



# Revisiting Utah's Past

Utah Museum of Fine Arts

Evening for Educators

September 27, 2006 • 5:30 pm - 8:30 pm

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## List of Images

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1. Alfred Lambourne (1850 – 1926), American born in England  
***Sunset on the Platte***, ca 1890  
Oil on canvas  
Gift of Edward Shanks  
Museum # 1959.005
2. Danquart Anthon Weggeland (1827 – 1918), American born in Norway  
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Oil on canvas  
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Oil on canvas  
Purchased with funds from Friends of the Art Museum  
Museum # 1980.059



# Revisiting Utah's Past

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## Background Information

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*The Pioneer Experience* is the first in a series of exhibitions designed to place the visual arts of Utah in a broad context that suggests ideas about what the territory looked like, who wanted to live here, and why. In some ways the settlement of Utah is inconsistent with the concept of western expansion as the inalienable right of European Americans to occupy the country from coast to coast. Instead, Mormon pioneers were exiles in search of isolation that would afford them safety from the persecution they had experienced in Missouri and Illinois. Non-Mormon settlers included Jewish merchants, Chinese immigrants who worked on the Central Pacific Railroad, African-American slaves who accompanied their masters, and Irish and Italian immigrants who worked in the coal, gold, silver, and copper mines. Immigrant Japanese arrived in the early 1880s, soon followed by Armenians, Lebanese, and Greeks who all added to the culturally diverse character of the growing society.

To understand early Utah art, one must first gain a perspective on the development of American Western art in general. From the beginning of Western expansion in America, artists tried to capture the essence of the area west of the Mississippi. Some, as they became explorers in their own right, documented the landscape found in these new territories. Others showed images of Western life, real or imagined, on the frontier. Many artists idealized and exaggerated images to advertise and entice Easterners westward. All reflected the cultural biases of the times and the historical context in which they were created. With little exception, artists of the period from the mid-1800s through the mid-1900s helped to establish a mythical view of the American West by focusing on the positive and exciting aspects of the West and downplaying the hardships. In order to interpret the concerns and issues of the time period that may not be obvious in the works, one can look to other historical documents and photographs to place the art within its historical context and extrapolate the "editing" decisions.

The first major works of early Utah artists came after Brigham Young established the Salt Lake Valley as the new home for the Church of Jesus Christ of Latter-Day Saints (the Mormon or LDS church). Looking for a place of refuge from religious persecution, Young announced that the Salt Lake Valley was the chosen place for his people after being driven from other places around the country. As Howard R. Lamar writes in the overview of *The West as America: Reinterpreting Images of the Frontier, 1820 -1920*, the Mormon settlers "had gone West not because of the 'pull' factor of new lands but because of the 'push' factor."<sup>1</sup> Brigham Young led the way to a location where they could practice their religion in peace.

This unique perspective, one of a transplanted society rather than individual people searching for a land of opportunity, shaped the perceptions of the early Utah artists. The early Utah artists captured the resourcefulness of the LDS community as a whole. Albert Bierstadt and other early Eastern landscape artists, as Nancy K. Anderson suggested in "The Kiss of Enterprise: The Western Landscape as Symbol and Resource," may have "journeyed west to mine the landscape for the raw materials from which they fashioned studio painting" for

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<sup>1</sup>Truettner, ed., *The West as America: Reinterpreting Images of the Frontier, 1820-1920*. p. 13.

patrons and commercial reasons,<sup>2</sup> most paintings by Utah artists, however, gave importance to the formation of a collective community and boasted the triumph of cooperative living.

In contrast to artists' renderings of the West intended to attract settlers, Utah artists documented the experiences of building a religious enclave. These images showed the development of communities founded by pioneers with a common ideology. This ideology included an emphasis on self-reliance and the belief that they had found the kingdom of God on earth. It gave Mormons the motivation and optimism to stay in an unforgiving area. This thinking affected the social, political, and economic development of the area and the early art of Utah reflected this religious faith.

Utah artists of the mid to late 1800s were mainly artists transplanted from the East Coast of America and Europe and already trained in their native land. These early artists displayed the influences of their training during European Romanticism where emotion and meaning took on more importance than reality. Danquart Anthon Weggeland, a Norwegian trained in Denmark, and Alfred Lambourne, an Englishman, were good examples of painters of this category. Carl C.A. Christensen, a contemporary of these two, used his paintings to present lectures on the Mormon history.

It was rare for Utah artists to support themselves solely on income from their artwork during these early years without help from the LDS church. Ottinger complains in his diary, "I found that the people of Salt Lake could appreciate pictures but they were too poor to pay for them. I commenced to coloring photographs."<sup>3</sup>

Of those artists that did survive, the subjects of their works reflected the dominant culture that helped sustain their artistic careers. A number of Utah's early artists, both European-born and Utahn, were sent to Paris between the 1880s and early 1900s. The LDS church funded an art mission in France as training for painting murals in the temples of Utah. Cyrus Dallin, Edwin Evans, John Clawson, and J.T. Harwood studied at the Academie Julian. Impressionist influences can be seen in the works of these Utah artists trained in Paris.

Some Utah artists, like Mahonri Young, grandson of Brigham Young, went to New York first, and then to Paris (although he would return to New York). Mary Teasdale, the most significant of an early group of women artists, also studied in Paris before training with Jules Simon and James McNeil Whistler. When she returned to Utah, she became an art teacher and was associated with the Utah Art Institute.

At the turn of the century, artists who had trained in Paris, like Cyrus Dallin, John Hafen, and James T. Harwood, gained in popularity. Hafen's paintings are considered, by some, to be the best in Utah, but as Robert Olpin expresses in "Tradition and the Lure of the Modern," they were not particularly appreciated by local viewers" because of their Barbizon-inspired aesthetics.<sup>4</sup> Around this time, Cryus Dallin received national attention. His Sioux Chief sculpture won a medal at the 1904 St. Louis Expedition and he worked on large commemorative monuments both in and outside of Utah. Mahonri Young also became successful outside of Utah, exhibiting in Paris and New York.

By the 1920s, while many aspiring artists left Utah in hopes of finding inspiration and excitement elsewhere, the effects of visiting artists influenced local tastes and artistic styles. Modernism gained a toehold through artists like Mabel Frazer. Frazer studied under Edwin Evans in Utah, Car Tefft at the City College of New

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<sup>2</sup>Nancy K. Anderson, "The Kiss of Enterprise: The Western Landscape as Symbol and Resource," Reading American Art, eds. Marianne Doezema and Elizabeth Milroy (New Haven: Yale University Press, 1998). p.208.

<sup>3</sup>George M. Ottinger diary, University of Utah Marriott Library Ms 123 Fd. 10, p. 173.

<sup>4</sup>Olpin, "Tradition and the Lure of the Modern." p.96.

York, and at the Beaux-Arts Institute of Design in New York City. In Utah, women artists, like Frazer, were often left on their own because it was thought that women would never make significant contributions to the art world. Frazer, therefore, was free to experiment in modernism.<sup>5</sup> She had a great influence on other artists through her teachings at the University of Utah for over thirty years.

In the 1930s, the depression, as in the rest of the country, had a major effect in Utah. President Roosevelt's New Deal produced the Public Works of Art Project (PWAP) in 1933. Among the projects sponsored by the program were Gordon Cope's "Sculpture and Sketches of Early Utah Indian Life", Henri Moser's "Triptych Depicting Utah Life of Today", J.T. Harwood's "Two Gallery Pictures of Early Utah Life", and J.T. Harwood's and Elzy J. Bird's "Painting for Utah Schools and State Buildings."<sup>6</sup>

When the PWAP was discontinued in 1934, the Federal Emergency Relief Administration and Utah's Public Art Project commissioned murals for the Utah state capitol and an exhibition at the University of Utah to motivate young artists. After 1939, the Federal government required sponsorship if art projects were supported by a local public body other than the WPA itself.<sup>7</sup> Roy Butcher's *Homestead* resulted from this depression relief program.

By the time World War II started, Utahns grappled with changing cultural sensibilities. As Dan Burke explains in *Utah Art of the Depression*

If showing nudes was a controversial issue during this period, an even more heated issue evolved around "modern" versus "traditional" art. The issue eventually elicited a statement prepared by nine Utah artists and art administrators. This statement is both a justification for modern art and an attempt to give the public a definition of modern art. How successful this movement was in changing people's opinions in Utah is impossible to evaluate. However, the opportunity to view modern art along with traditional styles was a valuable educational experience for the public, as well as other artists.<sup>8</sup>

The Utah Museum of Fine Arts' exhibit, *Revisiting Utah's Past: The Pioneer Experience*, is the first of a series of rotations comprised of works containing images of Utah. One goal of the series is to challenge viewers to see beyond the stereotypical images and discover the cultural and historical context in which the artists' works were created. Visitors will be encouraged to look at the works from alternative points of view, including revised historical approaches to western art. A key element in the interpretation involves having primary resources that reveal more about the artists and the subjects of their works.

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<sup>5</sup>Olpin, "Tradition and the Lure of the Modern."

<sup>6</sup>Dan Burke, *Utah Art of the Depression*.

<sup>7</sup>Donald S. Howard, *The WPA and Federal Relief Policy* (New York: Russel Sage Foundation, 1943).

<sup>8</sup>Burke, *Utah Art of the Depression*. p. 20.



# Revisiting Utah's Past

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## ***Sunset on the Platte***

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### **Alfred Lambourne (1850–1926)**

Alfred Lambourne, English-born, moved with his family to the Salt Lake Valley when he was sixteen years old. He kept a diary and sketched scenes during the trip west. Later published in 1897 as a book, *The Old Journey*, the sketches also became the basis for larger scale works, like his *Sunset on the Platte*. Describing the scene in *The Old Journey*, Lambourne writes,

“Next in the book is a quick rubbing-in of the O’Fallen Bluffs. The sky and river – the slow-flowing Platte – are responsive to the light of a golden sunset. The brilliant rays radiate from behind the huge square bluffs which throw a shadow across the foreground. The main interest in the scene however, from our present standpoint, is the train of wagons winding along the dusty road. “We, like ships that pass on the sea, sometimes spoke a returner. No gloomy recital of disappointment could turn us back. The Golden West was our goal and those who returned were but, to us, the too timid ones.”

Lambourne was an important figure in the development of Salt Lake City’s painting tradition with over 600 paintings completed by the turn of the century.



Alfred Lambourne (1850 – 1926), American born in England  
***Sunset on the Platte***, ca 1890  
Oil on canvas  
Gift of Edward Shanks  
Museum # 1959.005

# What's Important to You?

## Art Lesson

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### **A lesson plan for *Sunset on the Platte*, and *Mormon Emigrants Crossing the Plains in 1862***

**written by Annabelle Shrieve**

#### **Overview**

The Western migration forced those who traveled to take only what was necessary. Personal belongings had to fit within their wagons or handcars. In this lesson, students decide what would be important enough for them to take on a journey with limited space. They make collages of these items to share with the class.

#### **Teacher Background**

Many of the early emigrants to Utah were Northern and Western Europeans, funded in part by The Church of Jesus Christ of Latter Day Saints Perpetual Emigrating Fund Company. Between 1847 and 1887, more than 100,000 Latter-Day Saints came from the East Coast, Europe, and the Pacific Islands to Utah territory with financial help from the church. The high cost of travel forced over 3,000 to come by means of handcars. Once in Utah, they adapted to the cultural and physical demands of the dry, arid environment. They brought with them traditions and experiences that reflected the cultural values of their homelands, in particular the British Isles and Scandinavia.

