lines, curves, and spaces changed constantly. Wires bent back on them formed dark focal points. The wires cast shadows on the wall, and the lines the shadows created became part of the work. Calder sketched in wire, as another artist might sketch with a pencil. Sometimes he would carry his shears, pliers, and a roll of wire to the gallery that was selling his work and create more sculptures to add to the show. *(1)*

It was not enough to sustain him in Paris, so Calder booked passage back to America. While on the ship he met Louisa James. Her father brought her to Europe to meet fine, suitable, eligible men, but she had only managed to meet cab drivers, hotel workers and waiters. Her father was not happy about a "wire sculptor" being interested in his daughter, but fortunately for Calder, the father was sick most of the voyage allowing the couple's relationship to develop.

The couple dated frequently after coming home as Sandy was engaged in taking his circus on the road in New York. He always traveled with a roll of wire and wire cutters. He was commissioned to make a giant wire spider for a play. Sandy wanted to get married, but he felt he couldn't until he could support them financially. One of the visitors to his circus was quite taken with Calder's work. Piet Mondrian, the master of abstract, primary colored geometric images, invited Calder to his studio. Seeing Mondrian's work freed Sandy's mind to create abstract art. He favored the strong primary colors of Mondrian, too, in his later work. Calder also began to favor curved forms. The solar system inspired many of his first abstract sculptures. He married Louisa in 1930, the same year he was asked to join the Abstract Art Association in France. His pieces became more widely exhibited.

In contrast to the modernizing of Sandy's work, his father finished his crowning achievement in 193I. It was a huge, traditional, romanticized sculpture of Lief Erickson commissioned by the U.S. government as a present to the nation of Iceland.

Sandy, utilizing his engineering abilities, decided to motorize some of his stationary wire sculptures. The "father of Cubism", Marcel Duchamp took a great interest in Calder, maybe because earlier, Duchamp had experimented with motion in his art works. The two men were discussing one day what to call these creations. Duchamp suggested "mobile" making what was then a verb, a noun. Critics in both America and France decided the works were either "too American" or too "precious" and "Frenchified" to ever be significant art.

Calder did not care and continued to experiment with mobiles of all kinds and shapes. Some were moved by air, others by motor. He grew disenchanted with the motorized mobiles... their

motions were always the same and the motors needed constant repair and maintenance. He was prompted to hang the mobile from the ceiling where it could be easily influenced by air currents. Some saw these mobiles as an artistic interpretation of the space and air flight age. At the urging of Joan Miro, Calder started using plastic and other materials in his mobiles; a word was coined for the sculpture that did not move, "stabile."

The Calder's returned to America in 1933 and bought an old rambling house in Roxbury, Connecticut. Calder was finally able to build a studio for his work. His first daughter, Sandra, was born. He branched out into creating sets for ballets and modern dance concerts. He made "mobile" sets for Erik Satie's performance of an abstract ballet in Connecticut. The Ballet had no dancers. The action was the mobile's responses to the music and words of the production.

The Calder family began summering in France. Sandy attracted a lot of attention at the Paris International Exposition in 1938 with a mercury fountain that was part of the impressive Spanish pavilion (Picasso displayed his *Guernica* for the first time here). Calder started creating jewelry, which he showed at his first London exhibition. The pieces were an immediate success although reviewers called the works,"enchanting toys." He received more credibility when he returned home to America and the Springfield Massachusetts Museum had a large showing of his work.

Calder built a 25' x 40' studio at his home complete with 150 screw eyes in the ceiling. It quickly became filled with a multitude of mobiles. Louisa was the recipient of several of Sandy's kitchen inventions like strainers, ladles, grills and trivets. He made a large collection of jewelry pieces, all different, twisted from a single wire. They were a financial success, which was fortunate because the Calder family had grown by another child, Mary.

World War II forced Sandy to branch out into materials other than metal for his structures. He started making "point and line" sculptures. They were designed to stand on a base or hang on a wall. He also welcomed many of the French masters of modern art like Mondrian, Matisse, and Duchamp to the U.S. to wait out the war.

