INTEGRATING ART AND SCIENCE

"Scientists and artists both require a keen sense of observation, vital powers of imagination, the persistence to achieve their visions through hard work and perseverance in the face of many challenges, and the ability to communicate their discoveries to a broader audience."

Diane Shaw, Co-curator

Science and the Artist's Book, The Smithsonian

Art and Science

Scientific theories, especially those from the natural environment, frequently are reflected in works of art. Artists throughout time and from many different cultures have reproduced scenes from their surroundings, documenting the world as the artist sees it. These scenes from the natural world, usually classified as landscapes, invite us to explore the sometimes realistic and sometimes fantastic depictions of the artist's observations.

Many times these artworks of the natural world raise more questions than they answer, perhaps causing us to examine our use of the earth's resources, demanding that we think about the future of the environment, or simply giving us pause to contemplate the power and beauty of nature. Think of the meticulously accurate historical paintings of birds by American John James Audubon or The Great Wave Off Kanagawa, the majestic and fearfully powerful image of a tsunami by the Japanese master Hokusai.

Beyond the natural environment, however, works of art and the processes and tools used by artists connect with other science concepts. Through meaningful art exploration, many learning objectives set forth by both the National Standards for the Visual Arts and the National Standards for Science are met. Requirements for creating enduring works of art include that artists understand concepts similar to those practiced by scientists. These related concepts encompass theories, facts, rules, and guidelines.

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these problems, meaningful solutions result because the scientific concept has been applied to a real-life experience.

Technology

In art and science students are furnished opportunities to develop competency in decision-making. Technology in both content areas emphasizes that students develop fundamental abilities associated with the process of designing and planning. For example, in art as well as in science, students identify and state problems, plan and implement solutions, and then evaluate the effectiveness of the solution. Students who are able to isolate a design problem, state it, and then think through to a logical solution are applying critical thinking skills that relate to everyday situations.

Technology also holds two fundamental applications for the correlation of art and science, as it may be addressed through graphic, structural, and organizational design or through the use of computer media. The computer can be used for the presentation of content or used as a medium for creating art. The unbelievable and continuing growth of the Internet and the technologies that have already created a demand for the expertise of people knowledgeable about both art and science.

Personal and Social Perspectives

Through observation and interpretation of masterworks of art or by creating their own works of art that depict local, national, or global environments, students are better able to visualize the impact of society upon the natural world. Contemplating personal and social issues through works of art help students to better understand the characteristics of populations, resources, and the environment and the impact that individuals and groups have upon these characteristics.

History

Science, like art, has its own history. They are histories that continue and are rapidly changing. By studying the chronologies of art and science, students are able to see the roles that both fields have played in the development of cultures throughout time.

Additionally, the impact that science has had upon art and the ways that art has depicted science can be readily perceived. For example, tracking the history of art materials and media over time would be a meaningful exercise to discover how scientific developments have impacted the art world. Many of today's students may be surprised to find out that paints were not always available in ready-to-use tubes and that artists in the past had to grind and mix their own.

Art, Science, and Writing

Artists and scientists write in diaries or journals about their daily work. Likewise, students can write in diaries or journals about their art and science activities. Artists and scientists write notations about their work, describe problems, and brainstorm solutions in sketchbooks or notebooks. Similarly, students can sketch and write about their art, work, problems, and solutions to problems.

Artists and scientists write sequential steps to follow in the creation of artworks or formulas. Students can write the steps they take to create an artwork or to devise an experiment. The sketchbooks of artist and inventor Leonardo da Vinci, the original Renaissance man and interdisciplinary model, provide a fine subject of study for this approach. In his sketchbooks da Vinci recorded drawings of his artwork and inventions along with written notes and ideas.

Writing summary sentences, elaborating upon details, finding main ideas, predicting outcomes, pinpointing causes and effects—the list of writing topics for art and science is virtually endless. Whether working individually or in groups of two or more, writing about art and science experiences helps students develop stronger communication skills and is a valuable component of any interdisciplinary connection.

