

## Art & Activities / Oxidations & Abstractions



Andy Warhol, Oxidation Painting, 1978

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### Overview:

Using Warhol's *Oxidation Paintings*, students discuss how he and his collaborators experimented with pattern and color on a metallic background. Students explore how oxidation occurs by using various acids and bases to create their own abstract painting. Students also hypothesize where abstractions can be found in nature and how they might have occurred.

**Suggested Time Frame:** 2 class periods

### Pennsylvania State Standards:

#### Arts and Humanities

9.1.12 D. Demonstrate specific styles in combination through the production or performance of a unique work of art

9.3.12 A. Explain and apply the critical examination processes of works in the arts and humanities.

#### Science and Technology

3.2.7 B. Apply process knowledge to make and interpret observations.

3.4.7 A. Describe concepts about the structure and properties of matter.

### Objectives:

- Students discuss, compare, and contrast Warhol's Pop Art work with his abstract paintings from the 1970s and 1980s.
- Students discuss how oxidation occurs, then hypothesize how Warhol created oxidation in his paintings.
- Using photos of abstractions found in nature, students guess what the images depict and how the abstractions might have formed.
- Students use various liquids on copper-based paint to create abstract paintings.
- Students analyze the variables in the process of creating an abstract work of art using chemical experimentation.

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## Art & Activities / Oxidations & Abstractions

### About the Art:

In the late 1970s and early 1980s, Andy Warhol began to focus for the first time on the exploration of abstraction. While paintings he made in the 1960s with repeated blocks of imagery forming a patterned surface, and even some early experiments in the 1950s had suggested a certain abstraction, his abstract works in the late 70s and 80s have no discernable representational imagery. With these paintings, often done in large series that included mural-sized works, the artist seems to dive into the beauty and mood of color and texture in a way he had not done before. Yet Warhol's delving into abstraction is never without coy references and plays between what's real and what's abstract. For example the *Shadows* series are abstract paintings of what is ostensibly a "real" shadow. In December 1977 Warhol began the *Oxidations*, iridescent canvases made up of coppery yellows, oranges and green. Surprisingly, the only paint used by the artist in this very "painterly" work was the metallic gold ground. Warhol would invite friends and acquaintances to urinate onto a canvas covered in metallic paint to cause oxidation. The uric acid reacted with the copper removing components of the pure metal to form mineral salts. Some colors developed immediately while others like blue and green would form later on top of the red or brown copper oxides. Warhol and his collaborators experimented with both pattern and coloration by using a variety of metallic background paints and by varying the maker's fluid and food intake. Critics have made numerous comparisons between the *Oxidation* series and Jackson Pollack's famous drip paintings from the 1940s and early 1950s.



Andy Warhol, *Oxidation Painting*, 1978  
Metallic pigment in acrylic medium and  
urine on canvas © AWF

### Andy Warhol quote:

*It was just copper paint and you would wonder sometimes why it did turn green and sometimes it didn't. It would just turn black or something. I don't know what made it do that.<sup>1</sup>*

### Points of View:

Bob Colacello notes, "Andy paid Victor [Hugo] to be the 'collaborator' ... He would come to the Factory to urinate on canvases that had already been primed with copper-based paint by Andy" The uric acid would oxidize the metal in the copper ground, causing it to discolor, allowing for patterns to be created according to the 'movement' of the 'painter'.<sup>2</sup>

### Discussion Questions:

1. Compare and contrast Andy Warhol's *Soup Cans* to his *Shadow* and *Oxidation* paintings. While some of the differences are obvious, how are they similar?
2. What is the difference between realism and abstraction?
3. Warhol created beautiful colors and forms through what some consider an offensive process. Do you think artists should be allowed to make art out of any material or process?

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1 Francis, Mark. *Andy Warhol: 1956-86: Mirror of His Time*. The Andy Warhol Museum, Pittsburgh, and the Asahi Shimbun with

the Museum of Contemporary Art, Tokyo. Tokyo, 1996

2 *After Andy Warhol: Piss & Sex Paintings and Drawings Exh.cat.*, The Gagosian Gallery, 2002

## Art & Activities / Oxidations & Abstractions

### Materials:

Canvas squares or heavy white paper

\* Modern Masters Copper Paint (Water-based metallic paints contain real metal particles that will tarnish naturally over time and when exposed to the elements.)