Almost 100 pieces of Calder's work were exhibited in 1943 at the Museum of Modern Art in New York. At the age of 45, Calder was finally being recognized as a significant artist by the formal art world. After the war, the center of the art world shifted from Paris to New York. The rest of the world was starting to notice Calder. A Brazilian architect arranged a show for Calder in Rio de Janeiro in 1948. Almost a thousand people attended the opening. In the guest book were examples of the enthusiastic acceptance he found "Calder is the Mozart of space" or "how can a man who is so completely unbalanced create art which has such perfect balance?" Sandy was not known for his athletic prowess or dancing prowess. Said his wife, "Sandy dances the samba no matter what records we play."

In 1952, Calder was the only American sculptor selected to represent the United States in the Venice [Italy] Biennale. He captured first place. His mobiles captured the eye of commercial

producers at the exhibit who started turning out cheap renditions for mass consumption. By 1959, magazines like *Sunset* were publishing "do it yourself" mobile instructions. Calder did not have a patent on the idea and it frustrated him to see so many others profit when he had struggled for so long.

Sandy traded some artwork with a friend for a home in France they remodeled. Calder finally felt his artwork was valuable. As Sandy got older, his projects got larger. In 1957, he was working on three large projects in France, Belgium and the United States. He had three different metal shops in Connecticut working for him. The works were placed in Kennedy Airport, the UNESCO Building in Paris and at the Brussels's World Fair.

In the 1960's Calder concentrated on making huge "stabiles. The stabiles were bolted together plates of heavy metal. Calder's studio became more cramped, as the pieces got larger. He did not like to clean his studio; "I might lose something valuable - my inspiration."

One stabile that would have been hard to lose because of its size was the "Teodelapio" constructed for the entrance to the railroad station in Spoleto, Italy. It had to be large enough for cars to pass through. It took two shipyard cranes to erect the 9-ton structure. The huge shape was reinforced after it was raised so as to withstand high winds and the vibrations of traffic. The making of such huge stabiles was a one shot idea, you had to try and anticipate any problems before it was erected.

Calder was the first recipient of a National Endowment of the Arts grant for a sculpture in 1969. He created *La Grande Vitesse (French for Grand Rapids)* for a plaza in Grand Rapids, Michigan. He also created a 67' piece for the World's Fair in Montreal in 1967 and a 72' high stabile as part of the Olympics in Mexico City.

Calder tried a production like Satie's ballet in Italy in 1968. He produced a dancer-less ballet. He had an entire theater and crew at his disposal. His "*Work in Progress*" was an abstract rendition, complete with mobiles of the creation of the universe. It was met with cheering crowds. He remarked he wished he had found this art form earlier when he was still young and had the necessary energy.

In 1973, at the age of 75, Calder suffered a series of small strokes. It did not slow down his production, and he still managed to protest the Vietnam War with his wife and create posters and other artwork for causes he supported. "*White Cascade*," his largest mobile at 100', was erected in the Federal Reserve Bank in Philadelphia in 1974 along with four other huge projects. The same year, Braniff Airlines offered to pay him $100,000 for a unique paint design for a jet. Calder created designs on eight scale models; the patterns were traced and then spray-painted onto the planes. The "Flying Colors" airplanes were used between the United States and South America. These vividly colored planes created a stir wherever they landed.

Calder, while growing surlier in public, buried himself in work and became enormously wealthy. He plotted patterns for an Aubusson tapestry. Weavers in Guatemala and Nicaragua were commissioned to make the small woven items and hammocks Sandy had designed.

Calder's amazing career culminated in two events. The first was a showing of more than 200 works at the Whitney Museum entitled "*Calder's Universe*." It had examples of all the different kinds of art created by Calder. The show attracted huge crowds; people waited in line for hours to get in. He died before the show was concluded and as a memorial to Calder, parts of the exhibition toured the United States.

Eight days before his death from a heart attack, Calder oversaw the opening of his huge mobile in the National Gallery of Art in Washington, D.C. I.M. Pei, the building architect, commissioned the work. He wanted something to make the building “come alive”. The metal works industry in France had trouble replicating Calder's pattern. The first model was too heavy. It weighed three tons and would not move with a puff of air as Calder envisioned. Paul Matisse (grandson of Henri Matisse) who is an artist as well as an engineer, took on the task of re-doing the sculpture. He used materials Calder was not familiar with, honeycombs of structural aluminum and epoxy. Matisse said his challenge was finding the right harmony and balance in the pieces that Calder had fitted together on a small scale so it could be translated into mathematical formulas and other means to allow replication. The final result was a 76' long structure that weighed only 900 pounds. It had 12 arms and 13 multi-colored panels. A puff of air could make the gigantic structure move. Pei was thrilled; he felt the work gave the building a personality.