Careers that Require Both Art and Science

Students who have a strong interest in art and science may want to consider careers that combine both interests. Medical and scientific illustrators, graphic artists and website and software designers, industrial product designers, and architects all need to possess significant knowledge of both art and science. Nevertheless, all students can benefit from significant educational experiences that are based on art and science. We invite you to try it.

Pam Stephens and Nancy Walkup
NATIONAL CONTENT STANDARDS FOR SCIENCE

National Academy of Sciences
National Science Education Standards
Washington, DC., 1995

The National Content Standards for Science are an integral part of an extensive structure for comprehensive science education. This structure is fully described in the document titled National Science Education Standards. Included in this document are standards for teaching, professional development, assessment, and education programs and systems. Educators are advised that the content standards are most effective when incorporated with all the other standards and that successful science programs will use all the content standards rather than an isolated few.

The Content Standards for Science are not considered a prescribed curriculum. Curriculum is the way content is organized and emphasized within subject areas. Content is what students should learn; therefore, the Content Standards for Science provide a framework for what students should know, understand, and be able to do in science.

Content Standard 1: Unifying Concepts and Processes

Content Standard 2: Science as Inquiry

Content Standard 3: The Subject Matter of Science — Physical Science, Life Science, and Earth and Space Science

Standard 4: Science and Technology

Standard 5: Personal and Social Perspectives

A FAREWELL FROM BILL MCCARTER

Dear Friends and Colleagues:

Many of you know that in May I left the co-directorship of NTIEVA after twelve years in the DBAE movement. I want to thank all of you who supported and continue to support the mission of the Institute. This fall I assumed a position as Chair of the Division of Art Education and Art History in the School of Visual Arts at the University of North Texas. This position was recently created through a total reorganization of the School.

Change is part of growth. As we move into the new century, many of the Institutes across the country have had changes in leadership. We are delighted that Melinda Mayer has assumed the responsibility of replacing me as Co-Director of NTIEVA. She was a Getty evaluator for the summer institutes while pursuing graduate work at Pennsylvania State. Melinda’s graduate study combined work in DBAE with her prior museum experience.

Also, many of you may remember that Melinda was a museum educator at the Amon Carter Museum in Fort Worth before going to Penn State. During her days at the Amon Carter, Melinda worked with NTIEVA, which gives her further insight into our first experiences as an Institute. I feel she is the right person to work with Co-Director Jack Davis and with Nancy Walkup and Pam Stephens, NTIEVA project coordinators and mentors. I hope you will extend to all the NTIEVA staff the kind of support you have given me over these past years.

Fondly,

Bill McCarter
Division Chair, Art Education and Art History
School of Visual Arts
The University of North Texas

SUMMER TEACHER OFFERINGS SCHEDULED

Summer Teacher Institute for Graduate or Continuing Education Credit
June 14-25, 1999
For Information, contact Connie Newton at 940-565-4777, newton@unt.edu

Tres Culturas: The Art and Cultures of New Mexico
July 14-23, 1999
For information, contact Nancy Walkup at 940-565-3986 or walkup@unt.edu

Art is Man's Nature. Nature is God's Art.

James Bailey
THE ART OF CAMOUFLAGE

Animals and people hide things for various reasons. Animals in nature hide their young to protect them from predators. Pirates hide stolen treasure to protect it from being stolen yet again. One of the most effective ways to hide something is by camouflaging it.

Camouflage is the 'art of concealment.' It involves disguising an object, In plain sight, in order to hide it from something or someone. We generally think of camouflage as being used during war. Soldiers often wear special camouflage clothing and smear mud on their faces at night to become less visible. But, camouflage exists in many other forms. In the natural world. A chameleon, for instance, changes color to blend in with its environment. A white polar bear is hard to see on an ice floe as Is a striped zebra In the African bush.