Modern Masters Patinas (Aging solutions to be used over the metallic paints. These solutions speed the aging process to create beautiful, authentic black, blue, or green patinas.)

Petri dishes

Paint trays

Eye droppers

Paintbrushes

### Additional Handouts:

Student Handout 1: Nature Cards (Pages 4-6 of this PDF)

Student Handout 2: Acids and Bases (Page 7)



\*Reactive metal paints can be applied using a brush roller or paintbrush. Additional information on these supplies can be found here:

<http://www.artistcraftsman.com/servlet/StoreFront>  
(local supplier of products)

<http://www.modernmastersinc.com/default.aspx>  
(products website)

### Procedure:

1. Discuss where abstraction is found in nature.
2. Print out Handout 1. Cut individual cards, and distribute these to the class. Ask students to guess what the photos are and to describe how the material that they see formed.
3. Discuss acids and bases using Handout 2.
4. Explain the basic chemical process of oxidation.
5. Prepare the painting surface using 6x6" or 10 x 10" stretched canvas or heavy paper; apply two coats of copper paint.
6. Set up various Petri dishes with both acids and bases (vinegar, water, patinas) along with droppers. Paint trays and brushes can also be used.
7. Students should experiment with the acids and bases by dropping liquid onto their copper paintings.
8. Ask students to take notes while working and to hypothesize how they think their paintings will turn out. Which liquid do they think will work better than others? Why?
9. Allow the liquid to dry; have students note how their paintings change over time.

### Wrap-up:

Form one large abstract painting using the individual oxidations. Through discussion or writing students should:

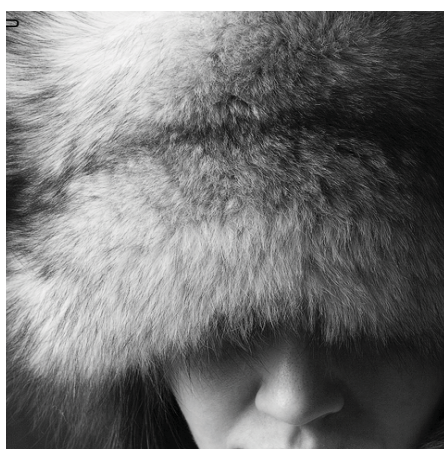
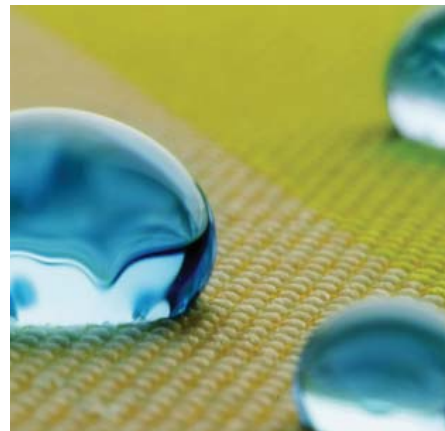
- Review their notes and explain how they used various materials.
- Identify the effects of different acids and bases on the coloration of the metallic ground.
- Evaluate whether or not the grouping of paintings is a successful abstraction. Do they evoke a sense of wonder, feeling, or emotion? Are they beautiful or appealing?
- Explain what they would do differently if they used this process again.

### Chemistry Extension:

Explore the chemistry behind corrosion. Write the chemical equations for the materials used in each painting.