At Calder’s funeral a friend eulogized, "we will miss his dancing and his gruff, sleepy-bear character, as well as his eternal red shirt so symbolic of his personal warmth; but the sense of rhythm, the sense of fun, and the capacity for enjoyment, which were essential elements of his life as well as his art, will remain always for those of us who know him." The man, who used to sell hot dogs to people to watch his miniature circus to raise money, left an estate worth $25 million. He also left a rich legacy to modern art.

One of Calder’s large sculptures, entitled “Bent Propeller” was destroyed in the tragedy at the World Trade Center on 9-11-01. Discussions are currently on going to determine whether the remaining parts of the sculpture should be restored, kept as is, or destroyed.

Bibliography

(1) Scholastic Art, December 1999/January 2000. *Alexander Calder: Working with Volume.*

Websites: http://www.calder.org/SETS/home.html
http://sheldon.unl.edu/HTML/ARTIST/Calder_A/SS.html
http://www.nga.gov/exhibitions/caldwel.htm

SLIDES

1. **CALDER PHOTO:** Alexander Calder was born in Philadelphia, Pennsylvania in 1889. Both his father and grandfather, also named Alexander, were well-known sculptors. Because of the similar names, this Alexander was called “Sandy”. When Sandy was young, he would often make toys for his sister and himself out of wire and bits of junk he found. He went to school to be an engineer, but after he graduated he found the work boring and had a hard time keeping a job. Later, he went back to school to study art and found he really liked it. Sandy especially liked creating things out of wire and metal.

2. (slide) **SIX DAY BIKE RACE:** *Painting: 1924*:
(ppt) **THE FLYING TRAPEZE**, *1925, 36 x 42 in., oil on canvas*
Calder first began his art career by painting. This is one of his first paintings. In 1925, while working as a commercial artist in New York, he was assigned to illustrate the Ringling Brothers Barnum and Bailey Circus. Given a free two-week pass, Calder became so fascinated he spent nearly the entire time sketching the animals and performers.

Sandy Calder decided to create a miniature circus out of bits and pieces of wire, cork, wood and string. He made a small movable circus with tiny weight-lifters, trapeze artists, clowns, elephants and lions! It became so elaborate; it took 5 suitcases to carry.

3. **KANGAROO PULL TOY:** *1927: (Private collection, CT)* Calder moved to France during the 1920's, taking his miniature circus with him. The performances he staged during the next few years (complete with music and sound effects) became extremely popular. They brought Calder’s work to the attention of the Parisian art world. Many of the animals he designed for the circus became models for toy designs he sold later. The money he received from the circus and selling his ideas to toy companies helped him make a living. Calder became a character to match his circus. He wore very colorful clothes and rode an orange bicycle.

4. **COW:** Wire Sculpture: *1929: 16" long: Museum of Modern Art, NYC.* Calder was challenged by a teacher in art school to create a drawing using one long line. He enjoyed the challenge, and used this same idea to create his wire sculptures. Much of Calder's early work was small and easily transported. His sense of humor certainly shows in this work! The cow pie is detachable so the owner could decide which way they preferred to show it.

5. **SAINT GEORGE AND THE DRAGON:** Sculpture: Calder’s father didn’t like his son’s wire sculptures, he said he preferred work he could touch and handle. This sculpture is more like the work his father preferred. However, although Calder’s wire sculptures showed drama and action, this sculpture seems to lack it. The story of St. George and the Dragon is an old tale of a knight who fought a dragon to save a kingdom.

6. **THE UNIVERSE**: *Wood and Wire: 36": 1931: (Private collection.)* For many years, sculptures were solid, unmoving art pieces made of stone, wood or clay. Sandy Calder changed that by creating sculptures that involved air, space, time and motion. He called his sculptures “mobiles” (mo BILLS). Mobiles are seen in a lot of places now, but Calder is the artist who made them popular.