Animals basically use one of two methods to conceal themselves in nature: general resemblance and special resemblance. With general resemblance, animals use color to blend in with their habitat so that they're almost invisible. Besides chameleons, other animals that use color to match their surroundings include hares, tree frogs, flounderfish, grasshoppers, and lizards.

With special resemblance, animals use a combination of color, shape and behavior to help them appear like something in their habitat. They are simply mistaken for something else. The walking stick is a great example. This insect becomes almost invisible due to the shape of its body, its coloration and its slow movement. It looks and acts just like a twig on a bush or tree.

Some animals have special markings that help to disguise their shapes. The zebra, for instance, has markings that run off its edges into the background. This feature allows the zebra to fade into the background so successfully it's difficult to see its overall shape. Just imagine how confusing a herd of zebras must be to a predator.

Other animals that use special resemblance to conceal themselves include giraffes, leopards, praying mantis, snakes, butterflies and moths, caterpillars, and spiders.

Materials You Need: assortment of construction paper; old science or nature magazines with pictures of animals, insects or reptiles; scissors; an assortment of textures cut from magazine illustrations; glue sticks; and colored markers.

The Project: Making your own 'camouflage art' is easy. Here's how:

• Go through old science or nature magazines in search of pictures of animals, insects or reptiles. Choose one of the pictures and carefully cut away the background so that only the animal remains.

• Next, glue the picture on a similar color of construction paper. Decide whether you will use general resemblance or special resemblance to camouflage your animal.

• Then create an environment in which your animal will feel safe. You can use colored markers, colored construction paper, and textures cut from magazine illustrations to create your animal's habitat.

When your picture is finished, show it to a family member, classmate, or friend to see if they can easily find the animal in your picture.

The History of Camouflage

The term camouflage comes from the French word "camoufler" meaning "to blend or veil." Camouflage, also called protective concealment, means to disguise an object in plain sight, in order to conceal it from something or someone.

In the late 1800s, an American artist named Abbott Thayer made an important observation about animals in nature that became a useful tool In developing modern camouflage. After studying wildlife, Thayer noticed that the coloring of many animals graduated from dark, on their backs, to almost white on their bellies. This is an important property that is very useful in modern camouflage.

This gradation from dark to light breaks up the surface of an object and makes it harder to see the object as one thing. The object loses its three-dimensional qualities and appears flat. This tendency to break up and flatten the surface of an object also appears in the artistic movement, Cubism, which was occurring during this same time period.

Camouflage, as we know it today, was born in 1915 when the French army created a new unit called the camouflage division. Artists were among the first people the French army called in to help develop camouflage for use during WWI. Here's a trivia question for you: What American artist from Iowa worked on camouflage for the US Army during World War I? (A hint: he painted American Gothic--Grant Wood!)

by Craig Roland

http://www.arts.ufl.edu/art/rt_room/sparkers/camouflage/camouflage.html

NTIEVA Newsletter
The object of our game with nature is not to win, but to keep on playing." Anonymous

Readers of the NTIEVA newsletter are invited to contact us for a copy of Ecology in Art, an interdisciplinary instructional unit of four lessons designed to investigate ideas associated with a variety of ecological issues as well as diverse methods used by different artists to address these issues.

The artworks presented in this unit are as widely varied as the artists who produced them and offer diversity in concepts, approaches, and media for students to explore. Some of the works of art are small and subtle, others large and intrusive, still others are temporary while some are permanent. Some artists have chosen to make visual commentary about ecological issues, incorporating elements of the natural environment into their own art while other artists manipulate the environment to draw attention to their own work.

Materials chosen by the artists include the traditional (such as marble) along with the non-traditional (such as recycled metals). Whatever the intent or media, without a doubt, these artists and their visual stories have had an impact on the way contemporary society views the natural world and ecological issues.