Alfred Lambourne, English-born, moved with his family to the Salt Lake Valley when he was sixteen years old. His daughter writes of this experience

“The Civil War had ended and, aged 16, Freddy had become Fred. When the family began its migration via ox-team, to the West, in the wagon were paints and paper – for each night after camp was made Fred drew pictures of outstanding scenes along the way, pictures that nearly forty years later were to be incorporated in a book, a memorial of that migration called ‘The Old Journey’.”

Martha Antoinette Lambourne Fowler  
from *The Making of an Artist – Stories of My Father*  
Alfred Lambourne papers Ms#462  
Manuscripts Division,  
J. Willard Marriott Library,  
University of Utah, Salt Lake City, Utah.

#### **Objectives**

1. Students will discuss the inclusion of certain cultural “clues” in artwork.
  2. Students will create a mixed media collage representing the things that are important to them.
- Special attention will be placed on color, creating patterns, use of space, and meaning in their collage.

#### **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.



3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. 7-12 Social Studies – Utah Studies – Describe the significance of pioneers in Utah history.
5. Social Studies Grade 4 – Students will trace the development of the state of Utah.

### **Materials**

poster board  
old magazines or other sources of pictures  
glue  
markers and/or paint

### **Artwork**

*Sunset on the Platte* (Alfred Lambourne, 1850-1926)

*Mormon Emigrants Crossing the Plains in 1862* (Danquart Anthon Weggeland, 1827-1918)

### **Initiation**

Show students the postcards of *Sunset on the Platte* and *Mormon Emigrants Crossing the Plains in 1862*. Have them look closely at the wagons. Explain that everything a family would need for the journey West had to fit within their wagon. Space was extremely limited. Food and other provisions for at least five months were necessary. In guidebooks for the journey, it was recommended that emigrants take 100 lbs of flour for each adult, 70 lbs of bacon, 30 lbs of special bread that kept for long periods, cornmeal, beans, rice, coffee, sugar, dried fruits and some other staples. Blankets and bedding, cooking utensils, household supplies like soap and needles, and extra wagon parts were packed. Axes, rifles, and tools were also necessary. Deciding what else to take was an important decision. Every person hoped that a favorite item could fit into the wagon.

Use a book like *Children of the Trail West* to show the students photographs of the inside of a wagon.

### **Activities**

Tell students that they will make a collage that depicts what they might take on a journey where they could take very few personal items. Explain how Alfred Lambourne, the artist that painted *Sunset on the Platte*, chose to take a sketchbook and paint with him because they were the most important things in his life. Other children may have brought books, or a special doll.

Explain to students that they will create a collage to show what is important enough in their life that they would have brought along on a long journey. Depending on the age of your students, you may want to emphasize certain collage techniques. Working with collage can be simple, but it is a form of art that can involve students in learning about organization of various materials to create a well-designed image. See Resource section for ideas.

Pass out the poster board, old magazines, and markers or crayons. Have students find images in the old magazines and cut or rip them out. Collage artists will spend time arranging and rearranging the images and supporting media to create a successful design. If possible, show students examples of collages made by effective artists, such as Henri Matisse, Robert Motherwell, Joseph Canino, and/or Patricia Tanner.

After they have decided on their design, allow them to paste down their images and add any other media you have chosen for them to use.

When finished and clean-up is over, have students share their artwork and explain, not only the items they chose to take on the journey, but their design process for the collage.



## **Assessment Options**

1. Evaluation of mixed media collage for color, patterns, space, and meaning
2. Student participation in discussion and analysis of artwork
3. Evaluation of student sharing of their collages for understanding of the visual elements as well as art as representation of cultural importance

## **Resources**

For Teachers:

McCormick, John. *The Utah Adventure: Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 1997. Pages 26 – 27 (blue pages).

McCormick, John. *The Utah Adventure: Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 1997. Page 84-88 (white pages).

Brommer, Gerald. *Collage Techniques: A Guide for Artists and Illustrators*. New York: Watson-Hill Publications, 1994.

Larbalestier, Simon. *The Art and Craft of Collage*. Chronicle Books, 1995.

## **For the Students:**

"Pioneers" *Kids Discover Magazine*. Volume 9, Issue 8 New York: Kids Discover, 1999.

## ***Mormon Emigrants Crossing the Plains in 1862***



Danquart Anthon Weggeland (1827 – 1918), American born in Norway  
***Mormon Emigrants Crossing the Plains in 1862***, 1912  
Oil on canvas  
University of Utah Collection  
Museum # x.008

### **Danquart Anthon Weggeland (1827–1918)**

Norwegian-born Danquart Anthon Weggeland traveled to Utah in 1862 and, like Alfred Lambourne, made sketches during the trip. His works convey a sense of optimism evident in many paintings of the period. In their earnest efforts to portray Mormon westward migration as the journey to their destination of an uncorrupted wilderness paradise that would offer sanctuary, Weggeland, and other artists who made visual records along the way, did not represent the grim realities of the long, arduous trek. He thought that perhaps those traveling in Mormon-sponsored groups with shared beliefs could use faith to endure untold hardships and focus attention on their goal.

From Stavanger, Norway, Weggeland had received art training at the Danish Royal Academy. As one of Utah's premier artists he painted murals for several Latter-day Saints' temples as well as smaller genre scenes such as *Mormon Emigrants Crossing the Plains in 1862*. He became a teacher of the arts and was a major influence on Utah artists at the turn of the century.

# The Journey

## Journal Making Lesson

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### **A lesson plan for *Mormon Emigrants Crossing the Plains in 1862, Sunset on the Platte* and *Echo Canyon, Utah*** **written by Annabelle Shrieve**

#### **Overview**

Students can learn about Utah's history through a close examination of works of art. In this lesson, students read journal entries by early Utah pioneers and discuss the inspiration for artworks such as, George Martin Ottinger's *Immigrant Train*, Alfred Lambourne's *Sunset on the Platte, Echo Canyon, Utah* by an unknown artist, and Danquart Anton Weggeland's *Mormon Emigrants Crossing the Plains in 1862*.

After discussing the pioneer journal entries and how the artworks relate or contradict the narrative, students make their own journals and write about their daily lives. They then sketch a scene that relates to one of their journal entries.

#### **Teacher Background**

The pioneer experience was frequently the subject of early Utah art. Because of Utah's founding as a self-contained religious sanctuary, this experience was not typical of other western communities. The pioneer scenes reflected the values and ideals of the dominant LDS culture often resulting in a one-dimensional, monotonous stereotype. The historical evidence, however, points to a much more diverse experience than that depicted in the art.

Artists such as George Martin Ottinger, Alfred Lambourne, and Dan Weggeland, documented the typical Mormon pioneer trip westward in journals and sketches. All three were LDS converts who emigrated to the Salt Lake Valley as part of the large influx of early pioneers. The three had a profound impact on Utah art since they became teachers to the next generation of artists.

#### **Objectives**

1. Students will read and discuss historical journal entries from participants in the Overland Trail immigrating to Utah.
2. Students will view and discuss works of art produced from journal sketches paying special attention to the composition of the works.
3. Students will use a simple sewn-binding technique to create journals.
4. Students will write journal entries and add accompanying sketches. Sketches will be done in the classroom first with emphasis on line, shape, value, and space. Students will do observational sketches of objects in the classroom before taking their journals home. They will share part of their journal with others when completed.
5. Students will discover connections between social studies and the arts.

#### **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.

3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. 7-12 Social Studies – Utah Studies – Describe the significance of pioneers in Utah history.
5. Social Studies Grade 4 – Students will trace the development of the state of Utah.
6. Literacy – Standard 7 – Students understand, interpret, and analyze narrative and informational text.
7. Literacy – Standard 8 – Students write to communicate effectively.

### **Adaptation**

Students with visual and/or manual dexterity challenges can have pre-punched edges and use thicker yarn to bind their books.

### **Materials**

1. paper, flexible cover material. clamps or clothespins, strong sewing thread, darning needles, awl, board when using awl
2. pencils and other materials for sketches
3. Journal selections from George M. Ottinger diary, *The Old Journey: Reminiscences of Pioneer Days*, *Covered Wagon Women: Diaries and Letters from the Western Trails* and others (see attached)

### **Artwork**

*Sunset on the Platte* (Alfred Lambourne, 1850-1926)

*Mormon Emigrants Crossing the Plains in 1862* (Danquart Anthon Weggeland, 1827-1918)

*Echo Canyon, Utah* (Unknown artist)

### **Initiation**

Show students the postcards of *Sunset on the Platte* and *Mormon Emigrants Crossing the Plains in 1862*. Explain to students that both these artists traveled to the Salt Lake Valley in the early wave of pioneers to the state. At age 16, Lambourne and his family traveled by ox-team to Utah. In the wagon were paints and paper for Lambourne to sketch scenes along the trail. Weggeland was a bit older when he made the journey, but he also kept sketches of the journey that he used as a basis for later paintings.

Have students talk about what they see in the pictures. Ask questions such as:

*What do you see in the artwork?*

*What did the artists choose to include their paintings?*

*What elements are the same?*

*What elements are different?*

*What is the general mood in the two?*

*Do the paintings make the journey look hard or easy?*

Show the students a map of the pioneer trails (use the National Park Service's map found in the UMFA Teacher Packet or one of your own) and ask them how long they think it took the pioneers to get from Florence, (Nebraska), Independence (Missouri), or Nauvoo (Illinois), all common starting points for pioneers, to Salt Lake City. After students have made their guesses, explain that it could take 5 months or more for the pioneers to make the trip. Most parties traveled about two miles an hour for a total of 15 to 20 miles a day. Compare these distances to well known landmarks from your school so that students get an idea of how far pioneers would travel in a day.

Tell students that they are going to read some actual journal entries made by pioneers on the trip. Pass out the examples (see attached) and have students read them in their groups. After all groups finish reading, allow students to share what they learned.

Continue the discussion by comparing the journal entries to the mood and other elements in the postcards.

*Do the paintings depict the same situations as you read about in the journal entries?*

*Why might they be different?*

Read the following from Alfred Lambourne's journal and ask if his words help us to understand some of the choices he made when deciding what to include in his artwork.

Next in the book is a quick rubbing-in of the O'Fallen Bluffs. The sky and river – the slow-flowing Platte – are responsive to the light of a golden sunset. The brilliant rays radiate from behind the huge square bluffs which throw a shadow across the foreground. The main interest in the scene however, from our present standpoint, is the train of wagons winding along the dusty road.

We, like ships that pass on the sea, sometimes spoke a returner. No gloomy recital of disappointment could turn us back. The Golden West was our goal and those who returned were but, to us, the too timid ones.<sup>1</sup>

Another artist who made the journey, George Martin Ottinger, also speaks of his journey in an optimistic tone. Read to the students what Ottinger wrote of his first view of the Salt Lake Valley after traveling across the plains

As we drove out of Emigration Canyon and got a view of the Valley with its Great Salt Lake glistening like burnished silver on the mornings sun. The rich green foliage and neat white villas of the city – the air of peace and quiet hovering over the 'Rose blossoming in the desert.' We could not but stand speechless with admiration and wonder. It was so beautiful and as we cast on thought back over our toilsome [journeys] we could not help but give one – long hurrah. The accumulated hardship of days was forgotten – Our heaven was reached.<sup>2</sup>

Ask students why the artists may have left out the hardships of the journey.

### **Activity**

Tell students that they will make their own journals and write about some of their daily activities. Using one of the attached methods appropriate for your students, direct students in the construction of their journals.

