

Impressionist Painting Art Cart

**The Minneapolis Institute of Arts
Department of Museum Guide Programs
Education Division
2400 Third Avenue South
Minneapolis, Minnesota 55404**

Art Cart Inventory

Art Cart Interpreters:

The docents/guides for each Art Cart shift should inventory the contents of the cart before **and** after the shift. If this is not done and objects are missing or damaged, the lead guide may be held responsible. (The lead guide is the first guide listed on the tour confirmation form.)

If an object is missing or damaged, make a notation on the inventory and report it to the Tour Office.

If an object is suddenly missing during your shift, notify security immediately by alerting the guard in the gallery or by calling x3225.

INVENTORY SHEET: ART CART – IMPRESSIONIST PAINTING

Date:

Guides/Docents:

Objects

Comments

	In	Beginning of Shift	In	End of Shift
Brownie camera				
Brushes (6)				
Camera Lucida (mounted on cart)				
Color wheel				
Degas sketchbook				
Dry pigments in jars (3)				
Palette knife				
Pastels				
Portable easel & palette				
Stereographs (3)				
Stereoscope				
Stretched & primed linen canvas				
Tube paints (4)				

Check to see if you are low on any supplies (paper, pencils, etc.). Let the Tour office know if you need anything replenished.

Please share! Record visitor questions that “stumped” you and comments or observations you would like to share with fellow guides and staff. If you know the answer to someone's question, please record the answer! Staff will also periodically review questions and assist with finding answers.

INTRODUCTION

WHAT IS THE THEME OF THE IMPRESSIONIST PAINTING ART CART?

The Impressionist Painting Art Cart explores the impact of science and invention on the French Impressionists and other artists in the 19th century.

HOW DO THE OBJECTS ON THE ART CART RELATE TO THE THEME?

Scientific and technical innovations, like the invention of photography in 1839, and the introduction of paint in metal tubes in the early 1840s, as well as color and optical theories throughout the century, changed the way artists viewed their world and their role in it. Manufacturers developed portable painting equipment to meet the needs of ever growing numbers of landscape artists, professional and amateur alike, who took to the outdoors to paint.

As a popular demand for realistic pictures of people and places from near and far grew throughout the 19th century, optical aids, like the camera lucida, helped artists capture exacting likenesses of scenes. People who wanted photographs of famous people and places bought stereographic photographs and viewers for their homes. By 1888, a simple box camera, “the Kodak,” became available to those who wished to take their own photographs.

HOW WERE SCIENCE AND ART RELATED IN 19TH-CENTURY FRANCE?

The notion of science that dominated 19th-century France’s scientific revolution was that scientific observation and experiment alone could provide knowledge of reality. No one, including artists and writers, was unaffected by this pervasive idea. It is not surprising then that realism, albeit in a wide variety of forms, dominated French art from about 1840 to the early 1880s. Whether officially sanctioned, like the historical genre paintings that covered the Salon walls, or revolutionary, like the Impressionists’ art, the aim of realist works of art was to present a scientific—factual, truthful, or objective—view of the world. Like the realist novelists, Gustave Flaubert, Honoré Balzac, and Emile Zola, visual artists meticulously observed their world like 19th-century scientists. The Impressionists and other radical realists gave up age-old artistic conventions in order to investigate the facts and experiences of their environments, including the French countryside, the streets and cafes of Paris, and Mediterranean seaside resorts. Above all else, they sought to tell the truth as they saw it.

**HOW WERE
SCIENCE AND
ART RELATED IN
19TH-CENTURY
FRANCE?, CONT.**

Artists and critics rarely passed up opportunities to point out the relatedness of science and art. In 1863, for example, the critic Jules Castagnary praised the realists (he called them “naturalists”), describing their achievements as “truth bringing itself into equilibrium with science.” Not everyone, however, agreed that art and science should be mixed. Critics of the Impressionists and other realists were quick to point out what they saw as the negative impact of the science of photography on art.

**WHO ARE THE
FRENCH
IMPRESSIONISTS?**

The Impressionists are a group of avant-garde artists who used radical, experimental painting techniques to record their experiences of the modern world. Claude Monet, Frédéric Bazille, Camille Pissaro, Pierre-Auguste Renoir, Paul Cézanne, Berthe Morisot, Gustave Caillebotte, Alfred Sisley, and Edgar Degas, all leaders of this group, are represented in the Institute’s painting galleries. Other artists associated with them and in the Institute’s collection include Edouard Manet and Eugène Boudin.

The Impressionists were united not by a shared style, but rather by a shared desire to break away from the timeworn Academic rules that dictated painting production in France. They made it their goal to develop new techniques suitable for representing “scientifically,” or factually, the ever-changing world in which they lived. Many of them went outdoors to paint in order to most faithfully capture their experiences. Painting outdoors was made easier by the recent inventions of portable painting equipment and paints produced in metal tubes.

Among the innovative methods the Impressionists pioneered were: the adoption of radical points of view, largely inspired by the new art of photography and the compositions of 18th-century Japanese woodblock prints; lighter and brighter colors, inspired by new color and optical theories; and looser, freer brush strokes that simply suggested the impression of forms, as one would actually perceive them.