In this unit students are encouraged to work individually or collaboratively as they look at the world around them, evaluating human impact upon nature, identifying ecological issues, contemplating art solutions to ecological problems, making interdisciplinary connections, and communicating stories about the earth in a variety of ways.


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ART - O - GRAM

Short Term Memory Test

According to Dr. Eric H. Chudler, Research Associate Professor at the University of Washington in Seattle, there is no scientific evidence that we use only 10% of our brain capacity. Here is a fun activity to test what percentage of your brain you might use!

Concentrate on the images for 30 seconds. Remove them from your view and write down all the ones you remember. When you are ready, check the images again – how many did you remember? Did you create a system to study the images in order to remember them better? Were familiar images recalled more easily?

Have fun and see if you surprise yourself!
THE HUNTER'S RETURN
Thomas Cole
1845, Oil on canvas, 40 1/8 x 60 112 inches
Amon Carter Museum, Fort Worth, Texas

About the Artwork

The Hunter's Return pictures autumn foliage surrounding a clearing where a family appears to be living in harmony with the powerful forces of nature. Cole was often away from his family when he went to search for subjects to paint and when he went to New York City to take care of business matters. In this painting, he may be giving the viewer an idea of his own feelings when he returned to his loy ing family.

In The Hunter's Return we see a cozy cabin in a beautiful setting. In this place, the pioneer family is able to live off the abundance of the land, but Cole also gives the viewer clues to the loss caused by man's movement into such natural areas. Yet all is not perfect in this world. If we look more closely, we can see that the artist may have provided some warnings about "taming the wilderness." The treestumps and fallen logs might be symbols of humanity's careless destruction of nature. They may serve as a warning that people must maintain a careful balance with nature.

The Hunter's Return was commissioned by New York art collector George Austin. The painting was exhibited only once between 1848 and its rediscovery one hundred and thirty-five years later. Until 1983, the only evidences of its existence were an entry in the Cole memorial exhibition catalogue, a note in Cole's list of subjects for paintings, and the existence of a small sketch and drawings.

About the Artist

Thomas Cole was born in England in 1801 and came to the United States with his family in 1818. He began his career as a portrait painter, but soon began painting landscapes. In the summer of 1825, he took a trip up the Hudson River to do sketches of the native scenery. In the Catskill Mountains he found a wild, spectacular landscape that held a particular attraction for him. Cole made many visits to the area and, in the late 1820s, visited the White Mountains of New Hampshire. There he found Mount Chocorua, the mountain that appears in several of his paintings, including The Hunter's Return.

Cole was followed by others who chose to paint nature with a reverence for its power and beauty. He was one of a group of painters referred to as the Hudson River School because of the dramatic landscapes they painted from this area. They were dedicated to celebrating the glory of nature, especially the landscapes of the growing nation during a period of expansion following the War of 1812.

Additional Information

Cole was known for religious or moral messages in his...
### Title
The Hunter's Return, Thomas Cole

#### Objectives
Students will:
1. explore themes of expansion and its effect on the environment as expressed in *The Hunter's Return*.
2. relate and compare Cole's concerns with contemporary environmental issues.
3. recognize the influence of Thomas Cole on American landscape painting and other Hudson River School artists.
4. create a landscape that shows a contemporary relationship between people and the environment.

#### Materials and Preparation
- 12" x 18" white paper, one per student
- colored chalk in a number of colors
- 4' x 18" strips of construction paper in varying colors
- scraps of colored construction paper
- glue
- scissors

#### Procedure/Production
- On white paper, mark the horizon line with a light chalk mark. Using 3 or 4 colors of chalk, start with lightest color and apply a wide line of chalk along the horizon. Repeat with other colors, aligning wide bands of color and proceeding from lightest to darkest color at top of paper. Blend chalk carefully along lines of separate colors.
- Select three different colors of construction paper. Starting with the darkest color, tear one edge to emulate mountain peaks. Place along the horizon line (with the straight edge parallel to the white paper's bottom edge) and glue this piece in place.
- Repeat the same process for the middle shade and lightest shade in turn.