Allow students to write in their journals during the school day and at home. You may want to focus on a particular aspect of their day, such as how they get to school or how they prepare for dinner.

After a few entries, initiate a discussion about how a sketch or drawing might help them to communicate their feelings or thoughts about a part of daily experiences.

*How might they convey their feelings for the subject through their sketch?*

*What choices did they make about what they include in their sketch and what they left out?*

Close the lesson by having the students share their sketches with the rest of the class.

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<sup>1</sup> Alfred Lambourne, *The Old Journey: Reminiscences of Pioneer Days* (Salt Lake City: Geo. Q. Cannon & Sons Co., 1897), p. 27-28.

<sup>2</sup> George M. Ottinger diary, University of Utah, Marriott Library, Ms 123 Fd. 10, pp. 172-173.

## **Assessment Options**

1. quality of student-made journals
2. analysis of effective communication through written word and through sketches
3. evaluation of sketches based on elements emphasized in the classroom
4. description of how social issues are interrelated to the visual arts

## **Resources For Teachers**

Mormon Trail

<http://www.americanwest.com/trails/pages/mormtrl.htm>

<http://www.nps.gov/mopi/>

Using historical journals in the classroom

<http://www.vermonthhistory.org/educate/diaries.htm>

*The Utah Adventure: Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 1997.

Pages 28-29 (blue pages) and pages 84-105 (white pages)

Holzapfel, Richard, Neitzel. *Utah: A Journey of Discovery – Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 2002.

*Covered Wagon Women: Diaries and Letters from the Western Trails*

This is a series of books, organized by the date of the diaries and letters. The 1851 book has the diary of Jean Rio Baker who traveled from London to Salt lake City. The 1854-1860 book contains Ellen Hundley's diary. She made a "reverse" trip from Utah to Texas. Be advised that some writings of the times were unfavorable to the Mormons. Teachers should choose excerpts carefully.

Digitized Mormon Trail diaries can be viewed at:

<http://www.lib.utah.edu/digital/collections/westward/>

Students can view the handwritten diary entries at this site.

## **For the Students:**

McCormick, John. *The Utah Adventure: History of the Centennial State*. Layton, Utah: Gibbs-Smith, 2000. Chapter 5 (pages 76-93)

Holzapfel, Richard, Neitzel. *Utah: A Journey of Discovery*. Layton, Utah: Gibbs-Smith, 2002.

*Sarah Royce and the American West: History Eyewitness*. Austin: Steck-Vaughn Publishers, 1996.

# Journal Entries from the Trail

(Depending on the age of your students, you may need to help them to understand the pioneer vocabulary used in the entries.)

## Selection I

William Clayton, 16 July 1847: "There is a very singular echo in this ravine, the rattling of wagons resembles carpenters hammering at boards inside the highest rocks. The report of a rifle resembles a sharp crack of thunder and echoes from rock to rock for some time. The lowing of cattle and braying of mules seem to be answered beyond the mountains. Music, especially brass instruments, have a very pleasing effect and resemble a person standing inside the rock imitating every note. The echo, the high rocks on the north, high mountains on the south with the narrow ravine for a road, form a scenery at once romantic and more interesting than I have ever witnessed" (*William Clayton's Journal* [1921], 296).

From: [http://www.lds.org/gospellibrary/pioneer/36\\_Echo\\_Canyon.html](http://www.lds.org/gospellibrary/pioneer/36_Echo_Canyon.html)



## Selection 2

Mary Ann Weston Maughan, 17 August 1850: "This morning we entered the canyon and traveled on the most dreadful road imaginable. Some places we had to make the road before we could pass. Passed the toll gate and paid for passing over the road we had made. We had a view of the Valley, and it delighted me much to think I was near my long journey's end. The road today has been the worst we ever saw, but we came safely through without any accident. Camped at dusk one mile past the toll house. Here is no food or wood" (*Journal of Mary Ann Weston Maughan*, 3 vols., 17 Aug. 1850, Family and Church History Department Archives, The Church of Jesus Christ of Latter-day Saints, 2:10, spelling and punctuation modernized).

From:

[http://www.lds.org/gospellibrary/pioneer/38\\_Golden\\_Pass\\_Road.html](http://www.lds.org/gospellibrary/pioneer/38_Golden_Pass_Road.html)

### Selection 3

Orson Pratt, 9 April 1846: "We encamped at a point of timber about sunset, after being drenched several hours in rain. The mud and water in and around our tents were ankle deep, and the rain still continued to pour down without any cessation. We were obliged to cut brush and limbs of trees, and throw them upon the ground in our tents, to keep our beds from sinking in the mire."

From: <http://fp.uni.edu/iowaonline/prairievoices/images>

## Selection 4

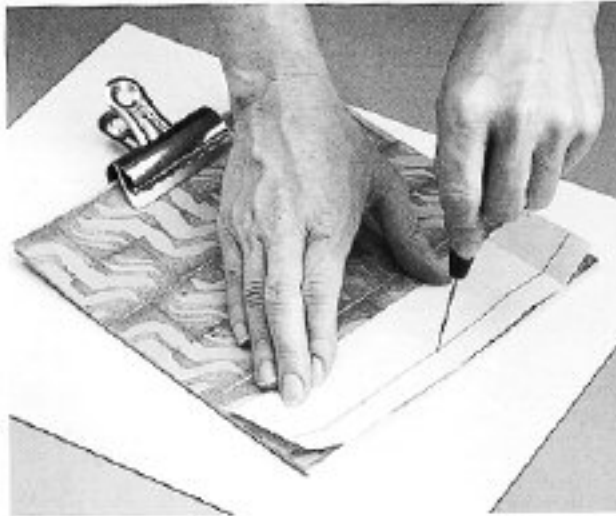
Solomon N Carvalho, 1856: “The crossing of the Grand River, the eastern fork of the Colorado, was attended with much difficulty and more danger. The weather was excessively cold, the ice on the margin of either side of the river was over eighteen inches thick; the force of the stream always kept the passage in the centre open; the distance between the ice, was at our crossing, about two hundred yards. I supposed the current in the river to run at the rate of six miles an hour. The animals could scarcely keep their footing on the ice, although the men had been engaged for half an hour in strewing it with sand. The river was about six feet deep, making it necessary to swim our animals across; the greatest difficulty was in persuading them to make the abrupt leap from the ice to the roaring gulch, and there was much danger from drowning in attempting to get on the sharp ice on the other side, the water being beyond the depth of the animals, nothing but their heads were above water, consequently the greater portion of their riders' bodies were also immersed in the freezing current.”

From: *Incidents of Travel and Adventure in the Far West*

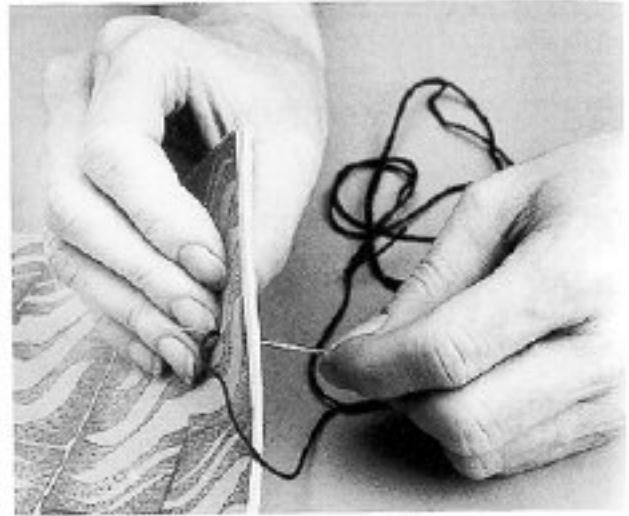
## Selection 5

William Chandless, October 13, 1856: “Started at daybreak, and travelled six miles: terrible work, almost an impossibility to keep moving, so many cattle barely able to go that the rest scatter off the road; but our orders are to keep up all we can to Green River. Camped by Big Sandy for breakfast about noon; sun scorchingly hot. Left again at three. Several miles of mere sand and stone without vegetation, then sage again.

From: *A Visit to Salt Lake*

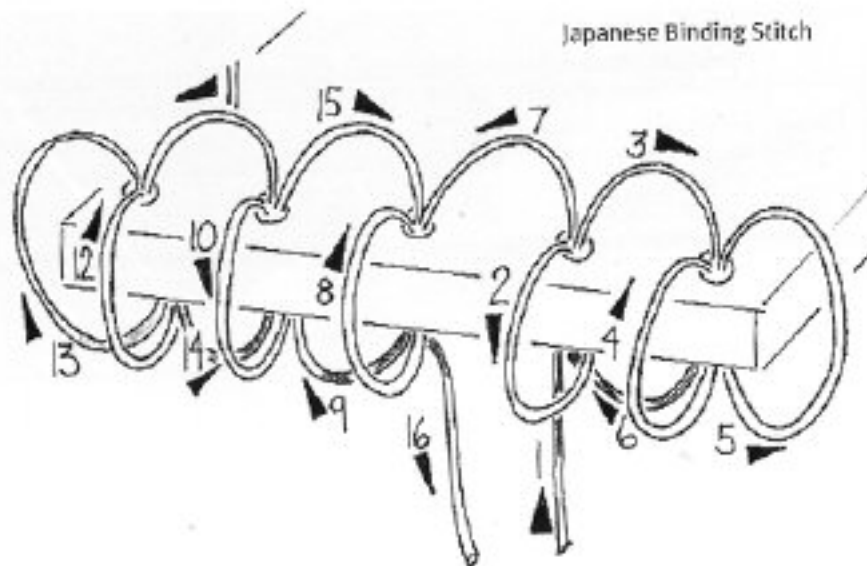


- 1 For the text block, you can use single sheets of paper (as shown here) or try the traditional Japanese method of folding sheets in half and placing the *folded edges at the fore edge of the book* (the loose edges of the sheets will be toward the spine).
- 2 Sandwich the text block between the covers and tamp the covers and paper together to even, then clamp at the fore edge. Line up the guide sheet with the spine of the book and push the awl through the entire stack at the fold lines on the guide sheet. Discard the guide paper.



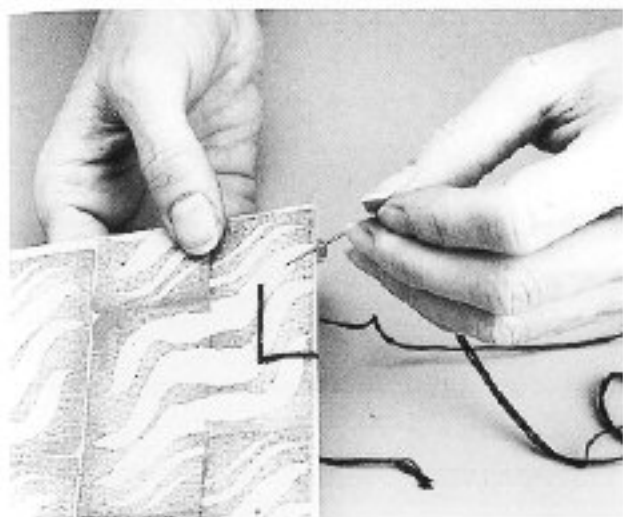
- 3 Thread the needle with a length of thread that is six times the height of the book. Begin sewing in the second hole from the bottom by pushing the needle through from the *back* to the *front* (1). Leave a 4-inch tail of thread, and take the needle around the edge of the spine and then back up through the same hole, again from the *back* to the *front* of the book (2).

Refer to the diagram below for stitch numbers.