**WHO ARE THE
FRENCH
IMPRESSIONISTS?,
CONT.**

In 1874, 30 artists, including a number of those now known as Impressionists, mounted an independent exhibition of their work. Some critics recognized the importance and value of the new art, while others condemned it. It seems that the now popular name “Impressionists” derived from critic Louis Leroy’s sarcastic comments about Monet’s painting called *Impression, Sunrise*, 1873. In his review in Le Charivari, a paper notorious for its cutting humor, Leroy created a dialogue between himself and a friend as they walked through the show. At Monet’s painting, he commented that it was messier than “wallpaper in an embryonic state,” and concluded that it must surely be no more than an “impression,” as its title suggested. The artists, who simply called themselves the *Société anonyme des artistes, peintres, sculpteurs, graveurs, etc.* (Limited society of artists, painters, sculptors, engravers, etc.), eventually accepted the name “Impressionists” popularly attached to them.

**THE RISE OF
LANDSCAPE
PAINTING**

The rise of landscape painting began during the first two decades of the 19th century. By the mid-1830s landscapes dominated other painting genres. L’Artiste, an influential periodical, proclaimed landscape “truly the painting genre of our own time.” Even the state was collecting landscapes. As history paintings in the classical manner became more arcane and difficult for many people to decipher, landscapes rose in popularity. They were easy to understand, generally attractive, and could be made on a small scale. They also fed city dwellers’ desire to experience nature, through visual images, in a world that was becoming increasingly industrialized. Landscapes could meet the demands for understandable art generated by the ever-increasing bourgeois (middle class) audience.

**WHAT IS PLEIN
AIR PAINTING?**

Painting *en plein air* means painting in the open air. Many of the Impressionists rejected the Academic practice of painting entire pictures inside a studio. They went outside to paint as a direct means of capturing their visual and emotional experiences of the world.

Many landscape painters of the 19th century preceded the Impressionists in championing outdoor painting. Artists in the Institute’s painting collection who went outside to paint include the realist Gustave Courbet, the Barbizon School painters Théodore Rousseau, Charles Daubigny, and Narcisse Virgil de la Peña, and their associates Camille Corot and Jean-François Millet. These artists made sketches outside, most of which they considered studies for paintings they would make in their studios. Charles Daubigny was one of the first artists to consider his outdoor works as

WHAT IS PLEIN AIR PAINTING?, CONT.

completed paintings suitable for exhibition. He greatly influenced the Impressionists. Although many critics viewed the Impressionists' paintings as mere "impressions," hastily executed outdoors, only a small portion of their works were, in fact, painted completely outdoors.

HOW DID PHOTOGRAPHY IMPACT ART?

The invention of photography changed the world of art. It was the result of experiments conducted by many individuals. The first photographic image was created by a Frenchman, Joseph Niépce, in 1826. His assistant, Louis Daguerre, then improved upon his mentor's work, with his own version of photography on metal plates, which he introduced in Paris in 1839. It was, however, William Henry Fox-Talbot, who, in 1835, produced the first photographic print-making process, using a negative-positive method on paper. He introduced his method in London, also in 1839. Now images could be made in duplicates. Many other improvements to these photographic processes followed.

The tonal qualities, and accidental cropping and blurring of subjects in photographs mirrored and inspired the French Impressionists' desire to create less formal and more unusual compositions. When photography was emerging, making photographs was far from spontaneous. Exposure times of many minutes required sitters to hold poses (and their breath!). Nonetheless, the movement captured as blurs suggested spontaneity. Photographs of many subjects presented artists with new ways to view the world.

WHAT IS THE IMAGE ON THE FRONT PANEL OF THE IMPRESSIONIST PAINTING ART CART?

This painting is Pierre-Auguste Renoir's *The Piazza San Marco, Venice*, from 1881. Pierre-Auguste Renoir (1841-1919) was a leader among the Impressionists, in their early years. He has sometimes been criticized for "prettifying" his subjects or scenes, because of his fluid use of brilliant light, soft pastels and his portrayal of attractive women. Though most known for depicting pleasurable moments in the intimate leisure scenes of the French middle class, here he has portrayed Venice's Piazza San Marco, with the Basilica di San Marco (St. Mark's Cathedral) as focal point.

In 1881, when he was reconsidering the direction of his art, Renoir journeyed to both North Africa and Italy, for artistic inspiration. He made a pilgrimage to areas of the world his heroes had found enlightening—Algiers, because of Eugène Delacroix, and Italy, because of Jean-August-Dominique Ingres. Renoir arrived in Venice in the fall of 1881 and stayed for several weeks. He was well aware of the commercial opportunities that this journey would provide him, as tourists and "armchair" travelers alike craved pictures of popular travel destinations. The sights of Venice (and their potential to sell paintings) inspired many an artist.

**WHAT IS THE
IMAGE ON THE
FRONT PANEL
OF THE
IMPRESSIONIST
PAINTING ART
CART?, CONT.**

In this painting of the Basilica, as seen from across the Piazza, Renoir created an oil sketch that hints at incompleteness. Unlike most of his other Venetian work, this painting was brought home to his Paris studio, seemingly unfinished, perhaps as a model for future paintings. With authoritative brushstrokes of dazzling color, Renoir evokes the radiant, yet hazy, Venetian light. And that shimmering light implies an intense heat, as it bathes the Cathedral in a golden glow. The architectural lines, the pavement stones, the piercing perspective and the tremulous sky are all suggested by Renoir's decisive use of his brush. The people and pigeons streaming along the Piazza are mere daubs of paint, but the eye and mind "read" this painting as a whole.

Compare Renoir's interpretation of this scene with the recent photograph from the same vantage point (birds and all!), included on the Art Cart.

**WHERE IS THE
IMPRESSIONIST
PAINTING ART
CART STORED,
AND HOW DO I
ACCESS IT?**

The Impressionist Painting Art Cart is stored in the Museum Guide Programs costume room/Art Cart room on the third floor. It is located across the hall from the Tudor Room. To access the storage area, pick up a key from the Tour Office. The keys are kept on a hook in the top drawer of the low filing cabinet just inside the tour schedulers' office door.