Use scrap construction paper to create a mountain scene with overlapping objects that suggest depth. Includes some evidence of humanity (houses, cut trees, fences, roads, etc.) and humanity's effect on the environment.

#### Resources
- images of landscapes: prints, postcards, slides, books
- American Art: Paintings from the Amon Carter Museum by Sarah Cash

#### Evaluation/Outcomes
Did students:
1. investigate themes of expansion and the environment in *The Hunter's Return* and compare them to today's world?
2. create a landscape that shows a contemporary relationship between people and the environment?

#### Interdisciplinary Connections
- **Language Arts**
  As a pioneer child in the painting, write a letter home to a friend remaining behind in a city such as Boston.
- **Mathematics**
  Estimate distances between the viewer and the people in the painting, between the people and the mountains, etc.
- **Science**
  Explore ecological issues. Compare this 19th-century depiction to how it might appear today.
- **Social Studies**
  Using clues in the painting, resource materials, and a map of the USA, determine the probable location of the site depicted.

#### Vocabulary
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>landscape</td>
<td>Hudson River School</td>
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<tr>
<td>horizon line</td>
<td>depth</td>
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<tr>
<td>overlap</td>
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#### Content Checklist
| Aesthetics (understanding the nature of art) |
| Art Criticism (responding to and judging art) |
| Art History (knowing history about art/artists) |
| Art Production (creating art) |
| Multicultural (includes diverse perspectives) |
| Texas Essential Knowledge and Skills |
Deforestation

While Thomas Cole's painting, *The Hunter's Return*, speaks of a peaceful coexistence with nature, it can also be seen as an example of the ravages of progress that humanity has placed on the land. Cole's concerns for the deforestation of the New England landscape can be heard in his *Essay on American Scenery*:

"...I cannot but express my sorrow that the beauty of such landscapes are rapidly passing away—the ravages of axe are daily increasing—the most noble scenes are made desolate... and another generation will behold spots, now rife with beauty, desecrated by what is called improvement..."

The Industrial Revolution began in America in the late eighteenth-century. As large areas of land were cleared to make way for new mills and factories, many artists and writers lamented the loss of America's wilderness. Cole depicted *The Hunter's Return* in autumn, a brief season when deciduous trees turn to brilliant colors and then shed their leaves due to a reawakening of photosynthesis. Like the beautiful autumns in New England, Cole saw the boundless landscape of America quickly passing before his eyes.

The problems of deforestation have had a huge impact on our world today. Deforestation is when trees are cleared from an area with no effort to replace them. Scientists say that warming trends worldwide are connected to deforestation and more and more land is being cleared at an alarming rate. While there is much focus on the problems of the tropical rain forests of Indonesia and South America, there is also cause for alarm in the White Mountains of New England, the region depicted in *The Hunter's Return*. Scientists fear that warming trends may cause the retreat of many deciduous trees in that area of the country, and that the trees will be replaced by southern tree species. This could dim New England's brilliant fall foliage season not only through replacement of tree species but also due to dryer weather conditions.

Today about 10% of original ancient forest remains in the United States. Most forested lands are owned and used by the government in the form of national parks, national forests, and the Bureau of Land Management. These public lands may be used in a variety of different ways under what is called multiple-use management. The forests are supposed to be used in the combination that will best meet the needs of the American people. We might automatically think of recreation as a major use of lands set aside by the government, but a higher priority is often given to timber harvesting. At present, a new bill has been introduced in congress, the *National Forest Protection and Restoration Act*, that will end timber sales on government lands and provide funds for the retraining of displaced timber workers. This act will also begin a scientifically-based ecological restoration program for federal and public forests.

In the 1870s, Yellowstone National Park in Wyoming was the first national park to be set aside for preservation from logging, mining, and other types of development. His amazing that only twenty years later, in the 1890s, the government

"The most beautiful thing we can experience is the mysterious. It is the source of all true art and science."