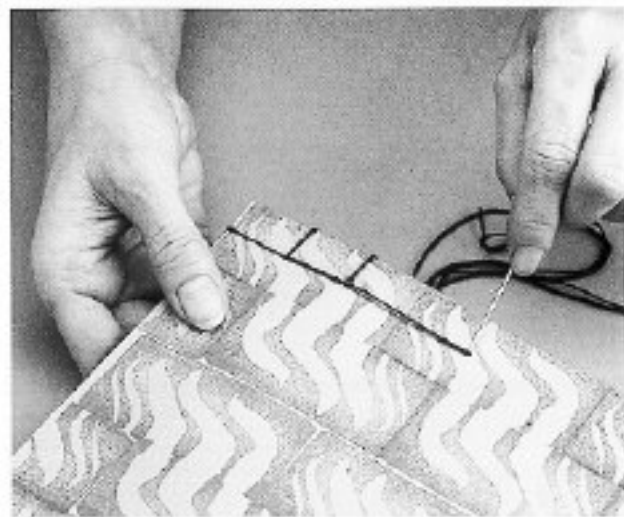


From:

*Handmade Books: A Step-by-Step Guide to Crafting Your Own Books*  
by Kathy Blake (Boston: Little, Brown and Co./ A Bulfinch Press Book: 1997)

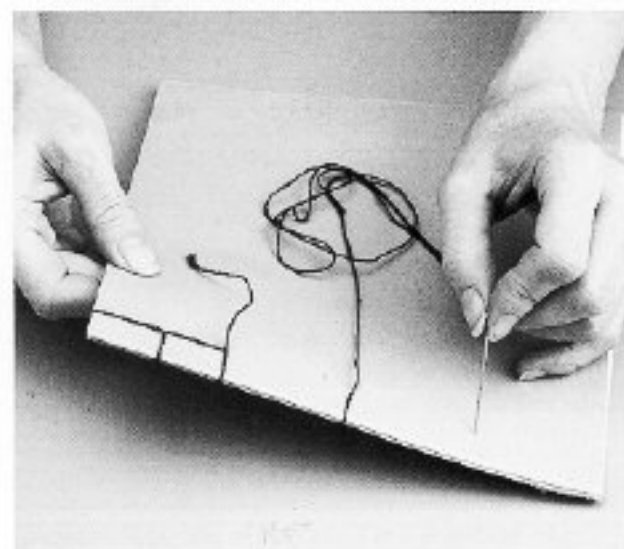


- 4 The front of the book is facing you; from the *front* to the *back* of the book, push the needle through the first hole from the bottom (3). (This creates a stitch parallel to the spine.) Take the thread around the edge of the spine and then, again from *front* to *back*, push the needle down through the same hole (4).

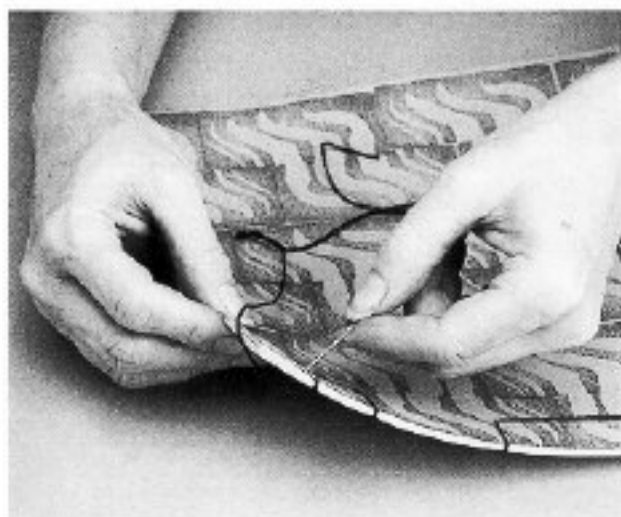


- 5 Now make the corner stitch: the front of the book is facing you, and the thread is at the back of the book; take the thread around the edge of the bottom (the tail) of the book and then push the needle through the first hole, down from the *front* to the *back* of the book (5).  
The thread is at the back of the book; take the thread up from back to *front* up through the second hole (parallel to the spine) (6).  
The thread is at the front of the book; take the thread from *front* to *back* through the third hole (parallel to the spine) (7), then around the edge of the spine and back through the same hole again, *front* to *back* (8).

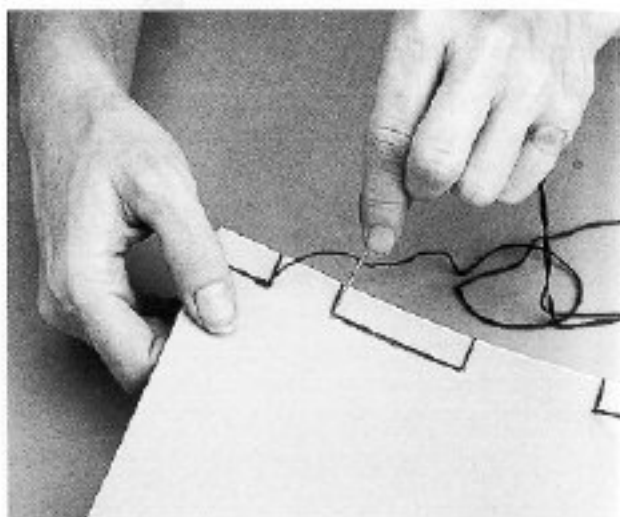
- 6 Take the thread from *back* to *front* through the fourth hole (parallel to the spine) (9), around the edge and then up, *back* to *front*, through the same hole (10).  
The thread is at the front of the book; take the thread from *front* to *back* through the fifth hole (parallel to the spine) (11), around the edge of the spine and then from *front* to *back* through the same hole (12).



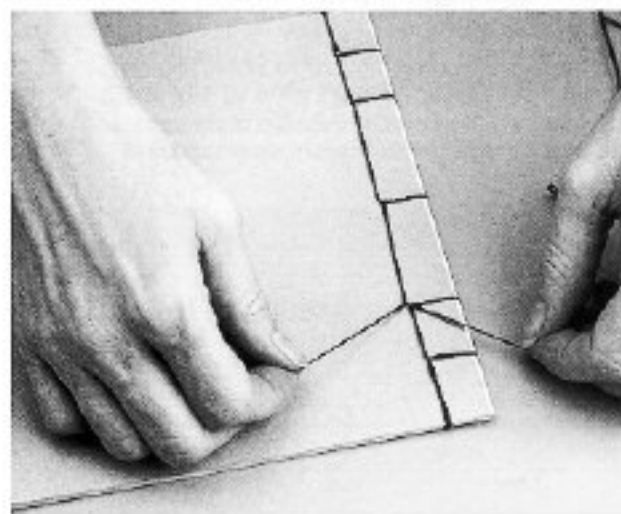




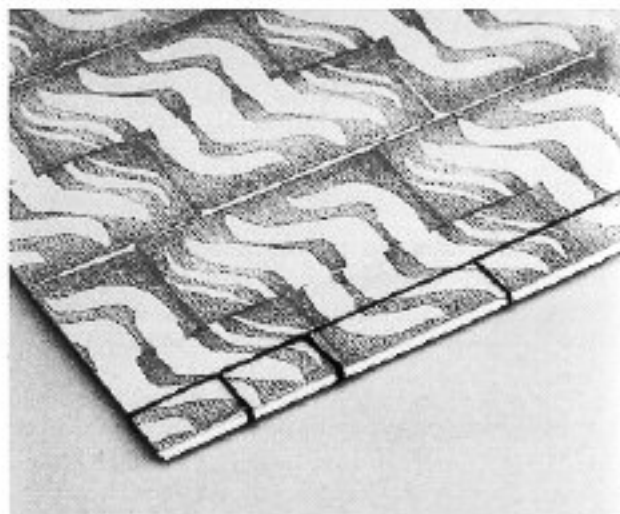
- 7 Make the corner stitch at the top of the book in the same way you made the bottom: take the thread around the top edge (the head) of the book, then down from *front* to *back* through the fifth hole (13).



- 8 Push the needle through the fourth hole, *back to front* (14).  
Take the thread parallel to the spine and push the needle into the third hole, *front to back* (15).



- 9 To tie off, remove the needle from the thread, take the long end of the thread to the second hole (where you began), and make a square knot directly over the hole. Snip off the ends of thread. If you like, you can add a dot of glue to the knot to secure it, and with the awl, snuggle the knot into the hole to hide it.



- 10 The stitching on the completed Japanese-bound book will look the same, *front and back*. If you have more than five holes, follow the same pattern, but make more stitches.





# Revisiting Utah's Past

Utah Museum of Fine Arts

Evening for Educators

September 27, 2006 • 5:30 pm - 8:30 pm

## ***Echo Canyon, Utah***

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Unknown Artist  
***Echo Canyon, Utah***, 1870  
Oil on canvas  
Purchased with funds from Friends of the Art Museum  
Museum # 1977.088

### **Unknown Artist**

The westward journey became a reoccurring theme in western art in general and Utah art in particular. Artists tended to mythologize the journey across the continent with images of sturdy, determined people traveling in long lines of covered wagons that suggested comparisons to biblical caravans. Such allusions served to confirm the moral righteousness of the journey, but did not include the hardships or inevitable human tragedies.

# **The Color of Sunsets**

## **Art Lesson**

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### **A lesson plan for *Echo Canyon, Utah* and *Sunset on the Platte* written by Annabelle Shrieve**

#### **Overview**

Some artists make use of color as a way to add feeling to their artwork. A particular mood can be expressed through the choice of color. The Alfred Lambourne painting, *Sunset of the Platte* is a good example of this. Like other painters categorized as Rocky Mountain School artists, Lambourne used color to depict a romantic version of the trek west to Utah. His choice of colors for the sunset lent a more dramatic sunset than what might be normally seen. Lambourne's landscapes are filled with color that expressed his awe of nature.

In this lesson, students discuss how artists use color and then use the three primary colors to produce another color that evokes a particular feeling. They then name their color to represent that mood.

#### **Teacher Background**

A fascination with light and color was common among many of the early landscape artists of the late 1800s in Utah. Sunsets, dawn, and moonlight became subjects commonly painted. Alfred Lambourne was among these early artists. Of Lambourne, the Springville Museum of Art notes, "He had an original approach to landscape painting and was capable of depicting moonlight and sunset scenes with an air of mysticism."

These artists had palettes of paints created from pigments. Pigments create their hue (color) by subtracting part of the light that strikes them. The three most important pigments to an artist are the ones that absorb red, green, or blue. The unabsorbed colors reflect and reach our eyes. So, a pigment that removes red only, allows blue and green to hit our eyes and appears cyan. A pigment that removes blue only, allows green and red to reach our eyes and appears yellow. A pigment that removes green only, transmits red and blue to our eyes and appears magenta. The three primary subtractive colors are cyan, magenta, and yellow. By mixing these, the artist can create any color of the rainbow.

#### **Objectives**

1. Students will recognize and describe how color was used to evoke mood in artwork.
2. Students will understand that often artists will mix colors to achieve a desired hue.
3. Students will realize that mixing magenta, cyan, and yellow can make many other colors.

#### **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.
3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. Language Arts – Standard 6 – Students learn and use grade level vocabulary to increase understanding and read fluently.