**WHERE
SHOULD THE
IMPRESSIONIST
PAINTING ART
CART BE SET UP
IN THE
GALLERY?**

The Art Cart should be set up in the center of Gallery 321, just to the north of Degas' *Woman in a Bath Tub* sculpture. The cart should be oriented parallel to the nearby bench, facing toward the east entrance to the gallery (the doorway where the Prints and Processes interactive is located). Please leave ample room between the Degas sculpture, the nearby Rodin sculpture, and the cart to allow for visitors to circulate comfortably.



BROWNIE CAMERA

WHAT IS A BROWNIE CAMERA?

In 1898, photography pioneer George Eastman approached Frank Brownell, his camera designer and manufacturer, about coming up with the plans for an inexpensive and efficient camera. Brownell obliged, producing in February of 1900 a low-cost piece of equipment, in the form of a small and simple box, for the Eastman Kodak Company. It was user-friendly and, most significantly, child-oriented. Easily portable and maneuverable, the arrival of the Brownie was well-suited to the mood of the nation, as the new century began. Priced initially at just one dollar, the success of the Brownie reached far beyond anyone's expectations, with first-year sales exceeding 150,000 in number. It would be produced in one form or another for eighty years. The Brownie on the Art Cart dates to 1916.

WHAT IS THE ORIGIN OF THE BROWNIE NAME?

Though some make the assumption that the Brownie name hails from an association with its designer, Frank Brownell, it came instead from something far more whimsical. In the latter part of the 18th century, there was a fellow named Palmer Cox, who was a very popular children's author and illustrator. The characters he created for his books were as familiar to school children of his day as the Disney characters are today. These creatures, the "Brownies," often appeared in advertisements for everything from candy to aspirin to coffee. A "Brownie" camera added to its appeal for children. (Obviously, long before rigid copyright laws!) There were even Brownie games, trading cards, puzzles and dolls. (See illustration of a Brownie character on the Art Cart.)

HOW DID THE BROWNIE CAMERA IMPACT CULTURE?

Not unlike the earlier Stereoscope craze, but much grander in scale, the Brownie opened previously unconsidered vistas to all. Now there was an art form, photography, available as a hobby to the average citizen, even children! It was portable, very inexpensive and extremely fun to use. With it, you could literally "shoot from the hip." And, in fact, it was that phraseology which gave birth to the term, "snapshot." This was a borrowed hunting term, which alluded to shooting without aiming precisely.

**HOW DID THE
BROWNIE
CAMERA IMPACT
CULTURE?,
CONT.**

Since one no longer needed to be a professional, young and old alike were now able to create permanent and personal memories from their everyday lives. However, the Brownie's scope was actually even more far-reaching. Consider how that little black box launched not only a new industry, but also contributed to the manner in which we communicate today. The Brownie and snapshot photography, in general, helped to lay the groundwork for advances in X-rays, movies and photo-journalism. Even technology in satellite-imaging and the Internet owe much to the little Brownie, by influencing the methods in which we inform through images.

**HOW DO I SET
UP AND USE THE
BROWNIE?**

The Brownie employed size 116 film and produced a picture that was 2-1/4 x 2-1/4 inches. It used a rotary shutter and was made of a hard card box. The original had a wood film carrier, though this one is metal. The original also made use of a detachable winding key, while this model's is part of the body of the piece.

- Unhinge the Brownie lid at each end by sliding the metal hooks, called grommets, off the affixed nail heads.
- Gently wiggle the camera body apart. (There may be some difficulty in opening the apparatus. If so, pull and wiggle very gently.)
- Place the free end of your (imaginary) roll of film in the slotted spindle, while simultaneously winding with the outer film advance key.
- Close up the Brownie and re-hinge.
- Holding the camera close to your mid-section, gaze down into the box's view finder.
- Aim and shoot, using the cameras' vertical shutter release.

**QUESTIONS AND
ACTIVITIES**

1. You're the photographer. Choose a person or an object you'd like to have as the focal point of your photograph. Locate your scene in the Brownie view finder, adjusting for best light, and flip the shutter release.
2. Do you have a collection of treasured snapshots? What sorts of snapshots make up your collection? Who took them? You? Friends? Family?
3. Nowadays, many of us take photographs of people and places for granted. It is hard to imagine a world without them. In what ways might the camera have become an important tool to the portrait painters and landscape artists of the 19th century?

**QUESTIONS AND
ACTIVITIES,
CONT.**

4. The early Brownies were so much smaller and lighter than their ancestors, and they didn't require a cumbersome tripod. To what sorts of places might the first Brownie users have been able to take their new portable cameras? (Try to think of those areas that might have previously restricted setting up a tripod.) Cameras today, digital and otherwise, are now so much tinier than the Brownies were. Think about the sorts of places one can take cameras today and the kinds of photos that can be produced.
5. Locate Edgar Degas' *Mademoiselle Hortense Valpinçon* from 1871 in our collection. Although snapshot cameras were not yet invented, this painting suggests Degas' interest in photographic effects. What, if anything, about it reminds you of photographs? What do you see that makes you say that?
6. What are some reasons that we continue to take photographs today? What purposes do photographs serve? What are your favorite kinds of photographs to take? Why do you say that?