Albert Einstein
enacted the multiple use management system that is still ravaging the land today. At present 40% of all land in the United States is set aside as public lands. When only 10% of that is all that is left of our original forests, shouldn’t we be doing more for the conservation of our national landscape?

Desertification

Many times when forests are felled it is for the purpose of raising livestock. The problem with this practice is that the soil is not rich enough to support a continuing growth of grasses. Both deforestation and overgrazing can lead to desertification. Desertification happens when there is a loss of the fibrous root systems of plants that once held the soil in place. If prolonged drought occurs in an overgrazed area the land may never recover and can be turned into a barren desert.

Today soil conservation is as important as the conservation of forests. A valuable lesson was learned in the 1920s when farmers and ranchers plowed and overgrazed the grasslands of Texas, Oklahoma, Kansas, Colorado, and New Mexico. In the 1930s there was a drought and the grasses, which had no root systems, were no longer there to hold the soil in place. As the crops dried up the wind blew away all the topsoil. This area was known as Dust Bowl for the large dust storms that devastated the land and made it almost impossible for people to live there.

By 1934, the dust storms were coming with alarming frequency and dust storms were seen as far across the country as Washington D.C. Residents believed they could determine a storm’s point of origin by the frequency and dust storms. As a result of the Dust Bowl disaster, the Soil Conservation Service was established in 1934. In the late 1930s a leading agricultural expert named Hugh Bennett developed a plan to conserve the valuable topsoil. Bennett persuaded Congress to pay farmers to use new farming equipment and techniques.

Many artists of the Texas region responded with images that told the story of the destruction of the land. Alexander Hogue painted many scenes of the drought-ravaged land that convey the sense of despair of that time period. His Drought Stricken Area, 1934, Dallas Museum of Art, was intended to show the breaking down of the relationship between humanity and nature.

Scott Winterrowd
CONSERVATION IN ART

In no other area is art so closely linked to science than in the field of conservation of works of art. The care and conservation of artworks is one of the most important roles an art museum must perform. The activities included in conservation practices are documentation, treatment, and preventative care. There are many areas of specialization in the conservation of objects such as paintings, works on paper, textiles, library materials, photographs, and sculpture. Conservation practice is highly specialized, requiring a broad background in art history, studio art, chemistry and physics, and technology.

Since all objects deteriorate over time, it is the job of the art conservator to slow this process down. Conservators must keep close watch over the environments where art is stored and displayed to make sure the light, temperature, and humidity are kept at steady levels. When a work of art is damaged, conservators attempt to bring it back to what is assumed was its original appearance at a certain time in history. If a work of art is restored, the additions are made to be purposely distinguishable and reversible so that future conservators may be able to improve upon earlier conservation efforts.

Conservators use modern technology and refined art skills to examine and document works of art. One way of examining a work of art is to study it under ultraviolet light to search for areas of damage and to see if the work has been previously restored. There are many different ways that works of art are examined with the help of x-rays. One process, x-radiography, allows conservators to find areas of paintloss and to examine the support, the canvas or panel on which the work is attached. This process allows conservators to reconstruct how a work of art was made and to find areas that were reworked, revealing specific processes that artists use when creating paintings. Through examination of works of art through these various techniques and careful study of an artist’s style and related works, conservators can help to determine the attribution of a work of art.

Conservators must adhere to high standards of treatment. Often they must face ethical issues such as the discovery that a work attributed to a master is found to be a forgery or miss-attribution. Conservators work with museum curators, artists, and art historians to determine what steps should be taken to care for each work. Conservators must also follow the Code of Ethics and Guidelines for Practice outlined by the American Institute for Conservation of Historic and Artistic Works.


Visit Making Art Last: The Care and Conservation of Museum Collections, a resource developed by the Joslyn Art Museum’s education department at teach/packets/packet.html.