## Art & Activities / Oxidations and Abstractions / Handout 1: Nature Cards

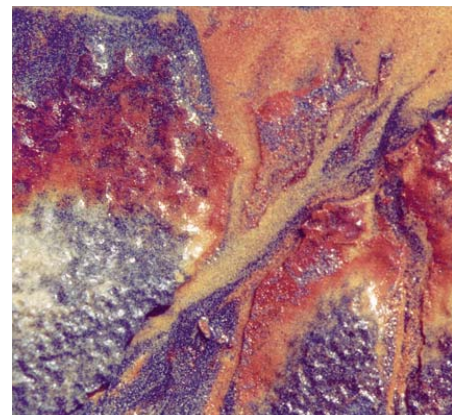
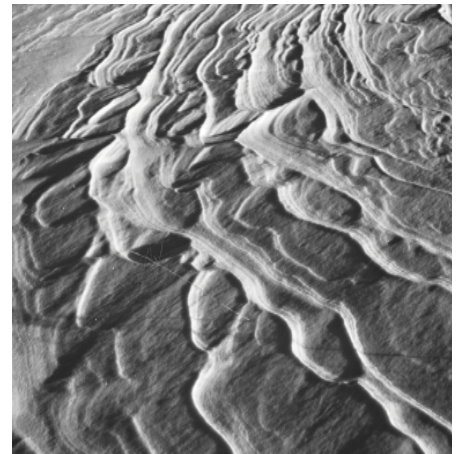
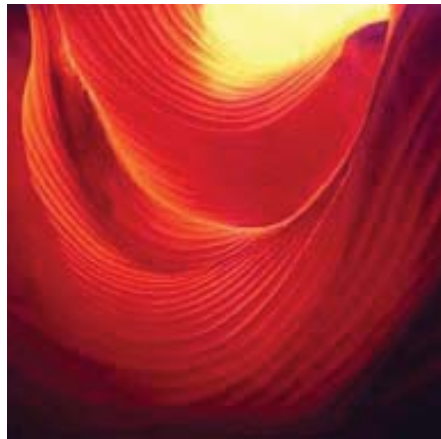
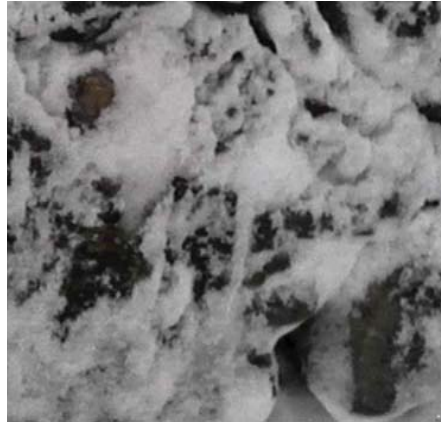


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## Art and Activities / Oxidations and Abstractions / Handout 1: Nature Cards

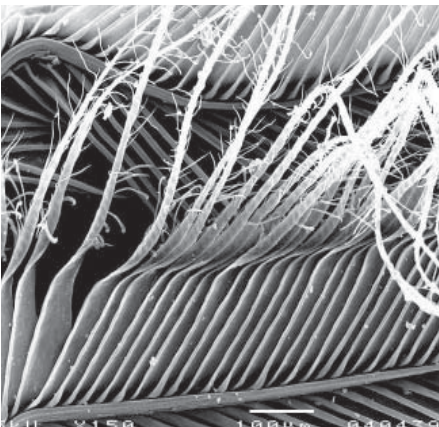
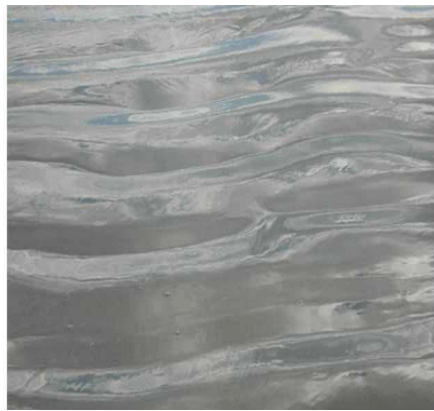


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## Art and Activities / Oxidations and Abstractions / Handout 1: Nature Cards



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## Art and Activities / Oxidations and Abstractions / Handout 2: Acids and Bases

### Handout 2: Acids and Bases

More information for this handout is coming soon.

For online definitions and easy explanations go to:

[http://www.chem4kids.com/files/react\\_acidbase.html](http://www.chem4kids.com/files/react_acidbase.html)

### Common acids and bases found in everyday items:

Common Acids	pH	Common Bases	pH
Lemons	2.3	Human saliva	6-8
Vinegar	2.9	Distilled water	7
Apples	3.1	Eggs	7.8
Oranges	3.5	Seawater	7.9
Grapes	4	Milk of magnesia	10.5
Sour milk	4.4	Ammonia water	11.6
White bread	5.5	Limewater	12.4
Fresh milk	6.5	Caustic soda (Baking)	14