**COLLECTION
CONNECTIONS**

- Paintings with a "snapshot" quality, yet pre-date the "snapshot"
1. Edgar Degas, *Mlle. Hortense Valpinçon*, about 1871 (Gallery 321)
 2. Berthe Morisot, *The Artist's Daughter, Julie, with her Nanny*, 1884 (Gallery 321)
 3. John Singer Sargent, *The Birthday Party*, 1887 (Gallery 322)

Photography (Gallery 364)
Photographs rotate frequently.



CAMERA LUCIDA

WHAT IS A CAMERA LUCIDA?

The Camera Lucida (Latin: “light chamber”) is an optical device that aids drawing. The modern-day version displayed on the Art Cart is very similar to that used by some 19th-century artists. Although Dr. William Hyde Wollaston (1766-1828) patented the Camera Lucida in 1807, the underlying ideas date to the time of Aristotle (4th century BCE).

Prior to the first photographic processes of 1839, which made it chemically possible to “fix” images on paper, the Camera Lucida enabled artists to achieve a higher degree of accuracy in recording images. A lens-based instrument, it uses mirrors or a prism, to project an image of an object or scene onto a plane surface. One can then trace the reflected image to create an accurate drawing fairly quickly.

Unlike its larger and more cumbersome relative, the Camera Obscura (Latin: “dark chamber”), the Camera Lucida is small, portable and designed for use in full daylight. It also provides a greater field of vision. The apparatus requires a certain degree of skill to operate; nonetheless it was not designed to be a substitute for the natural eye and hand of the artist.

WHAT IS A PRISM, AND HOW DOES IT WORK?

The key component of a Camera Lucida is a prism. A prism is a multi-sided piece of glass, through which light and images pass multiple times. It is used in refraction, which is what happens when light passes from one transparent substance to another, like water to air. (Think about how your legs seem to “bend,” when you’re standing in shallow water.) This occurs because light travels at different speeds through clear materials.

WHAT IS A PRISM, AND HOW DOES IT WORK?, CONT.

By looking into the upper surface of the prism, you can see the reflection of the scene or object in front of you. The prism is shaped to allow rays of light from the image to be reflected twice within the prism, before reaching the eye. Because there have been two

reflections, your view is seen right-side-up and not the reverse, as it would be with a single reflection. The prism reflects part of the image to the eye, while it simultaneously reflects the same image onto the work surface. The Camera Lucida is, in essence, a prism on an adjustable stand.

**OPINIONS
REGARDING
19TH-CENTURY
USE OF THE
CAMERA LUCIDA**

David Hockney, a contemporary artist and critic, has generated controversy with his hypothesis that some of the best-known artists of the last several hundred years may have used the Camera Lucida as a drawing aid. (See David Hockney, *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters*.) For some art historians and critics, the idea of an artist using a mechanical tool to help produce an art work negates the individual input of the artist's own vision or hand. Hockney, however, views the use of such devices as only one of many tools that an artist might employ in the successful completion of a work of art.

**HOW DO I SET
UP AND USE THE
CAMERA
LUCIDA?**

- The Camera Lucida is permanently mounted on the Impressionist Painting Art Cart. The user should stand in front of the Art Cart, with the Camera Lucida to his or her right. (Please do not attempt to remove it.)
- Place a sheet of paper beneath the viewer.
- Position the object you want to draw out in front of the Camera Lucida.
- With one eye closed, open the other eye to gaze directly at the paper surface through the hole in the instrument. You might need to adjust the angle of the Camera Lucida and/or the angle of the paper (lift one edge of the paper slightly up off the surface of the cart). When the stand is adjusted so that the prism half-covers your pupil, you'll gain the illusion of both the object and the whole work surface.
- If the image initially appears faint, you can substitute a sheet of black paper for the drawing paper. Once your eye has made the adjustment, remove the black paper.
- To achieve a healthy balance between the strength of the image and the strength of the work surface, you may need to adjust your position. (It is possible that a second, unwanted image may come into view. The second image will be that of the scene directly above you. Though normally much fainter in strength, it can interfere, particularly if it is of an overhead light fixture. In this situation, it may be necessary for you to adjust the Camera Lucida at a slightly different angle.)
- Voilà! Now you have your view, and it's time to begin drawing. We've provided pencils and paper for your experimentation. For your subject, try holding your free hand in front of you, or perhaps a friend will be willing to be the focus of your art.

**QUESTIONS AND
ACTIVITIES**

1. Position your hand or a friend in front of you, and slightly to your left. Gaze through the viewing hole of the Camera Lucida, keeping your other eye shut. If necessary, tilt the prism housing until it provides the correct viewing angle. What sorts of images are you seeing? Are they faint or sharp? Adjust the viewer at different angles. How does what you are seeing change?
2. How did the Camera Lucida feel to manipulate? Does it seem easy or difficult to maneuver? Discuss the possible challenges this device might have posed to 19th-century artists.
3. If you were an artist, in what sorts of situations do you think you would find the Camera Lucida helpful to your drawing? Why?
4. Consider Jean-Léon Gérôme's *The Carpet Merchant*, from 1887 (Gallery 306). Move to within one foot of the painting. Take a long look. Now, move back a few feet. We know Gérôme took photographs, but we are not certain of the other devices he may have used. How has he made this scene seem so realistic? What do you see that makes you say that?
5. Now, compare Gérôme's painting to Claude Monet's *Grainstack, Sun in the Mist*, from 1891. Again, move to within one foot of the work. Look closely for a minute or two. Now, move back a few feet. How are Monet's brushstrokes similar to or different from Gérôme's? What thoughts or emotions come to mind, when considering this work? How does this painting make you feel? Why do you say that?

