CLASS EXPERIENCE

"PETE AND REPEAT"

ART AND SCIENCE

GRADE LEVEL: 6-12

BASED ON

Andy Warhol (1928-1987)
United States
Pete Rose, 1985
Museum Purchase: Bequest of Mr. and Mrs. Walter J. Wichgar, 1985.208 a-d

OBJECTIVES

- Students will learn about the life and art of Pop artist Andy Warhol.
- Students will learn about DNA and the process of cloning.
- Students will draw a picture of a person from popular culture, then "clone" it using printing techniques.
- Students will understand that artistic and scientific freedoms can be influenced by society.

VOCABULARY

Pop Art	individuality
repetition	silk-screen
DNA	cloning
genethics	

MATERIALS

water-soluble printing ink	pencils
foam plates	brayers
12 x 18 sulphite paper	colored tissue paper
watercolor paints	photos of celebrities

CONCEPT

By referring to Andy Warhol's *Pete Rose,* students will examine the relationship between art, genetics, and culture. In *Pete Rose*, the repeated, assembly-line images are "clonelike". A clone is an exact genetic copy of an original organism. Scientists have cloned plants and animals, but The Human Cloning Prohibition Act-2003 banned the use of cloning technology on human embryos. By exploring the field of genetics, students will learn how an individual, such as Pete Rose, could be replicated using his unique DNA. They will also discover that society sometimes inspires, while other times represses, artistic and scientific freedoms.

BACKGROUND

In 1951, artist Hans Hoffman said, "Everyone should be as different as possible. There is nothing that is common to all of us except our creative urge." [from "Artists' Session" an interview by Robert Motherwell and Ad Reinhardt, *Modern Artists in America,* 1951.]

With the discovery of DNA in 1953, even science agreed with Hoffman. Scientists Francis Crick and James Watson discovered that each individual carries specific genetic information in their DNA (deoxyribonucleic acid), a molecule shaped like a double helix. (The National Science Education Standards state that, *"In all organisms, the instructions for specifying the characteristics of the organism are carried in DNA, a large polymer formed of four kinds (A, G, C and T). The chemical and structural properties of DNA explain how the genetic information that underlies heredity is both encoded in genes (as a string of molecular "letters" and replicated (by a templating mechanism). Each DNA molecule in a cell forms a single chromosome.")*

In 1980, scientists created a genetically engineered strawberry, creating controversy over the cultural and ethical implications genetic technology may pose.(Genethics) Later, Ian Wilmut and his colleagues successfully cloned Dolly the sheep by transferring the nuclei from various types of sheep cells into unfertilized sheep eggs, minus their natural nuclei. The recipient eggs contained a complete set of genes, once the transfer was complete. The eggs were cultured for a period, and then implanted into a sheep which carried one to a successful birth, thus creating an exact genetic copy of the original.

PROCEDURE

1. Search the Internet for a photograph of a famous individual of our time, from the world of film, visual arts, politics, music, economics, science, or sports. (Cite the web location and the photographer if possible).

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2. Use the photo as inspiration for a simplified drawing on paper. Trace the drawing onto a piece of foam, such as an unused meat tray.

3. Apply ink to the design using a brayer, and then print the image. Duplicate this process until you have successfully repeated or "cloned" the same image four times.

4. When the ink is dry, enhance the images using tissue paper or watercolor paints.

5. A variation of this project is to reproduce four photographic images, then manipulate them using Photoshop.

CRITICAL THINKING

1. What do you think of Warhol's philosophy about art? How does it compare to your own feelings about creating art?
2. In your opinion, do you think our society limits freedom of expression in the "arts"? How is scientific inquiry limited by our society?
3. The United States Constitution would protect the right of a cloned individual, giving him/her the rights to inherit property, rights against discrimination, and rights to U.S. citizenship. What societal problems could you foresee for a cloned person?

ASSESSMENT

Students will successfully locate a photograph from our popular culture using the Internet, demonstrate craftsmanship as they "clone" the image using printmaking techniques, implement the design qualities of unity and balance as they enhance their print with additional media, and finally, write a brief essay about scientific and artistic freedoms in America

ART

Watch a preselected segment of a movie which deals with human cloning or genetic engineering, such as *The Boys from Brazil* (1978), *Blade Runner* (1982), or *Anna the Infinite Power* (1983). Then introduce contemporary artists who have explored transonic and transhuman art such as Eduardo Kac's genetically produced fluorescent rabbit. Investigate cartoons on the concept of cloning, at http://eagle.slate.msn.com/news/cloning/l.asp

SCIENCE

Students are fascinated with the DNA evidence collected by forensic scientists. For a comprehensive site on genetic information, go to the Center for Genetics and Society at http://www.genetics-and-society.org/analysis/popular culture.html
Younger students can go to the American Museum of Natural History's Ology site and take the quiz called *The Gene Scene* at http://www.ology.amnh.org/genetics/whatdoyouknow/quiz.php