## **Materials for Production**

1. watercolor set in three colors; cyan, magenta, and yellow
2. brushes
3. mixing trays (recycled Styrofoam trays, plastics plates, or wax paper)
4. several containers of water for rinsing brushes
5. watercolor or heavy paper

## **Artwork**

*Sunset on the Platte* (Alfred Lambourne, 1850-1926)

*Echo Canyon, Utah, 1870* (Unknown Artist)

## **Initiation**

Show students the postcard of *Sunset on the Platte*. Ask:

*What colors do you see in this painting?*

*How do the colors in this painting make you feel?*

*What kind of emotions do you think the artist was trying to portray with his choice of colors?*

Continue by showing students the postcard of *Echo Canyon, Utah, 1870*. Ask:

*What colors do you see in this painting?*

*How are the two paintings the same?*

*How are they different?*

Explain that artists often mix and overlap colors to create new ones to achieve the look they want in a piece of art. Tell students that they, too, will experiment with color to create a desired hue.

## **Activity**

Pass out the materials and allow students to make a complete rainbow of color using only magenta, cyan, and yellow watercolors. (Make sure students rinse well after mixing colors. A separate brush for the three colors is helpful, as is a large tray on which to mix the colors.) After experimenting with color mixing and creating their rainbow of color, tell students that they will pick one of the hues made in the mixing process to describe with a descriptive name that they will share with the class. Challenge the students to also describe how they made the color. Depending on the age of your students, this could be as simple as “a lot of yellow, with a little bit of red and just a dot of blue.” As for naming the hue, you may want to discuss some names they have already heard, like sky blue or avocado green. Crayon sets have some very descriptive names, as do decorative paint colors. Challenge the students to be creative.

After clean-up, have students share their works.

## **Assessment Options**

1. Student’s ability to mix the three paints to produce a rainbow of colors.
2. Student’s understanding of “color vocabulary” appropriate for grade level.
3. Student’s description of the hue shared with the class.

## **Extensions**

For younger children use a book like *Mouse Paint* by Ellen Stoll Walsh (Red Wagon Books, 1995) as an introduction to color mixing.

For older students, introduce the color wheel and have students fill in the color wheel as they mix their paints.

Have students create poems that go with their created color. Use a book like *Hailstone and Halibut Bones* by Mary O'Neill to inspire students.

Allow students to make tints and shades of their hue by adding white (tint) or black (shade).

### **Useful Color-related Vocabulary**

**Color Wheel** – A circular arrangement of hues based on color theory. The color wheel is useful when mixing colors and in adding color to works of art.

**Primary Colors** – magenta (red), yellow, and cyan (blue) Primary colors cannot be made by mixing other hues together.

**Secondary Colors** – Produced by mixing a primary with another primary color.

**Intermediate (or Tertiary) Colors** – Produced by mixing a secondary color with a primary color.

**Tint** – Produced by adding white to a hue.

**Shade** – Produced by adding black to a hue.

### **Resources**

For Teachers

McCormick, John. *The Utah Adventure: Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 1997. Page 35 (blue pages).

Holzappel, Richard, Neitzel. *Utah: A Journey of Discovery – Teacher's Resource Package*. Layton, Utah: Gibbs-Smith, 2002. Page 40 (blue pages)

For more about the science of color mixing see

<http://www.glenbrook.k12.il.us/gbssci/phys/Class/light/u12l2e.html>

[http://www.sanford-artedventures.com/study/g\\_color\\_wheel.html](http://www.sanford-artedventures.com/study/g_color_wheel.html)

For the Students:

Robertson, Bruce. *Marguerite Makes a Book*. Los Angeles: J. Paul Getty Museum, 1999.

## Revisiting Utah's Past

Utah Museum of Fine Arts

Evening for Educators

September 27, 2006 • 5:30 pm - 8:30 pm

### ***Wagon Train***

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Maynard L. Dixon (1875-1946), American  
***Wagon Train***  
Woodcut  
Gift of William Caine Patrick  
Museum # 1985.014.051

### **Maynard L. Dixon (1875-1946)**

Born in Fresno, CA in 1875, Maynard L. Dixon is known mostly for his paintings of western subjects. Early in his career, he was one of the country's leading illustrators. Hundreds of his nostalgic pictures appeared in newspapers, magazine and books. His woodcut, *Wagon Train*, is representative of the portrayal of women in western American art for the time period. After 1912, he turned his attention to easel and mural painting and experimented with a variety of styles. He lived in Southern Utah part-time and scenes of the area were frequently the subjects of his art.

# ***Pictures of Diversity - Discovering what was left out of the artwork Lesson***

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## **A lesson plan for *Wagon Train* and *Mormon Emigrants Crossing the Plains in 1862* and *Study for the Utah State Capitol* written by Annabelle Shrieve**

### **Overview**

As a medium, visual art can reveal the mind-sets and sensibilities of a particular time or place. The works not only record history, but also provide us with a glimpse into artistic interpretations. Like most artifacts, paintings, sculptures, and other works of art tell a story. The story unfolds as we begin to understand the work of art in its historical context. What has been left out of the art, and why, as much as what was included in the art, reveals more of the story. The story also includes how present day thinking about the subject evolved.

Early arrivals to Utah were mainly men, women, and children of the Church of Jesus Christ of Latter Day Saints faith. But African-Americans, Jews, Chinese, and other ethnic groups also came to Utah with the first wave of immigration. They contributed to the way in which Utah society developed but were rarely captured on canvas or in sculpture. In this lesson, students glean information from early photographs about Utah's past and compare that information with what they see in artwork of the same period.

### **Teacher Background**

Maynard Dixon's *Wagon Train* and Gilbert White's *Study for the Utah State Capitol* are examples of how early Utah art often belied reality. Recent interest in women pioneers has uncovered diaries and other primary resources revealing how the contributions of women to the trek West and in settling Utah. Patty Sessions delivered babies on the trail, drove, and maintained a four-ox team. Her journal elaborated,

Friday 13 go 18 miles pass over the red Buttes Br Beach got a wild horse broke [two] wagons crossing [blank space] creek do not get camped until after dark today is the first day since last Friday that I have been able to drive yet I have drove with Martha to help me I have been sick toothache and fever no appetite to eat.<sup>1</sup>

Photographs and other primary resources also documented the variety of ethnic groups in Utah. For instance, the presence of Blacks in Utah began before the Mormons arrived. James P. Beckwourth, a fur trapper, arrived in Cache Valley in 1825, making him the first black man in Utah. He spent at least four years in the State. Other blacks are recorded as being in Utah for fur trading around this same time. Jacob Dobson, a free Black, traveled with John Fremont's second and third expeditions to Utah. Census records show 50 Blacks living in Utah in the 1850s and over 600 by the turn of the century.<sup>2</sup> Three of these early black pioneers came to Utah with Brigham Young's advanced company in 1847: Green Flake, Oscar Crosby, and Hark Lay.

Another Black pioneer, Jane Manning James, was listed as a member of Brigham Young's household. As her brother describes in an interview in 1907, "Sister Jane came to Utah in Capt. Eldredge's Company of pioneers in 1847 and I came only 15 years ago."<sup>3</sup> Other Blacks who came West stayed in Utah and worked in railroad jobs, farm and ranch hands, and other jobs.

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<sup>1</sup> Diaries and Letters from the Western Trails, 1840-1849, Covered Wagon Women, ed. Kenneth L. Holmes (Lincoln: University of Nebraska Press, 1995). p. 177.

<sup>2</sup> Ronald Gerald Coleman, "A History of Blacks in Utah," University of Utah, 1980.

<sup>3</sup> "Memories of Aged Colored Servants," Deseret News December 14 1907.



The presence of Jews in the state began with Solomon Nunes Carvalho. He traveled in 1854 with John Fremont as an expedition artist. In the late 1850s other Jews arrived in Utah. Samuel Auerbach and his brother Fredrick established “The People’s Store” on Main Street in Salt Lake City (see attached woodcut illustration). By the turn of the century, Jewish merchants were a stronghold in Salt Lake City and Corrine, Utah. The election of Simon Bamberger as a state senator in 1903 and as governor of the state in 1916 confirmed the diversity in Utah not apparent in the artwork of the times.

The building of the transcontinental railroad and increased mining in the 1860s brought other religions and cultures to Utah. The Central Pacific Railroad brought the first Chinese into Utah. The majority lived in Box Elder County, Salt Lake City, and Park City, from 1870 to 1890.<sup>4</sup> Plum Alley, in downtown Salt Lake City between First and Second South, was a Chinatown on a small scale (see attached photograph).

As the turn of the century drew near, Slavs, Japanese, Greek, Yugoslavian, Italian, and Spanish-speaking immigrants came to Salt Lake City, and contributed to the mix of cultures in the city and around the state.

### **Objectives**

1. Students will understand that art is a reflection of the culture in which it is made.
2. Students will examine photographs to discuss what has been left out of the artwork of the times.
3. Students will realize that photographs are a form of historical documentation.

### **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.
3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. 7-12 Social Studies – Utah Studies – Describe the significance of pioneers in Utah history.
5. Social Studies Grade 4 – Students will trace the development of the state of Utah.

### **Adaptation**

Students with visual challenges may need larger photographs or magnifying lenses.

### **Materials**

Variety of photographs of people in Utah from the mid to late 1800s (use attached reproductions and the resource list to obtain more)

Handout: Pictures of Diversity

### **Artwork**

*Mormon Emigrants Crossing the Plains in 1862* (Danquart Anthon Weggeland, 1827-1918)

*Wagon Train* (L. Maynard Dixon, 1875-1946)

*Study for the Utah State Capitol* (Gilbert White, 1877-1939)

### **Initiation**

Show students the postcards of artwork from the Utah Collection such as, *Mormon Emigrants Crossing the*

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<sup>4</sup> Don C. Conley, "The Pioneer Chinese of Utah," *The Peoples of Utah*, ed. Helen Z. Papanikolas (Salt Lake City: Utah State Historical Society, 1976).



*Plains in 1862* (Danquart Anthon Weggeland), *Wagon Train* (L. Maynard Dixon) and *Study for the Utah State Capitol* (Gilbert White).

Ask students to describe what they see in the artwork.

Explain to students that artwork of this time period tends to show a very stereotypical portrait of emigrants to Utah. But in reality, many types of people settled in Utah and made Utah what it is today.

### **Activity**

Use photographs from a local archive (see Resources) and/or a book like *Children of the Trail West* to show students photographs from the mid to late 1800s. Display the photographs and ask students to tell you what they see. Ask questions such as,

*Were the photographs taken in the present day?*  
*How can you tell?*

Instruct students to get in groups of four and explain that each group will be given a reproduction of a photograph that was taken in the early days of Utah. Have students use the handout to list all the things they see in the photograph. Make sure that everyone in the group has a chance to look closely at the photograph and is contributing to the list. On the bottom half of the handout, have students list questions about the photograph and some ideas about how they could find out the answers to their questions.

Use a resource book like *Peoples of Utah* edited by Helen Z. Papanikolas (Utah State Historical Society, 1976) or one of the other resource books listed at the end of this lesson to help students answer their questions.

### **Assessment Options**

1. thoughtfulness of students' questions and comments during discussions and small groups
2. student participation in photograph activity
3. evaluation of student handouts

### **Extensions**

Students can research the diversity of early pioneers. These might include:

- Dr. Romania Bunnell Pratt Penrose was a pioneer doctor who graduated from the Women's Medical College of Philadelphia in 1877. She was also the wife of Parley P. Pratt, Jr. She later married Charles W. Penrose.
- Patty Sessions (1795-1893) was an important figure in early Utah history, most prominently known as a midwife who helped deliver hundreds first generation Utahns.
- Sam Wing was a notable Chinese immigrant to Utah who ran an herbal drugstore in Mercur, Utah, and later on in Salt Lake City.