**COLLECTION
CONNECTIONS**

19th-century French paintings demonstrating photographic realism

1. Jean-Léon Gérôme, *The Carpet Merchant*, 1887 (Gallery 306)
2. Adolphe-William Bouguereau, *Temptation*, 1880 (Gallery 306)
3. John F. Peto, *Reminiscences of 1865*, after 1900 (Gallery 303) (American example)
4. James Jacques-Joseph Tissot, *The Journey of the Magi*, 1894 (Gallery 322) (English example)

19th-century French Impressionist paintings demonstrating free brushwork

1. Claude Monet, *Grainstack, Sun in the Mist*, 1891 (Gallery 321)
2. Paul Cézanne, *Chestnut Trees at Jas de Bouffan*, 1885-86 (Gallery 321)
3. Berthe Morisot, *Portrait of The Artist's Daughter, Julie, with her Nanny*, 1884 (Gallery 321)

AN ARTIST'S TOOLS

WHAT ARE THE TOOLS OF AN ARTIST?

The Impressionist Painting Art Cart features various tools that 19th-century artists could use indoors and/or outdoors. These include dry pigments, pigments in tubes, brushes, a palette, a portable easel, and a color wheel (a modern version).

Many of the Impressionists discussed contemporary color theory and applied it, as they understood it, to their paintings. The optical effects of the placement of colors, or how the eye “reads” colors depending on the neighboring colors, was the subject of many books and articles at this time. The development of enhanced equipment and materials aided in the advancement of many new ideas regarding color.

PIGMENTS AND OIL PAINTS

All paint has at its base a pigment—a ground and colored material. Prehistoric peoples found that the iron oxide deposits in the earth could be a wonderful source of color. Unlike animal or vegetable dyes, the new mineral pigments were more intense in color and better resisted fading. These early pigments were often simply earth or clay, bound with animal fat to form a waterproof mixture. The Neolithic palette was limited in color range. By the Middle Ages, many more natural pigments had been found and used, not only for tempera paints, but also for textile dyes.

The practice of oil painting spread on a large scale in Europe after the mid-15th century. By the 17th century, oil paints reached a level of near-perfection. Artists needed the skills of a chemist to mix the pigments, oil, and other ingredients to produce paints! Like physicians, they would work with mercury, oils, ivory, and the like. (They even shared the same patron saint, Luke.) By the 18th century, however, most oil paints were mixed and sold by individuals called “colormen.” Colormen sold their early paints in pigs’ bladders, then later in syringes. (See illustrations on Art Cart.) It was not until the 1840s that commercially produced paints in tubes, familiar today, became available.



DRY PIGMENTS

Three examples of dry pigments are included on the Art Cart. (DO NOT ALLOW VISITORS TO OPEN THE CONTAINERS.)

- Yellow Ochre (Ocre Jaune). Around since the time of the cave dwellers, yellow ochre was also employed by the ancient Egyptians to depict skin tones. It can be found most everywhere in the world, in colors ranging from yellow to brown, and even to blue. Yellow is frequently associated with light, warmth, creative energy and the powers of healing. It was Vincent Van Gogh's favorite color.
- Ivory Black (Noir d'Ivoire). Black pigment derives from a mixture of carbon, calcium phosphate and calcium carbonate. Black often suggests somberness or mourning, or discord. It can also, however, signal energy or movement and give exclamation to a work. Many of the French Impressionists avoided using black pigment because they felt it was not a color found in nature. Nonetheless, black was nearly unavoidable when capturing the carriages and clothing of modern Parisians.
- Burnt Sienna (Terre de Sienne Brulée). Derived from soil, peat or brown coal, Burnt Sienna evokes a relationship to the earth.



TUBE PAINTS

Since the 17th century, artists had stored their paints in pigs' bladders. A punched hole would allow the paint to be squeezed out, while a nail kept it plugged shut. The pigments of the 19th century were, like those by Sennelier on the Art Cart, the result of modern chemical engineering.

The development of air-tight metal containers for paints greatly helped the colormen and artists. Colormen could now prepare colors in advance. Artists could more readily paint outdoors, so *plein air* painting became very popular in the 1830s and beyond, especially among the growing numbers of amateur artists from the middle classes. Most of the French Impressionists also dedicated themselves to painting outdoors.

Paints in tin tubes consumed the market. Nonetheless, there were still problems. For example, the newer paints had a tendency to yellow over time. Some of the Impressionists felt that the brilliance of their dry pigment hues could not be replicated with the new paints. Unlike the dry pigments, however, which hardened overnight, the tube paints afforded them previously undreamed-of freedom to paint in the moment and truly from nature.

There are four examples of tube pigments on the Art Cart. (DO NOT ALLOW VISITORS TO OPEN THEM.) Three are the same mineral base as the dry examples. The fourth is a blue paint that was first used in the 19th century:

- Cerulean Blue. Cerulean Blue (literally, “sky-colored”) was introduced in 1860 and is a greenish-blue pigment, composed of cobalt stannate.



PASTELS

Pastels are essentially a mixture of ground pigment and gum, pressed into a stick form. The final product is a kind of chalky crayon. Pastels produce a powdery surface, which is both delicate and difficult to conserve. The works of art that are created from these sticks are also referred to as “pastels.”

The pastels displayed on the Art Cart, like the dry pigments, were purchased from Maison Sennelier, which was established in Paris in 1887 by Gustave Sennelier, a noted chemist. The shop, near the Louvre Museum and the Ecole des Beaux-Arts, is considered a landmark. It was also a popular meeting place for many of the French Impressionists, whose daily exchanges assisted in giving birth to new techniques.