7. **LOBSTER TRAP AND FISH:** Steel wire and aluminum: 8'6' X 9'6" typical Calder colors. Almost all the disks or planes in his sculptures were solid colors.

8. **LOLLIPOPS:** Metal Stabile: 1964: At his home in France: This huge steel structure was one of a large number that Calder created for sale to people all over the world. The structures were heavy and made to withstand the ravages of nature. Can we imagine how this sculpture would move in an air current? Calder loved to use primary colors. There is a color of red that is now named after him called “Calder Red”.

9. **HUMTULIPS:** We can see what is now known as "Calder Red" in this work. It was one of his favorite colors. The name suggests a musical rhythm that seems to be part of the work.

IO. **BLACK WIDOW**: Sheet Steel Stabile: 7'7" high: 1959: When Calder built a sculpture that didn’t move, like his mobiles did, he called them “stabiles” (STAY bill) Calder's shapes are all simple, but they convey so much.

11. **LA VILLE VITESSE:** Stabile in Calder red: Grand Rapids Michigan: 1969. This work was paid for by a grant from the National Endowment of the Arts, the first grant for a sculptor.

12. **FOUR ELEMENTS:** Standing mobile with sheet metal and motor: 30' high" located in Stockholm, Sweden. Can you identify the four elements here? This is a moving piece. Again, we see the vibrant Calder red.

13. **UNTITLED MOBILE:** Aluminum: 1973-77: This large sculpture, which is 76 feet long was the last piece created by Calder. It hangs in the National Gallery of Art from the atrium. Although it was originally planned in steel, it was too heavy. Paul Matisse (artist Matisse’ grandson) translated the design into an aluminum construction. Calder was an amazing artist who created art, not only in sculpture but in paint and jewelry. He had a wonderful sense of humor and imagination.

ENRICHMENT/PROJECTS

Calder loved to work with wire to create sculptures, wall art and jewelry. He was well-known for his tiny wire circus. Students learn to work with small lengths of wire to sculpt.

Students in K – 2nd grade have pipe cleaners to work with. We've provided 3 pipe cleaners for each student.

Students in 3rd – 5th grades (and older) have been provided colored wire. This wire should be cut with the wire cutters into 12 inch lengths, for safety. We've provided enough wire for each student to receive three (3) 12 inch pieces.

Your school is supplied wire and a wire cutter. Students may use their fingers as their tools.

Prepare the wire by cutting it into 12 inch lengths (3 per student) prior to class.

Encourage students to understand how to work safely with wire!

THREE WIRE EXERCISE by the "Wire Lady" Elizabeth Berrien (www.http://www.wirelady.com/berrienwireteachpage.html)

The purpose of this exercise is to introduce students to the feel of wire, and to show them how many different and innovative things they can do with a very limited number of strands. Once they have mastered the three wire exercise, students may work with ever-increasing quantities of wire.

Before class begins, prepare quantities of 12-inch lengths of soft wire. Telephone wire is fun, and lends itself well. Working with different-color strands helps the student see what is going on, and where each wire leads within a sculpture. Copper and steel wire are good, too.

Distribute three strands of wire per student, and one or two wire cutters per table. Students may wish to swap different color wires back and forth.

Enourage students to focus on seeing how many different things they can do with just three wires. They can doodle around, making little cartoon figures. Or, if there's something they enjoy looking at, a flower or a bug, have them look at it very closely and see if they can make something like it out of the wire.

Often, you can promote creative innovation by asking the student to decide what their strongest interest is - people? animals? sports cars? Encourage them to really look at the objects they enjoy, and observe a few important aspects to try and get down in wire.

A tip for students who want to make animal sculptures: many wildlife artists subscribe to "Ranger Rick" magazine for its wealth of high-quality animal images.

If you have an assortment of different kinds of wire, encourage your students to try the three wire exercise with different types. Copper, including plastic coated telephone wire, is soft and pliable. This may make it easier to shape. It may also make it a little harder to hold together as a structure..