Have students take their own pictures of present day Utah as a means of historical documentation. What should they include to give a viewer of what life is like in the early part of the 21st century?

Compare student-taken photographs with those found in archives.

Have students research the history of photography.

As cross-curricular science lesson, students can make their own pinhole cameras.

## **Resources**

Parts of this activity were adapted from “History through Primary Sources: Every Picture has a Story,” Smithsonian in Your Classroom, Spring 2004. The whole program can be found at [http://www.smithsonianeducation.org/educators/lesson\\_plans/every\\_picture/index.html](http://www.smithsonianeducation.org/educators/lesson_plans/every_picture/index.html)

For Teachers

Jorgensen, Karen L. *History Workshop: Reconstructing the Past with Elementary Students*

To search the Utah Historical Society for available digital photographs:

[http://history.utah.gov/utah\\_history\\_research\\_center/digitalcollections.html](http://history.utah.gov/utah_history_research_center/digitalcollections.html)

Using Primary Resources in the Classroom:

<http://memory.loc.gov/learn/lessons/primary.html>

A photograph of Solomon N. Carvalho and his book, *Incidents of Travel and Adventure in the Far West* can be found at:

<http://www.jewish-history.com/WildWest/carvalho/index.html>

For the Students:

McCormick, John. *The Utah Adventure: History of the Centennial State*. Layton, Utah: Gibbs-Smith, 2000. Chapters 6, 7 and 8

Holzapfel, Richard, Neitzel. *Utah: A Journey of Discovery*. Layton, Utah: Gibbs-Smith, 2002. Page 157.

Littlefield, Holly. *Children of the Trail West: Picture of the American Past*. Minneapolis, Carolrhoda Books, Inc., 1999.



White, Gilbert (1877-1939), American  
*Study for Utah State Capitol (pioneer mother with infant)*, 1917  
Charcoal in illustration board  
University of Utah Collection  
Museum # X093

Although he was born in Grand Rapids, Michigan, Gilbert White lived in New York and Paris for most of his life. He attended Columbia University, studied with John Twachtman at the Art Students League and, in Paris, at the Académie Julian where he won a medal for drawing. The New Haven County Court House, the Kentucky State Capitol, and the Utah State Capitol commissioned his murals, which were painted in Paris. About the Utah work he said:

“When the state commissioners gave Mr. Hale and myself the work to do in the capitol they decided that nothing would be more picturesque than the story of Utah’s pioneers—nothing more beautiful than the color of your mountains and sky. We have strived to place upon the walls of your capitol the spirit of Utah by depicting the sturdy men and brave women who settled it against a background of its own glorious colors.”













# Picture Credits

## Page 33 Top:

P0064 #85

Indian Photo Collection

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 33 Bottom:

*Portrait of a Chinese Man*

Brigham Madsen Photo Exhibit

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 34 Top:

*Railroad*

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 34 Bottom

*Don Freeman Bankhead*

First Black Born in Utah

Descendant of Blake Pioneers

Blacks in Utah Collection

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 35 Top:

*Mary Ann Perkins James*

Descendent of Black pioneers

Blacks in Utah Collection

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 35 Bottom

*Auerbach woodcut*

*Of the People's Store*

From the Shipler Studio Photo Collection

Multimedia Archives Special Collections

J. Willard Marriott Library, University of Utah

## Page 36 Top:

*European women engaged in silk production*

Used by permission, Utah State Historical Society

All Rights Reserved

## Page 36 Bottom

*Plum Alley in Salt Lake City*

Used by permission, Utah State Historical Society

All Rights Reserved

# Pictures of Diversity

What do you see in the photograph? List as many details as possible.

What can we tell about the people by just looking at the photograph?

What questions do you have about the people in the photograph?

How could you find out more about the people?



# Revisiting Utah's Past

Utah Museum of Fine Arts

Evening for Educators

September 27, 2006 • 5:30 pm - 8:30 pm

## ***18th Ward Schoolhouse***

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### **George Martin Ottinger (1833-1917)**

Images common in early Utah art focused on the built environment; the buildings and structures that signified conquering the environment and establishing well-organized community. The popularity of buildings as art subjects was the result of them being symbols of a refined, stable community. A. Russell Mortensen in *Early Utah Sketches: Historic Buildings and Scenes in Mormon Country* remarked that the majority of architecture in the Salt Lake Valley "reflects the New England origin of the Mormon people and their religion; other examples illustrate the early cultural and civic hopes and expressions of a people building a civilization on the frontier."

George Martin Ottinger's, *18th Ward Schoolhouse*, suggested the importance of education to the early pioneers. Completed in the late 1860s, the private school for Brigham Young's children stood across State Street, east of the Beehive House, Brigham Young's home.



George Martin Ottinger (1833-1917), American  
***18th Ward Schoolhouse***  
Oil on wood panel  
Gift of William Caine Patrick  
Museum # 1985.014.016

# Buildings in Our Neighborhood

## Lesson

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### **A lesson plan for *18th Ward Schoolhouse and Telegraph Office, East Side of East Temple and First South* written by Annabelle Shrieve**

#### **Overview**

Many early Utah artists used their surroundings as subject of art. Symbols of a stable community, buildings were especially appealing to early artists and photographers. In this lesson, students look closely at a few of these pieces of art and discuss why the artists may have wanted to include buildings in their art. In Activity One, the students compare one of these pieces of art, George M. Ottinger's *18th Ward Schoolhouse* with their own school. They choose and sketch a view of their school after looking at details. In Activity Two, they take a neighborhood walk and record the structures they find in there, paying attention to architectural details.

#### **Teacher Background**

Painters and photographers in Utah before the turn of the 20th century found a wealth of subject matter in the built environment, the buildings and structures that signified conquering the harsh local environment and establishing an organized community. In *Early Utah Sketches: Historic Buildings and Scenes in Mormon Country*, A. Russell Mortensen noted that the majority of architecture in the Salt Lake Valley reflected the desire to build a permanent civilization similar to ones the settlers had left behind.

George Martin Ottinger's, *18th Ward Schoolhouse*, documents one of the earliest public buildings in Utah. Completed in the late 1860s, the private school for Brigham Young's children stood across State Street, east of the Beehive House. It was a simple structure and Ottinger chose to show a side view with the one-story extension visible. Also noticeable is the fence that surrounds the building and the rows of Lombardy poplars. Lombardy poplars were planted by the early settlers as wind-breaks and for erosion control.



Frank Zimbeaux (1861-1935), American  
*The Old Salt Lake Theatre*, 1928  
Oil on academy board  
Gift of Mr. & Mrs. Joseph J. Palmer  
Museum # 1991.069.032

The Salt Lake Theater held the distinction of keeping many artists employed in Salt Lake City. When George Ottinger first arrived in the city, Brigham Young asked him to paint stage scenery for the theater and he continued to do so for four years. Other early Utah artists also painted scenery at the theater. Joseph A.F. Everett was one who painted scenery at the Salt Lake Theatre for many years. By the time Everett drew this rendition of the theater, *Old Salt Lake Theater*, in 1928 he was capturing the end of an era as the theater was demolished in 1929.

One of the most revered buildings in Utah's history, however, was the Salt Lake City Temple, because of the importance of the LDS faith to the majority of Utah pioneers. Below is a reproduction of Rudolph Cronau's ink drawing of *Salt Lake City Showing Construction of the Mormon Temple* done in 1882.

The temple was started in 1853 and finished some forty years later. It reflected a significant expenditure of labor and resources. Architect Truman O. Angell was sent to Europe to study other buildings before designing the capital city's temple. Angell, along with William Ward, made the first plans.



Rudolph Cronau (1855-1939)  
*Salt Lake City Showing Construction of the Mormon Temple*, 1882  
Ink on wove paper  
Purchased with funds from Friends of the Art Museum  
Museum #1993.014.001

## **Objectives**

1. Students will understand that artists frequently use buildings as the subjects of their artwork.
2. Students will discuss why artists would be motivated to depict images of buildings in their artwork.
3. Students will look critically at the structures in their school neighborhoods.
4. Students will observe the structures for aesthetic and architectural elements.
5. Students will make a drawing of a significant building in their neighborhood.



## **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.
3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. 7-12 Social Studies – Utah Studies – Describe the significance of pioneers in Utah history.
5. Social Studies Grade 4 – Students will trace the development of the state of Utah.

## **Adaptation**

Some students may need additional help observing and identifying the aesthetic and architectural elements of buildings. Students with physical limitations may need assistance in the walk around the neighborhood, or a limited field trip may be warranted.

## **Materials**

Pencils and paper  
Clipboard or similar hard surface for outdoor work  
Handout

## **Artwork**

*18th Ward Schoolhouse* (George Martin Ottinger, 1833-1917)  
*Telegraph Office, East Side of East Temple and First South, 1863* (George Martin Ottinger, 1833-1917)  
*The Old Salt Lake Theatre* (Frank Zimbeaux, 1861-1935)  
*Salt Lake City Showing Construction of the Mormon Temple, 1882* (Rudolph Cronau, 1855-1939)

## **Initiation**

Show students the artwork listed previously. Have them look closely at each one and discuss what they see. Ask students

*What do all these pieces of art have in common?*  
*Why do you think artists would want to draw pictures of buildings?*

Show the postcard of Ottinger's 18th Ward Schoolhouse. Ask students

*What do you see in this picture?*  
*What do you think this building is used for?*

Explain that this building was one of the earliest schools in Salt Lake City.

*Why would an artist paint a schoolhouse?*

## **Activity One**

Tell students that they will explore and investigate the buildings in their school neighbor. Have the students begin by going outside and discussing their own school building.

*How is our school building different from Ottinger's 18th Ward Schoolhouse?*  
*How is it the same?*



As students respond to your questions, prompt them to think about size, design, building materials, windows, and special features.

*What you think the 18th Ward Schoolhouse was made of? (It was made of adobe brick. Pioneers had learned to make adobe with wet mud mixed with straw or another plant. They molded it into bricks and dried it in the sun before using it as a building material.)*

*Why do you think the builders decided to use these materials instead of others? (It was readily available. Wood was much harder to come by.)*

*What is our school made of?*

*Why do you think the builders decided to use these materials instead of others?*

Ask students which features they would include in a sketch of their school and why. Encourage them to consider many aspects of the school building, including the needs of the people who will use the building. Then pass out the paper, clipboards, and pencils and have students make a sketch.

Back in the classroom, have students share their sketches and talk about why they did or didn't include certain features of the building. Record on a piece of chart paper what the students thought were the most important aspects of the school building. Compare their ideas with the features Ottinger chose to have in his painting of the 18th Ward Schoolhouse.

## **Activity Two**

Explain to students that will be looking carefully at the buildings in school neighborhood. They will take a walk to do this. Discuss the safety rules that you have for field trips. Once on the walk, they will record what they see on the handout. Look at the handout with the students and invite students to come up with additional features they would like to observe.

On the walk, help students to focus their observations and notice details of the buildings they observe. Have some of the resource books available on the walk so that students can refer to them when looking at details.

Back in the classroom, students will share their observations and descriptions. Some questions you might want to ask the students include:

*What types of buildings are found in our neighborhood?*

*Do the buildings all look alike or are they different?*

*Are they old or new? How can you tell?*

*What are the buildings in our neighborhood made of?*

Encourage the students to think about the relationship between the characteristics of a building and its design and use.

## **Extensions**

Students can research how their school neighborhood has changed over time. Use a book like *A Street Through Time* by Anne Miller as a model.