Edgar Degas (1834-1917) regularly used pastels, in order to record the worlds of theatre, ballet, horse-racing and working women.

(DO NOT ALLOW VISITORS TO OPEN THE CONTAINERS HOLDING THE PASTELS.)



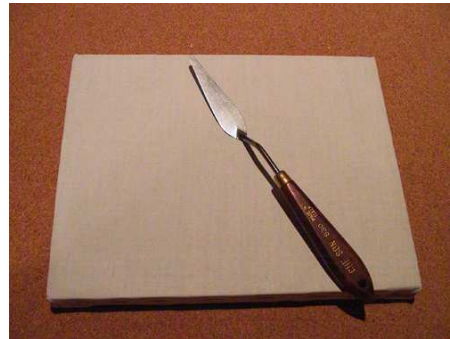
COLOR WHEEL AND COLOR THEORY

A color wheel demonstrates the relationship between colors (for example, primary, secondary and tertiary colors). Although the color wheel on the Art Cart is a modern one, it demonstrates all of the same principles of color being explored by the Impressionists and other artists in the 19th century.

**COLOR WHEEL
AND COLOR
THEORY,
CONT.**

All the colors on color wheels (which vary in complexity) relate ultimately to the primary colors: red, yellow and blue. They are called primary, because of their ability to be mixed to create all the other colors, yet they cannot be created through mixing. Secondary colors, orange, green and violet, are the result of mixing two primaries. Red + yellow = orange, blue + yellow = green, and blue + red = violet. If you add more red to the red-yellow combination, you'll produce a red-orange shade. Adding more yellow yields a yellow-orange. These, then, are examples of intermediate, or tertiary, colors.

Colors that are opposite each other on the wheel are considered complementary colors. Complementary colors have none of their opposite in them. Color theorists of the nineteenth century discovered that when two colors are touching, their perceived differences are heightened. It was also found that individual colors are mutually heightened by their complements. Analogous colors are those that are next to each other on the color wheel and share a common hue, such as blue, blue-green, and green.



**PAINTBRUSHES
AND PALETTE
KNIFE**

Early paintbrushes, from the time of the Renaissance, were often formed from hog's bristle or squirrel fur (miniver). The finest, then and now, are created from sable, appropriate to create the best work. (Sable is a mammal, found in northern Europe and Asia, with an unusually dark, soft and lustrous coat.) Some brushes have a flat head of bristles, which is useful in creating a hard edge or line. On others, the bristles meet in a soft and rounded tip, which is appropriate for painting the body of an object. The palette knife is composed of a wooden handle, affixed to a blunt-tipped and very flexible steel blade. It was, and is, used for mixing colors and paste. Some of the Impressionists and their realist contemporaries challenged the art authorities and the public by using palette knives to create rough, textured surfaces in their paintings.



DEGAS' SKETCHBOOK

Many artists rely on drawing in sketchbooks as a key step in composing paintings. But sketchbooks also provide a place for one's doodles and notes. Included on the Art Cart is a reproduction of Degas' Sketchbook, with an introductory essay by Carol Armstrong.

For a 19th-century Frenchman of means, the liberty to move about in one's world was a given. In the case of Edgar Degas, son of landed bankers, this meant entrée to all of cafe society. Armed with his sketchbook, he observed and recorded the nightlife of the street, the ballet, the theatre, and the daytime activities at the racetrack. Fascinated by the infinite variety in the human face and form, Degas spent endless hours recording his impressions of figures from all ranks of society.

To gain a glimpse into the private world of the artist, consider Degas' sketches. His pencil or charcoal sketches made from life inspired his paintings, which he produced in his studio.



PORTABLE EASEL, CANVAS, AND PALETTE

The practice of painting *en plein air*, or outdoors, grew greatly in popularity during the 19th century, especially in France. The summer months regularly drew colonies of painters wishing to record the rough and natural landscape beauty of areas such as Normandy and the Forest of Fontainebleau. French artists, especially the Impressionists, were also drawn, day and night, to the newly widened boulevards of Paris, where cafe society gathered to see and be seen.

**PORTABLE
EASEL, CANVAS,
AND PALETTE,
CONT.**

The popularity of painting outdoors, especially among middle class amateurs, led to the production of an abundance of light-weight and portable equipment. The ability to take one's easel, paint and brushes outdoors, rather than working in the studio from sketches, made a great difference in the quality and quantity of art being produced. By the late 19th century, the Impressionists were employing portable equipment more than any previous generation of artists. These new tools enabled them to capture the diverse effects of climate and sunlight upon their subjects. Concerned with capturing the moment, they avoided staged compositions. This approach gave an immediacy to their brushwork, previously unseen.

The 19th-century suppliers' catalogues and artists' manuals indicate a wide range of tools meant for outdoor usage, including portable sketching easels and even a complete outdoor painting kit, including palette. (An illustration on the Art Cart shows French artists traveling or working with their portable equipment.) The easel frame held the painter's canvas or paper in a fixed position, while providing a flat and firm support. The palette provided a hand-friendly, plate-like surface on which to lay and mix pigments. The palette was a thin board or tablet, with a hole at one end for holding. Pre-stretched canvases, formed by stretching canvas linen across rectangular supports, became available in a variety of standardized sizes. Although not included on the Art Cart, a parasol, or umbrella, could provide the necessary sunshade on a glaringly bright day.