For a real kicker, reward the kids at the end of class with 3 more wires each, to carry in a pocket. I call these "fidget wires" and tell the kids that sooner or later, they can blow their parents' minds: just wait til the next time they're stuck and bored. In a long line, in a waiting room, on a long drive... as long as they have "fidget wires" to put together and take back apart, the time will fly -

and their parents will be amazed at their ability to conquer boredom creatively!

For Older Students (grades 6th +) go to Marvin Bartel's website on wire:
http://www.bartelart.com/arted/wiresculpture.htm

Alternative Projects:

Mobiles (from the book Magnificent Mobiles by Melanie Williams, 1994, Chartwell Books.

A mobile is a hanging structure that can be made of one object or of several. When it is suspended, it should be able to move freely in the air currents. You can hang them from a hook in the ceiling or underneath a shelf.

Mobiles should not be heavy. The lighter they are, the more easily your mobile will move - even in the slightest breeze. Paper, cardboard, tissue paper, fabric, balsa wood, foil, paper-mache, and wire are all suitable for making the structure of a mobile. There are any number of materials that you can use for decoration. Remember that it will often be suspended from a ceiling or a shelf, so items that reflect light - like sequins or glitter paint - will make it stand out and catch the eye.

Hanging a mobile is the most exciting stage in the construction process. This is the moment when your mobile metamorphoses from a static pile of objects and threads to a moving, suspended creation.

Achieving a well-balanced mobile is really very simple. When you first hang it up, it may seem a bit lopsided, but this is easily rectified by slightly changing the position of the hanging elements. If a mobile is hanging too much to one side, then you simply need to move more of the weight to the other to adjust the balance. You can also change the length at which the objects are hanging; the only important thing to remember is that they should not bump each other as they move.

Standing Mobile *(from MaryAnn Kohl & Kim Solga, Discovering Great Artists, 1996, Bright Ring Publishing)*

As a child, Calder enjoyed making things from old dishes and pieces of wire. He also loved to make contraptions from his collections of scraps and junk. Mobiles make use of scraps and junk too. They can hang from the ceiling or stand freely. In this project, a stand-up mobile is made from a Styrofoam packing block for the base and wire for the structure of the mobile.

Materials:

Craft wire (telephone cable colored wire also works well)
Styrofoam packing block
Bits of paper, foil, stickers
Glue (or tape)
Scissors

Process:

1. Cut craft wire to any length desired.
2. Stick the wire into the top of the block of Styrofoam. The wire can be bent into wiggly shapes or left straight.
3. Add more wire in the block.
4. Tape or glue bits of paper to the wires like flags or flower blossoms. Stickers work well too.
5. Add more wire and paper bits as needed.
6. The free-standing mobile will move in the air currents or when placed near an open window. The gentle push of a finger can set the mobile in motion, too.

Variations:
- Hang the Styrofoam block with wires and paper bits upside down from the ceiling.
- Add other lightweight materials to the mobile such as thread, beads, and confetti.

Paper Clip Charms *(from* Martha Stewart's Good Things*, p. 83)*

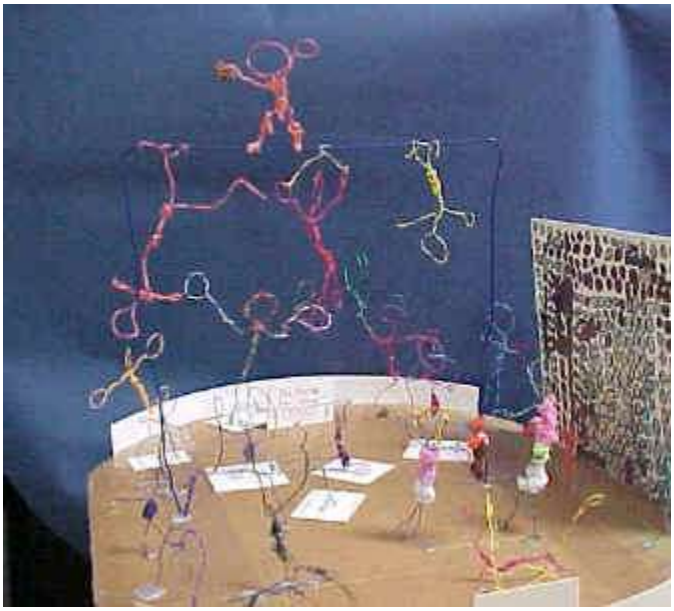
The classic paper clip was a marvelous invention, but these handmade clips are much more enchanting. They make inexpensive, surprising little gifts, to be used as paper clips or bookmarks; by clipping one onto a homemade card. Use 20-gauge annealed-iron wire, which bends without chipping or flaking; the best tools are wire cutters and round-nose pliers used by jewelry makers. Designs can be quite ornate, as long as they consist of at least two flat loops or shapes to slip on either side of a piece of paper.