On your walk, students can be given “scavenger hunt” items of architectural details to find.

Students can make adobe blocks to get a feel for this building material.

As a cross-curricular science connection, students can learn about structures and what holds them up. Use a unit like *Insights: An Elementary Hands-On Inquiry Science Curriculum: Structures* (Education Development Center, Inc./Kendall/Hunt Publishing, 2003).

Students can hear architects talk about their works at  
<http://www.achievement.org/autodoc/curriculum/cc016stu1-1>

### **Assessment Options**

1. Evaluation of participation in discussions.
2. Student identification of major architectural and aesthetic elements.
3. Evaluation of student drawings for inclusion of above elements.

### **Resources**

For Teachers:

The Library of Congress has an excellent Web Site: *American Landscape and Architectural Design, 1850-1920: a Study Collection from the Harvard Graduate School of Design*. It includes photographs and classroom ideas. Find it at

<http://memory.loc.gov/ammem/award97/mhsdhtml/aladhome.html>

More books about architecture for both teachers and students can be found at  
<http://committees.architects.org/kids/catalog.html>

For the Students:

McCormick, John. *The Utah Adventure: History of the Centennial State*. Layton, Utah: Gibbs-Smith, 2000.

Holzappel, Richard, Neitzel. *Utah: A Journey of Discovery*. Layton, Utah: Gibbs-Smith, 2002.

D'Alelio, Jane. *Discovering Architecture with Activities and Games: I Know That Building!* Washington DC: National Trust for Historic Preservation in the United States, 1989.

Issacson, Philip M. *Round Building, Square Buildings, and Buildings that Wiggle Like a Fish*. New York: Alfred Knopf, 1988.

Millard, Anne. *A Street Through Time*. New York: Dorling Kindersley Publishing Inc., 1988.

Long, Lynette. *Measurement Mania: Games and Activities That Make Math Easy and Fun*. New York: John Wiley & Sons, Inc., 2001.

Wilkinson, Philip. *Building (An Eyewitness Book)*. New York: Alfred A. Knopf, 1995.

Building	What is it used for?	Shape	Materials used in building	Details	Other Observations



## Revisiting Utah's Past

Utah Museum of Fine Arts

Evening for Educators

September 27, 2006 • 5:30 pm - 8:30 pm

### ***Telegraph Office, East Side of East Temple and First South***

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#### **George Martin Ottinger (1833-1917)**

Pennsylvanian-born George Martin Ottinger grew up in New York City and traveled as a sailor during his youth. In 1861, at the age of 28, he accompanied his mother in a wagon train party bound for Utah.

Ottinger painted *Telegraph Office, East Side of East Temple and First South* in 1863, just as telegraphy was established in Utah. The telegraph office was also the subject of photographs taken by Ottinger and Savage and C.W. Carter attesting to the importance of the telegraph in communication on the frontier.



George Martin Ottinger (1833-1917), American  
***Telegraph office, East Side of East Temple and First South***, 1863  
Oil on canvas  
Purchased with funds from Friends of the Art Museum  
Museum # 1980.059

# Communication of the Frontier: Integrating Art and Science Lesson

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**A lesson plan for *Telegraph office, East Side of East Temple and First South* written by Annabelle Shrieve**



*Harper's Weekly Illustrated Magazine*  
November 2, 1867 (from a painting by George M. Ottinger)  
Special Collections Dept.  
J. Willard Marriott Library  
University of Utah

## **Overview**

Communication was slow in the early days of Utah. Letters from family and friends could take many weeks to get from one place to another. Beginning in 1860, the Pony Express reduced this time by using relays of horseback riders. The Pony Express mail delivery system had over 80 riders that traveled about 100 miles a day. It could get mail from Missouri to California in about 10 days. Fame riders included Calamity Jane, Wild Bill Hickok, and Buffalo Bill Cody. Although the Pony Express established nearly 190 relay stations and had 500 horses in its stables at its height, service ended with the completion of the transcontinental telegraph in 1861.

The transcontinental telegraph system could send messages at about 30 words a minute, using pulses of electricity that traveled through wires. As messages were tapped at a sending station, a machine printed the message or an operator translated it at a receiving station. By 1866 the telegraph system extended to most settlements in Utah. George Martin Ottinger painted *Telegraph Office, East Side of East Temple and First South* in 1863. The telegraph office was the subject of other early pieces of art and photography, attesting to the importance placed on this means of communication.

In a telegraph a switch opens and closes an electric circuit. In Morse's original design, the receiving device used an electromagnet, powered by the electric current in the circuit, to raise and lower a pen making marks on a moving strip of paper. In this activity, students first discover the elements of a closed electric circuit by trying to make a light flashlight bulb with a wire and battery. Then, using their understanding of closed electric circuits, they build a simple switch to show how a telegraph works.

## **Objectives**

1. Students will discuss the advantage in communication that took place with the completion of the transcontinental telegraph system.
2. Students will discover connections between science and the arts.
3. Students will distinguish complete from incomplete circuits by causing a light bulb to light.
4. Students will build a simple switch to show how a telegraph machine works.

## **State core links**

1. Visual arts – K-6 Standard 3 – The student will choose and evaluate artistic subject matter, themes, symbols, ideas, meanings, and purpose.
2. Visual arts – K-6 Standard 4 – The students will interpret and apply visual arts in relation to cultures, history, and all learning.
3. Visual Arts – 7-12 Standard 4 (Contextualizing) – Students will find meaning in works of art through settings and other modes of learning.
4. Social Studies Grade 4 – Students will trace the development of the state of Utah through learning about communication on the frontier.
5. Science – Grade 5 Standard 4 – Students will understand features of static and current electricity.

## **Adaptation**

Less able students may need their partners to manipulate the small components in the materials.

## **Materials for Production**

Part One -- For each pair of students:

- 1 D-size battery
- 2 pieces (about 6 inches) number 22 or 24 bell or copper wire (If coated, it will need to be stripped at both ends.)
- 1 flashlight bulb
- ziplock bag to hold materials

Part Two – For each pair of students:

- 1 flashlight bulb with holder
- 2 D-size batteries
- masking tape
- 2 metal tacks
- 1 paper clip
- 4 pieces of 22 or 24 bell or copper wire (If coated, it will need to be stripped at both ends.)
- ziplock bag to hold materials
- 2 pieces of foam or cardboard

## **Artwork**

Reproduction of Pony Express etching from *Harper's Weekly Illustrated Magazine* (see attached)  
*Telegraph Office, East Side of East Temple and First South, 1863* (George Martin Ottinger, 1833-1917)

## **Initiation**

Show students the picture of the Pony Express rider cheering on the men raising the telegraph poles and have them read the accompanying article at:

<http://etext.lib.virginia.edu/railton/roughingit/map/herharper.html>



Explain that the wires being strung on the poles would change the way communication had previously taken place in the Western frontier. Discuss these changes.

Continue by showing students the postcard of *Telegraph Office, East Side of East Temple and First South, 1863*. Ask

*Why do think an artist would paint a picture of this street scene?*

Have students look very carefully at the painting. They should see the words Telegraph Office on one of the buildings and see the telegraph poles. Discuss why the telegraph was so important to the early pioneers using the Teacher Background as a resource.

Explain that telegraph lines were first placed along railroad tracks.

*Why was this a good place for the lines?*

*Why might it have been good for the railroads to have the lines along the tracks?*

### **Activities**

**Before doing any of these activities, remind students that while the battery is safe when used as recommended, they should NEVER experiment with household sockets and/or outlets.**

Explain to students that the basis for telegraph machines is the attraction of positively charged protons and negatively charge electrons to each other. Protons and electrons are found in all atoms and atoms make up everything around us; desk, chairs, air, our bodies, etc. Most of the time the positive and negative charges in atoms neutralize each other so the things around us don't appear to be electrified. But if we separate the charges, they will show their power of attraction. An example of this power is the static electricity seen when you rub a balloon to your head. You rub some of your hair's negatively charged electrons onto the balloon, making the balloon stick to your hair or wall and repel away from another negatively charged balloon. Demonstrate this to students.

When positively charged protons and negatively charged electrons are separated their attraction back to each other can be used to do work; such as light a bulb or power a city! The separated charges can't recombine unless you give them a complete path, or circuit, to flow along.

If students have not had any experience with experimenting with complete circuits, give student teams a bag containing one D size battery, a flashlight bulb, wire, and tape or modeling clay. Use the attached Complete Circuit/Incomplete Circuit handout for students to draw their discoveries. After they have finished, bring the class together to discuss why different set-ups work or don't work. Focus their attention on what makes a complete circuit.

A telegraph "key" is a switch that makes or breaks a complete circuit of electricity. A sender taps out a message using this key and at the receiving end the electric circuit is used to power a machine that activates or deactivates an electromagnetic causing a recording device to duplicate the message.

Explain that in a real telegraph system, an electromagnet is used (see Extensions).

Tell the students that they will build a simple machine, similar to a telegraph to send their partner a message. For older students, you may want to challenge them to come up with their own designs using the materials.

For younger students, use the Direction Sheet to help them build the sending and receiving stations. The paperclip forms a switch by which to complete the circuit. If the bulb won't light, make sure all the connections are secure and the paperclip switch touches both tacks.

After the stations are built and students have had a chance to experiment with them, pass out the Morse Code handout. Challenge students to send a SIMPLE message to their partner.

Questions to ask students:

*What do you think were the advantages of using the telegraph system in the 1860s?*

*What do you think were the disadvantages?*

### **Assessment Options**

1. Students should be able to explain why the telegraph was the subject of artwork in the 1860s.
2. Students should be able to draw a complete circuit that would make a bulb light with a battery.
3. Students should be able to explain how a simple telegraph works.

### **Extensions**

Have students improve their telegraph system and draw a diagram of how it works.

Have students write a story about the increased speed of communication that took place when the Pony Express was replaced by the telegraph.

Show students how to build an electromagnet to better understand how the telegraph worked (see attached).

### **Resources**

For Teachers:

This article compares the development of the telegraph to modern-day Internet use.

<http://www.contextmag.com/setFrameRedirect.asp?src=/archives/200208/Catalyst2.asp>

For the Students:

McCormick, John. *The Utah Adventure: History of the Centennial State*. Layton, Utah: Gibbs-Smith, 2000. Chapter 9

Holzappel, Richard, Neitzel. *Utah: A Journey of Discovery*. Layton, Utah: Gibbs-Smith, 2002. Pages 154- 155.

Robson, Pam. *Electricity*. New York: Gloucester Press, 1992.

Parker, Steve. *Electricity: An Eyewitness Book*. New York: Dorling Kindersley, 2000.

The Telegraph Comes to Utah from:

[http://historytogo.utah.gov/utah\\_chapters/pioneers\\_and\\_cowboys/thetelegraphwasinformationhighway-ofthe1860s.html](http://historytogo.utah.gov/utah_chapters/pioneers_and_cowboys/thetelegraphwasinformationhighway-ofthe1860s.html)

Platt, Richard. *Communication from Hieroglyphs to Hyperlinks*. Boston: Kingfisher Publications, 2004

For a picture and explanation of Morse's first telegraph see

<http://www.150.si.edu/150trav/remember/r819.htm>

# Communicating with electricity

**T**ELEGRAPHY – WRITING AT A DISTANCE – was an early and successful use of electricity, coinciding with the spread of railroads in Europe and North America. Telegraph wires or lines were laid alongside the railroad tracks, where they were easy to check and maintain. The discoveries about the connection between electricity and magnetism (pp. 26-27) had led several people to develop the idea of sending pulses of current in coded form from one place to another. A simple on-off switch completed the circuit and allowed current to flow from the sender. This was read in a code of dots and dashes. Although it took several years for the electric telegraph to be accepted, the era of fast communication had begun.