**HOW DO I SET UP
THE PORTABLE
BACKPACK
EASEL?**

- Unfold the center leg from its casing on the back of the backpack (near the brown nylon straps) and lock it in place. Release the leg extension by loosening its bolt. Position the leg and tighten the bolt to secure it in place.
- Extend the inner section of the center (back) leg to a desired position and tighten the bolt to secure it in place.
- Unscrew and then release each leg on either side of the center box by pushing the lower ends away from the side of the box. Position the legs and tighten the bolts. Unscrew the bolts on the side of each of the 2 front legs and extend them fully. Re-tighten the bolts to secure the legs at the desired height.
- Release the brass buckles on each side of the center box.
- Loosen the bolts to position the work-area of the easel (where the canvas goes) at the desired angle. Tighten the bolts on the side arms to secure it.
- Loosen the bolts on either side of the horizontal canvas supports/clamps on the easel to adjust the upper and lower supports and tighten the bolts again.

**QUESTIONS AND
ACTIVITIES**

1. What's your favorite color? Why? Find it on the color wheel. Which colors make you think of cold weather? Which make you think of warm? Why? Find some of them on the color wheel.
2. Think of sports teams that have complementary, or contrasting, colors. We have one close to home. What are the colors of your favorite team?
3. If you had a sketchbook, where would you go to make your drawings? What kinds of people, places and things would you like to put in your sketchbook? You can use the provided sketchbooks or a clipboard, pencil and paper in the museum, if you'd like to make a record of people and things you see today.
4. What advantages might the invention of tube paints have provided over paints stored in pigs' bladders? Syringes? (Show illustration of bladders and syringes for storing paints.)
5. Try on the artist's smock (for children) and stand before the easel with your canvas in place and palette in hand. Handle some of the paintbrushes and palette knife. Consider the types of bristles and the shape of the palette knife. Imagine applying paint to your canvas with the different tools. How might the size of your paintbrush affect the scene you paint? Think about the lengths of the brush handles. What advantage might each offer? Which do you find easier to handle? Why do you say that? Where would you set up your easel to paint an outdoor scene? Why?

**COLLECTION
CONNECTIONS**

- Paintings by artists who painted outdoors (at least in part)
1. Jean-Baptiste-Camille Corot, *Landscape*, 19th century (Gallery 306)
 2. Charles Daubigny, *The Crossroads of the Eagles' Nest, Fontainebleau Forest*, 1843-44 (Gallery 307)
 3. Gustave Courbet, *Deer in the Forest*, 1868 (Gallery 305)
 4. Rosa Bonheur, *Palette*, 19th century (Not on view)
 5. Eugène Boudin, *Vacationers on the Beach at Trouville*, 1864 (Gallery 305)
 6. Claude Monet, *The Seashore at Saint-Adresse*, 1864 (Gallery 321)
 7. Paul Cézanne, *Chestnut Trees at Jas de Bouffan*, 1885-86 (Gallery 321)

**COLLECTION
CONNECTIONS,
CONT.**

Landscape paintings demonstrating “experimental” use of colors

1. Georges Seurat, *Port-en-Bessin*, 1888 (Gallery 321)
2. Vincent Van Gogh, *Olive Trees*, 1889 (Gallery 321)
3. Paul Gauguin, *Tahitian Landscape*, 1891 (Gallery 321)

Pastel drawings

(These regularly rotate on and off view)

1. Edgar Degas, *Beside the Sea*, 1869 (Gallery 316)
2. Jean-François Millet, *Church at Chailly*, 1868 (Gallery 316)
3. Jean- François Millet, *The Farmhouse*, 1867-69 (not on view)
4. James Jacques-Joseph Tissot, *Comtesse d’Yanville and Her Four Children*, 1895 (Gallery 322)
5. Pierre Puvis de Chavannes, *Botany*, 1889 (not on view)
6. Eva Gonzalès, *Lady with a Fan*, after 1870 (not on view)

STEREOSCOPE AND STEREOGRAPHS OF PARIS



WHAT IS A STEREOSCOPE? WHAT IS A STEREOGRAPH?

A Stereoscope is a hand-held viewing device that was popular in the 19th century. A binocular device, it makes specially mounted images, called Stereographs, appear 3-D when viewed through it. A Stereograph is made up of two nearly identical images of the same scene mounted adjacent to each other on a card for support. Together, the Stereoscope and Stereographs used 19th-century technology for entertainment purposes.

The principles of binocular vision central to Stereoscopy were somewhat known in the early 1800s, but no apparatus had yet been designed. It was in 1838 that Sir Charles Wheatstone developed the first Stereoscope. He also published and presented a paper to the British Royal Society in the same year, outlining how the mind discerns an object in three dimensions, as each eye receives a slightly varying view. Wheatstone coined the word “Stereograph” from the Greek stereo (“solid”) and graph (“I look at”).

WHAT WAS STEREOSCOPY’S CULTURAL IMPACT?

The Stereoscope positively thrilled 19th-century viewers. Stereographs introduced many people to faraway places they had never dreamed of, such as Egypt and Morocco, but also to scenes of their own countries. Imagine the excitement generated by being able to “be” in an exotic locale, from the comfort of your own parlor. As people were exposed to other lands and other peoples, their worlds suddenly seemed a little smaller.

WHAT WAS STEREOSCOPY’S CULTURAL IMPACT?, CONT.

The first commercial views and viewers were the brainchild of Sir David Brewster, who had them displayed at the Crystal Palace Exhibition of 1851. Almost overnight, a mania to purchase, exchange and view Stereographs swept both England and France. The collectors, not surprisingly, were often financially comfortable individuals, such as established attorneys, physicians, and the like, who created a demand for images that were often quite risqué.