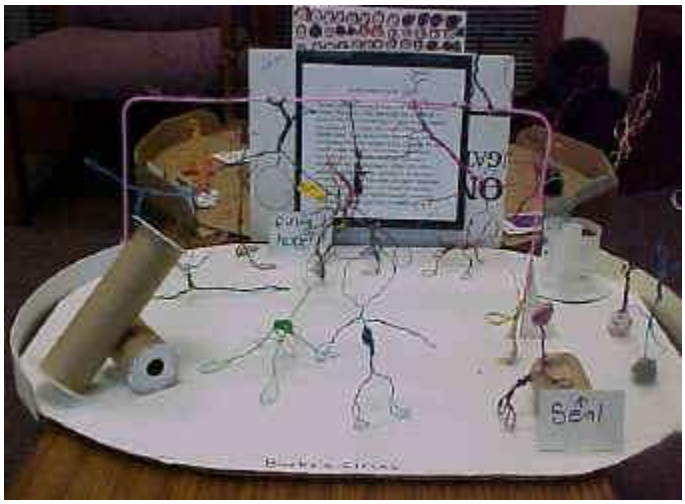
Start with some basic patterns, such as the heart or square. Each requires five inches of wire. To make the heart, begin at the midpoint and bend wire into a right angle; then curl each end into smooth arcs. The letter "J" is made by wrapping the stem of the J once around the crossbar and twisting it tightly with pliers.

Lesson Plan: Wire circus (by Jeryl Hollingsworth, art teacher at LaFrance Elementary in LaFrance, SC)

Circus Theme Projects (below)

Acts on the high wire, cannon, trained seal, animals and more





Objectives: Students will:

- **Learn about he life and work of Alexander Calder**
- **Create a wire sculpture on a circus theme**
- **Collaborate in groups**

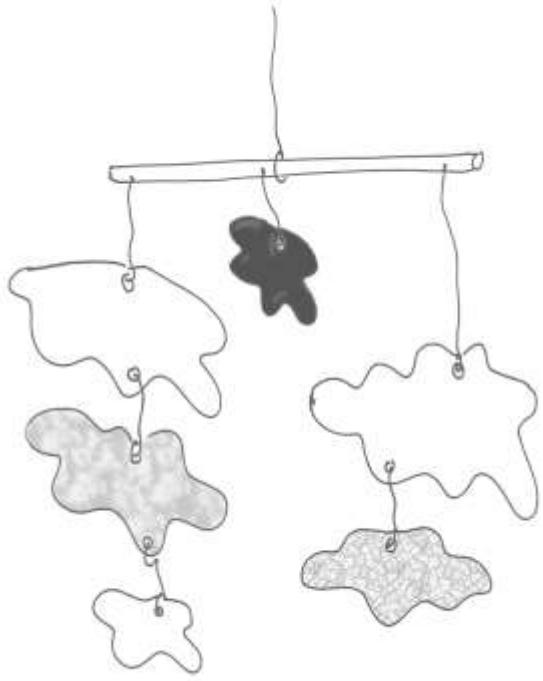
Materials:

Telephone wire or any thin wire cut to manageable lengths, scrap mat board, corrugated card board (pizza rounds), pipe cleaners, card board tubes, hanger wire, hot glue gun/glue sticks

Resources:

- **Alexander Calder http://www.princetonol.com/groups/iad/lessons/middle/calder.htm**
- ***Calder's Circus* http://www.roland-collection.com/rolandcollection/section/20/621.htm**
- **Whitney Museum - Calder's Circus**
- ***Calder's Circus* (books available from Barnes and Noble)**
- **Charles Pollock - Wire and Plastic Circus Sculptures.**

Alexander Calder Inspired Mobile Project



Project time from start to finish, approximately one hour
Goals:

- Be fun to look at
- Use only organic shapes
- Balance evenly when hanging
- Use only warm OR cool colors
- Hang and move in the wind

Materials:

- White heavy paper, such as student watercolor paper or tag board, approx. 11 x 14 inches
- for each student
- Tempera paint in red, yellow and blue only
- Brushes, water containers
- Styrofoam plates for palettes Colored crochet string (thin)
- Clear plastic drinking straws- 1 for each mobile
- Hole punchers
- Scissors
- Masking tape

Directions:

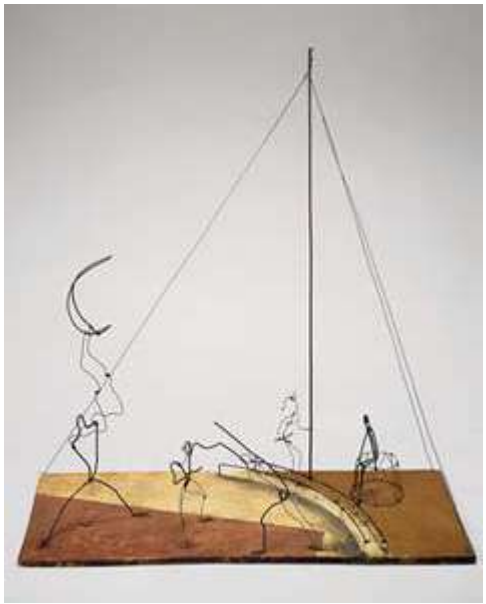
Students: Draw organic shapes in pencil on the sheet of paper-make the most of the paper-draw shapes of various sizes. Cut out the shapes. Have students choose either a warm or cool color scheme

Teachers: Review color mixing-each of the 3 primary colors will be needed for either.

Color Scheme -more blue for cool, more red for warm

Appropriate amounts of paint should be placed on the border of the palette- leaving the center for color mixing. Paint one side of the paper on each piece--this allows time for the pieces to dry before painting the other side. Experiment with painting techniques such as swirling, dotting, etc... keep the paint application thin rather than thick for faster drying While paint is drying, cut string-vary the lengths-several for each student. Punch a hole in each painted piece Tie string to the painted pieces Attach the pieces to the straw (in horizontal position) with masking tape--starting at each end Add pieces to hanging pieces by inserting string, etc. Hang the mobile using string tied in the center of the straw-attach to ceiling or horizontal support

*A string can be threaded through the straw with shapes attached at each end. Additional pieces can be added to these pieces



Wire Circus Figures inspired by Calder's Circus

Project time from start to finish approximately one hour

These small (about 4 to 6 inches) wire figures can be embellished with buttons, fabric scraps, paper, colored tape, fun-foam, etc...

Goals:

< Create a character (circus animal or circus performer) to be a part of one large circus

< Work cooperatively to create a circus ring (or 2 or 3 rings)

< Work cooperatively to put on a performance

Materials:

- Aluminum wire (18 gauge bends well) or plastic coated wire. Twistees brand is great (found in art supply catalogs) or use pipe cleaners instead
- Buttons
- Fun foam sheets-art and craft stores- cuts easily with scissors
- Fabric scraps, felt scraps etc.
- Construction paper scraps
- Tag board for circus ring and walls
- Masking tape (Lakeshore has colored masking tape)
- Scissors

- Yarn, string
- Pencils and paper for sketching
- Markers for decorating the circus ring

Directions:

Brainstorm characters--lion tamer, high wire performers, animal trainer, clowns, bears, elephants, horses etc..... Make sketches of figures

Introduce supplies which will be used-this project should use only supplies which can be taped or wired onto the figure. No glue needed!

Demonstrate how large (or small) the figures will be

Demonstrate how to bend, cut and coil wire

The figure will not be realistic-no face details-they will be " whimsical' more like Calder's own creations

Perhaps a few students could be chosen as the construction crew design and build the circus ring

Making the circus ring:

, Cut a large circle for the ring or rings

, Cut strips about 2 inches high for the ring walls

, Attach the walls to the base of the ring with masking tape

, The walls and ring can be decorated with markers if desired

After completion of the circus-it's time for the performance!