**THE TRAIN IS COMING**

Along a copper wire, the signal travels at nearly the speed of light, making telegraphy an almost instant method of sending messages. It was used extensively for signalling on the railroads. This operator listens to the clicking code through earphones; the batteries are on the floor under his desk.

## THE WHEATSTONE TELEGRAPH

English experimenters William Cooke (1806-1879) and Charles Wheatstone (1802-1875) demonstrated a telegraph in England in 1837. At first people were suspicious of the electric wires passing over their land.

Wheatstone used the deflections of a needle to spell out letters, in a code of swings to the left and right. The needle was moved by the magnetic field produced by the current through coils of wire inside the case. Twisting the handle one way connected the positive terminal of the battery into the circuit and the negative one to ground, sending a current in one direction, making the needle of the receiving instrument deflect one way. Turning the handle the other way connected the negative terminal of the battery, making the needle deflect the other way.

Single-needle instrument with back removed (1846)

Coils of wire



Operating handle

Magnetic needle that acts as pointer

Wires to telegraph

Twelve battery

Wire to battery

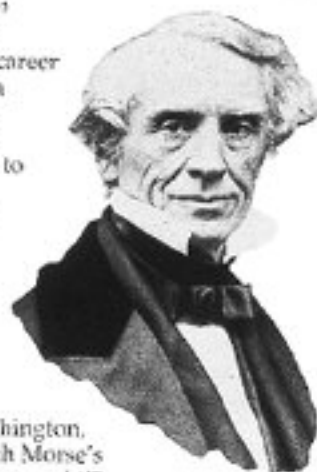


A	J	S	2
B	K	T	3
C	L	U	4
D	M	V	5
E	N	W	6
F	O	X	7
G	P	Y	8
H	Q	Z	9
I	R		0

Modern Morse code alphabet

## The "father of the telegraph"

American Samuel Morse (1791-1872) began his career as a professional portrait painter. The idea for a telegraph came to him in 1832 when he saw an electromagnet on a ship while returning from a European tour. He gave up painting and began to investigate electromagnetism. By 1837 he had devised electromagnetic transmitters and receivers, and the first version of the code of dots and dashes that took his name and eventually became used worldwide. Morse's first permanent telegraph line, spanning 37 miles (60 km) between Baltimore and Washington, opened on May 24, 1844 with Morse's message, "What hath God wrought!"

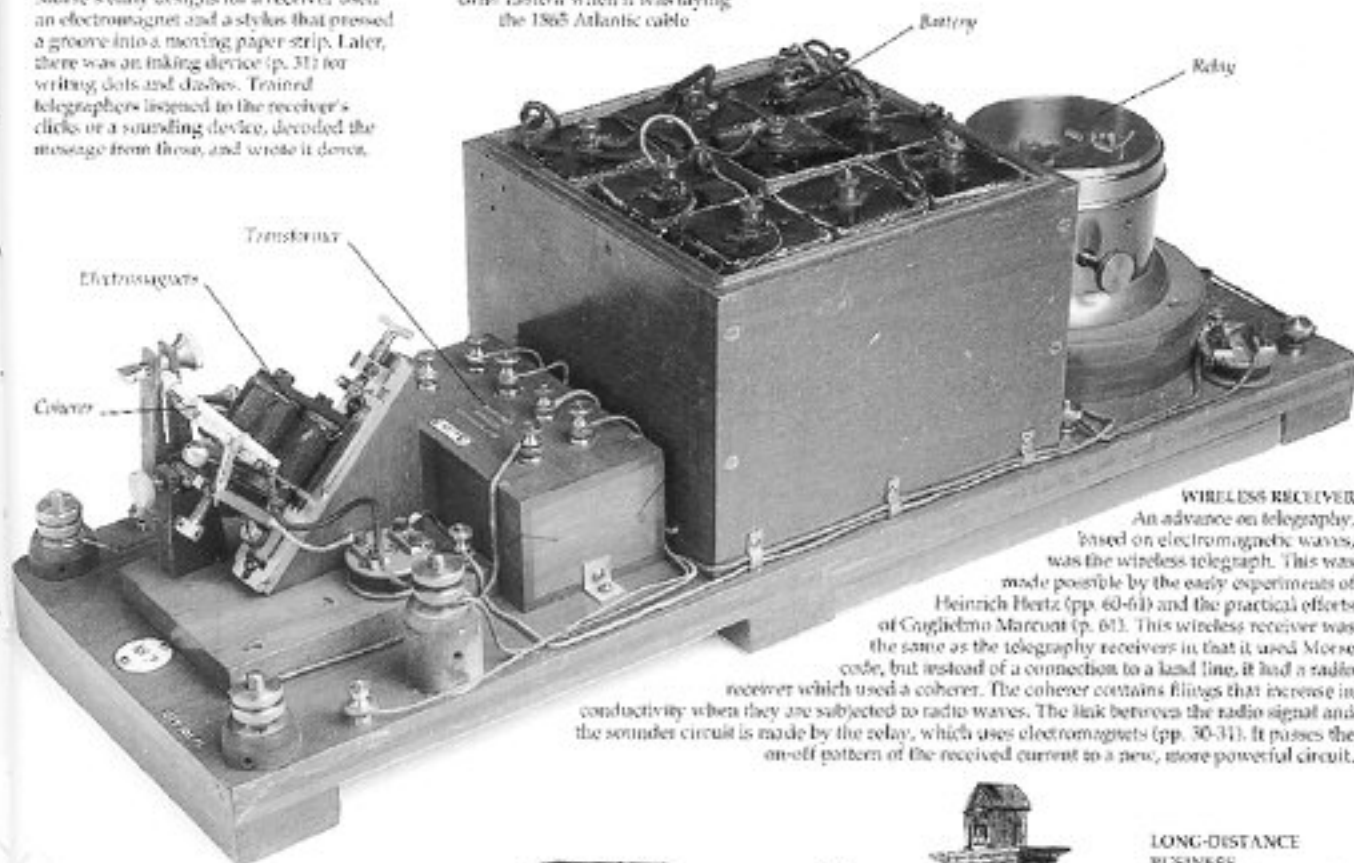


Samuel Morse

### DOTS AND DASHES

Morse's early designs for a receiver used an electromagnet and a stylus that pressed a groove into a moving paper strip. Later, there was an inked device (p. 31) for writing dots and dashes. Trained telegraphers listened to the receiver's clicks or a sounding device, decoded the message from these, and wrote it down.

Morse types received on the *Great Eastern* when it was laying the 1865 Atlantic cable



### WIRELESS RECEIVER

An advance on telegraphy, based on electromagnetic waves, was the wireless telegraph. This was made possible by the early experiments of Heinrich Hertz (pp. 60-61) and the practical efforts of Guglielmo Marconi (p. 61). This wireless receiver was the same as the telegraphy receivers in that it used Morse code, but instead of a connection to a land line, it had a radio receiver which used a coherer. The coherer contains filings that increase in conductivity when they are subjected to radio waves. The link between the radio signal and the sounder circuit is made by the relay, which uses electromagnets (pp. 30-31). It passes the on-off pattern of the received current to a pen, more powerful circuit.

### LONG-DISTANCE BUSINESS

Telegraph lines spread across the land. Their real importance was appreciated by businesses where investments and information could be received quickly. These wealthy businessmen no doubt await the 19th-century version of the latest stock market figures.



Communication of the Frontier  
Complete/Incomplete circuits

Draw the ways you could light the bulb <b>Complete Circuits</b>	Draw the ways the bulb would not light <b>Incomplete Circuits</b>

# Communication on the Frontier Handout II

Sending Station



Push paperclip  
onto tack to complete  
circuit.

Receiving Station

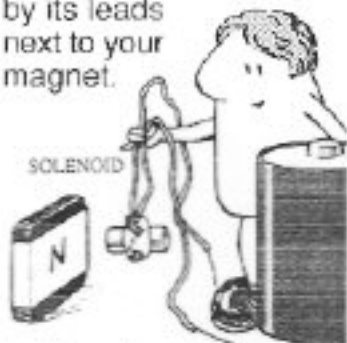


## SOLENOID



## Magnetism ( )

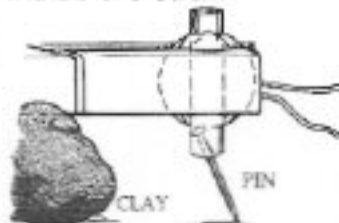
1. Slide the coil off your electromagnet. Without a nail it is called a *solenoid*.  
a. Suspend your solenoid by its leads next to your magnet.



b. Describe the interaction both with and without electricity.

4. Think of creative engineering applications for your solenoids.

2. Clamp your solenoid into a clothespin resting on a lump of clay. Lean a pin, point down, just inside the straw.

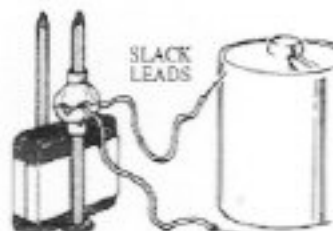


a. What happens when you connect and disconnect the leads?

b. Can you magnetize, then reverse the poles of the pin? Experiment.

3. Stick 2 magnets together. Put a large nail on either side.

a. Place your solenoid over one of the nails, with ample slack in the leads.



b. Pass electricity both ways through the solenoid. Describe the interaction.

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## TELEGRAPH IT



## Magnetism ( )

1. Clamp your solenoid in a clothespin taped to an inverted jar, as shown. Insert a large nail to make an electromagnet.

2. Wrap bare wire several turns around a paper clip. Extend it straight, but with a large "U"-bend, so you can clip it to the first clothespin with a second one.



3. Adjust so the paper clip clicks down, then releases, as you "key" on and off at your dry cell terminal.

a. Explain how your telegraph works.

b. Have someone ask you a question.

Answer them in Morse Code:

Yes . -

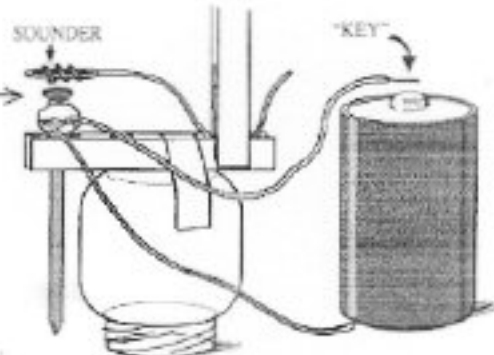
No - .

? .. ---

4. How can you connect 2 telegraphs to communicate with each other?

a. Diagram your ideas.

b. Pool equipment with another lab group to test your design.



TELEGRAPH

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# INTERNATIONAL MORSE CODE

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.
3. The space between two letters is equal to three dots.
4. The space between two words is equal to five dots.

A • —	U • • — —
B — • • •	V • • • —
C — • — •	W • — —
D — • •	X — • • —
E •	Y — • — —
F • • — •	Z — — • •
G — — •	
H • • • •	
I • •	
J • — — —	
K — • —	1 • — — — —
L • — • •	2 • • — — —
M — —	3 • • • — —
N — •	4 • • • • —
O — — —	5 • • • • •
P • — — •	6 — • • • •
Q — — • —	7 — — • • •
R • — •	8 — — — • •
S • • •	9 — — — — •
T —	0 — — — — —

From Wikipedia