The craze spilled over to the United States, primarily through its promotion by Dr. Oliver Wendell Holmes, the noted physician, poet and essayist. Holmes wrote two lengthy articles for the *Atlantic Monthly*, in 1859 and 1862, respectively, which “sang” the benefits of the stereographic image. He even suggested that at a future date, the image’s import would supersede that of the actual object. Holmes decided to see if he could devise an inexpensive home viewer, mainly for educational benefit. With Joseph L. Bates as partner, Holmes produced the low-cost Holmes-Bates Stereoscope, configured much like the model on the Art Cart.

By the latter part of the 19th century, European and American viewers were employing Stereoscopes and Stereographs much in the same manner we use television and computers today. These early mechanisms helped to provide pleasure, instruction, promotion, spiritual inspiration and cultural nourishment. Though Stereoscopes enthused the general public, they were certainly of interest to all concerned with the visual world, including the 19th-century artists.

WHAT IS THE SIGNIFICANCE OF THE STEREOSCOPE ON THE ART CART?

This Stereoscope was a souvenir to commemorate the 1900 Paris Universal Exposition (Paris Exposition Universelle Internationale de 1900). Note the seal of the exposition on the top of the viewer. If you turn the Stereoscope over and look at the bottom, you will see the imprint, “PAT’D. OCT. 15-95,” indicating this model was patented in October of 1895.

From the mid-19th century onward, international expositions showcased innovative products. For instance, technological and artistic goods from France and greater Europe, Asia, and eventually America, were displayed at many of these exhibitions. Think about the Minnesota State Fair with Machinery Hill and the Creative Arts Building, auto exhibitions and, of course, art shows.

HOW DO I SET UP AND USE THE STEREOSCOPE AND STEREOGRAPHS?

- Lower the handle support with one hand.
- Using your free hand, insert one Stereograph, between the wire holders.
- Bring the device close to your eyes, with its base resting upon the bridge of your nose. (If you wear glasses, be careful not to hit your frames or lenses with the outer metal pieces.)
- Slide the focus bar (where the card sits) backwards and forwards, until a comfortable depth is reached, allowing for clarity of detail.
- Enjoy the view!

**WHAT DO THE
STEREOGRAPHS
DEPICT?**

There are three Stereographs for visitors to use with the Stereoscope. Each is a different scene of Paris, as described below.

Garden of the Tuileries, Paris, France (misprinted as “Tulleries” on Stereograph)

The Tuileries Garden comprises the most central park in all of Paris. It stretches along the River Seine, from the Louvre Museum to the Place de la Concorde (Concorde Square). It was designed in 1664 by André Le Nôtre, gardener to the king, Louis XIV. Le Nôtre also was the primary designer of the gardens for Louis XIV’s palace at Versailles. Elegant statues and fountains, along with small cafes, are in abundance. The name harkens to the “tuiles,” or roof tiles, which were produced by factories for centuries at this site.

In this 19th-century scene, elegant Parisians mill about, conversing and enjoying the day, or hurriedly going about their business. Note the nanny and baby carriage in the lower right corner.

Les Champs-Élysées, Paris, France

Les Champs-Élysées (Elysian Fields) is the most famous boulevard in Paris. At the western end of this broad avenue, there stands the Arc de Triomphe, the largest triumphal arch in the world. Very faintly, to the right rear, you can see a bit of its outline. Emperor Napoleon I commissioned the arch in 1806, as a memorial to his imperial armies. Its chief designer was the architect, Jean-François Chalgrin, who chose the triumphal arches of Rome as his inspiration. It was the Baron von Haussmann who designed the broad and beautiful stretch that is Les Champs-Élysées, at about this same time.

Hôtel de Ville, Paris, France

The Hôtel de Ville was a 17th-century town hall that was reconstructed in the 19th century after it was burned down during the Paris Commune uprising of 1871. As you can see, it is an ornate building with elaborate stonework, turrets, and statues.

**QUESTIONS AND
ACTIVITIES**

1. What's going on in this picture? What do you see that makes you say that? What more can you find?
2. Paris is, and was, a city of sight, sound and smell. Which of your senses are awakened by these scenes, and why? In other words, what are you seeing, what are you hearing and what are you smelling? What is it about this Stereograph that involves your senses?
3. If you could transport yourself to one of these scenes, which would you choose? Why?
4. In what ways were the lives of these 19th-century Parisians similar to, or different from, ours? What do you see that makes you say that?
5. After studying these street scenes, locate other street scenes in the galleries. Compare and contrast the stereographic images to the paintings and photographs you find. For example, compare these with Camille Pissarro's *Place du Théâtre Français, Rain*, 1898, in Gallery 321.
6. If you could make your own viewing cards from anywhere in the world, what locations might you choose and why?
7. Sometimes stereographic photographs are displayed in the photography galleries on the west end of this building (Gallery 364). If so, what scenes do you see in them? What other photographs show views of places? Do you ever take photographs of places you have visited? What are the places in your photos? What photographs of places you would like to visit have you seen?

**COLLECTION
CONNECTIONS**

Street-scene paintings

1. Camille Pissarro, *Place du Théâtre Français, Rain*, 1898 (Gallery 321)
2. John Singer Sargent, *Luxembourg Gardens at Twilight*, 1879 (Gallery 323)
3. Robert Koehler, *Rainy Evening on Hennepin Avenue*, 1902 (Gallery 302)

Street-scene photographs

1. Henri Cartier-Bresson, *Behind the Gare Saint-Lazare, Paris*, 1932 (Gallery 364)
2. Alfred Stieglitz, *Spring Showers, New York*, 1900 (Gallery 364)