Scott Winterrowd
The Artwork

This American landscape painting shows a fall afternoon in a time that celebrated westward expansion. Mountains, a lake, and trees with colorful leaves represent an "American Garden of Eden." In this place, a pioneer family appears to be successfully living off the abundance of the land. The mountain in the background is a real place in the state of New Hampshire.

We see the scene from a distance as hunters return home to a waiting family. The neat cabin in a clearing and the large vegetable garden suggest that all is well with the family. They have food, water, and shelter in a beautiful setting.

Yet all is not perfect in this world. If we look more closely, we can see that the artist has provided some warnings about "taming the wilderness." Why do you think the artist included tree stumps and fallen logs? Could they symbolize humanity's careless destruction of nature? Maybe they serve as a warning that people must maintain a careful balance with nature.

The Artist

Thomas Cole was born in England, but came to the United States when he was seventeen years old. As an adult, he lived in New York state and was inspired by the beauty of nature around him in the Hudson River Valley.

Cole traveled around New York and New England to find subjects for his paintings. He made sketches directly from nature, then completed his paintings in the studio. He wanted landscape painting to become 'a higher style of art.'

Questionsto Answer

(Write your answers on another piece of paper)

1. Why do you think The Hunter's Return is sometimes called an 'American Garden of Eden'?

2. What idea do you think is the most important in this painting? Explain your answer.

3. Speaking about the natural beauty of America, the artist Thomas Cole said:

"I know, full well, that forests must be felled for fuel and tillage, and that roads and canals must be constructed, but I contend that BEAUTY should be of some value among us; that where it is not NECESSARY to destroy a tree or a grove, the hand of the woodman should be checked..."

Do you agree with the artist's statement? Why or why not?

3. Texas became a state in 1845, the year in which The Hunter's Return was painted. What was happening in Texas at this time? What did people think about westward expansion in Texas?

4. Think of a real place in nature that you would like to see in a landscape painting. Write a detailed description of it or use it as the subject for an artwork.
MUSEUM MESSAGES

AMON CARTER MUSEUM 817/738-1933

MASTERWORKS OF THE PHOTOGRAPHY COLLECTION: LAND OF PLENTY, LAND OF CONTRAST
January 9 - April 11, 1999

WILLIAM SIDNEY MOUNT: PAINTER OF AMERICAN LIFE
February 5 - April 4, 1999

DALLAS MUSEUM OF ART 214/922-1200

BRYCE MARDEN, WORK OF THE 1990s: PAINTINGS, DRAWINGS, AND PRINTS
February 14 - April 25, 1999

GOLDEN TREASURES OF THE ANCIENT WORLD
TREASURES FROM THE ROYAL TOMB OF UR
ANCIENT GOLD JEWELRY FROM THE DMA
May 30 - September 5, 1999

KIMBELL ART MUSEUM 817/332-8451

GIFTS OF THE NILE: ANCIENT EGYPTIAN FAIENCE
January 24 - April 25, 1999.

MATISSE AND PICASSO: A GENTLE RIVALRY
January 31 - May 21, 1999

MEADOWS MUSEUM OF ART 214/768-1674

FAITH IN CONFLICT: DEVOTIONAL IMAGES AND FORBIDDEN BOOKS FROM SPAIN'S COUNTER REFORMATION
February 19 - April 18, 1999

MODERN ART MUSEUM OF FORT WORTH 817/738-9215

THE ARCHITECTURE OF REASSURANCE: DESIGNING THE DISNEY THEME PARKS
February 13 - April 11, 1999

THE UNIVERSITY OF NORTH TEXAS ART GALLERY

JIM ISERMANN SURVEY
January 19 - February 13, 1999

WHITFIELD LOVELL: DENTON PROJECT
March 3 - April 6, 1999

NORTH TEXAS INSTITUTE
for EDUCATORS
on the VISUAL ARTS

University of North Texas
P.O. Box 305100
Denton, TX 76203