

# "IRONS"

## Small Electric Appliances or Contemporary Printmaking Tools?

Art and Science/Technology  
Grade Level: 5-12

### BASED ON

Willie Cole (b.1955), United States  
*Man, Spirit and Mask*, 1999  
The Albert P. Strietmann Collection, 2000.124 a-c

*"Cole has expanded the boundaries of printmaking to accommodate his creative fusion of materials and meaning."*

Wendy Weitman, MoMA's -Associate Curator, Department of Prints and Illustrated Books

### OBJECTIVES

- Students will learn about the innovative art of contemporary African-American artist, Willie Cole, as they examine the Art Museum's *Man, Spirit and Mask*.
- Students will understand the symbolic meaning of the "iron" in Cole's art.
- Students will learn how electricity and home appliances changed the domestic life of Americans in the 1930's.
- Students will discover how electric energy produces heat energy in an iron.
- Students will safely use a hot iron as a printmaking tool, just as artist Willie Cole.

### CONCEPT

This lesson investigates the small appliance, the iron, from the viewpoint of an artist and a scientist. African-American artist, Willie Cole, remembers repairing broken irons for his mother and grandmother, who both worked as housekeepers during his childhood in Newark, New Jersey. Since the mid-80's, Cole has used the "spirit" of the iron to scorch multi-tiered meanings into his prints. These burned images may pay tribute to the hard working matriarchs of his own family or as in the Art Museum's *Man, Spirit and Mask*, symbolize African traditions, like scarification.

Whether using the iron as a printmaking tool or a domestic appliance, each requires a hot surface. Students will learn the science of how electric energy heats the iron's surface plate. Finally, they will carefully use a hot iron to "scorch" their own creative print design, like artist Willie Cole.

### VOCABULARY

Triptych  
Scarification  
Electrons

Scorch  
Current  
Resistance

### MATERIALS

Photo of *Man, Spirit and Mask*  
Images of early irons  
Lemon juice  
Work gloves

Internet  
Several working irons  
Paper  
Protective table covering

## PROCEDURE

1. As students look at an image of *Man, Spirit and Mask*, the teacher will guide a discussion about the art. *Describe what you see. How do you think it was made? When do you think it was made? How do you interpret the piece?*

Now, provide some additional background about the piece. Willie Cole's triptych, *Man, Spirit and Mask*, depicts the delta shape of an iron in each of its three separate panels. The two side panels use photo etching, embossing, woodcuts and hand coloring, while the center combines screen printing, lemon juice and scorching. The intriguing use of the steam iron as printing tool pays homage to the generations of African-American women who earned a limited income as domestic workers. The spiritual, mask-like images also allude to the scarification rituals of Cole's African ancestors.

For an in-depth review of Cole's work and influences, go to [http://museum.stanford.edu/view/documents/EducatorsPacket\\_WillieCole.PDF](http://museum.stanford.edu/view/documents/EducatorsPacket_WillieCole.PDF).

2. Now, introduce the history of irons to the students. For a thorough history and illustrations, go to Pressing Matters at <http://homepage.ntlworld.com/paul.linnell/sso/pressingmatters.html>. Before electricity, early irons were difficult to set-up, dirty and dangerous to operate. Solid metal "sad" or "flat" irons were heated on the kitchen stove, "box" irons used hot clumps of charcoal or a pre-heated slug of metal, gas-heated irons were connected to the gas mantle through a tube and the "spirit" iron was heated with paraffin. The invention of electricity and its eventual availability in most homes changed the safety and convenience of ironing. The new electrified irons could be switched on and off, and required less physical exertion and fabric preparation, thus simplifying domestic life for hard workingwomen of the 30's and beyond.

3. Discuss how small appliances, like irons, convert electrical energy to heat energy. For a simple explanation, go to [http://www.energyquest.ca.gov/how\\_it\\_works/toaster.html](http://www.energyquest.ca.gov/how_it_works/toaster.html). After plugging the iron into a source of electricity, electric current runs down the wire to the appliance. Resistance is caused when a special mixture of metals inside the iron slows the electrons and delays the current flow. The friction of electrons in the current of electricity causes the metal to get hot.

4. Now, the teacher will demonstrate how artist Willie Cole uses the heat of an iron to scorch an image on paper. Try to provide a variety of iron shapes and sizes, with different steam "faces". Show how lemon juice alters the color of the scorch. (*Safety Tips: Since iron thermostats vary, experiment with temperature settings in advance. Be sure that the work surface is covered with a soft, thick protective cover and is located away from other students. Have students wear protective gloves and heavy, long sleeved clothing to avoid burns. Younger students will need constant supervision, so invite a parent or other teacher to help supervise.*)

5. Once the student has scorched a design on the paper, he or she can add additional color and texture with other media, such as colored pencils, paint or oil pastels.

## CRITICAL THINKING

1. Read more about the materials Willie Cole uses in his three dimensional sculptures by going to <http://www.nytimes.com/2006/03/12/nyregion/nyregionspecial2/12ARTnj.html?pagewanted=1&r=4>.

What are some of the everyday items mentioned in this New York Times article? *Women's high heels, discarded irons, ironing boards, bicycle parts, hair dryers, rubber bands, matches, wax*

2. Using your knowledge of 20th century art, which artists do you think influenced the work of Willie Cole the most? Answer: *Pablo Picasso, Marcel Duchamp, Jasper Johns, Andy Warhol, and Claes Oldenburg* justify your answers with specific examples.

**ASSESSMENT**

Inspired by Willie Cole's *Man, Spirit and Mask*, students will safely use a hot iron to "scorch" an original print. They will be able to explain the importance of the "iron" image in the artwork of Cole. Students will understand how the spread of electrification and household appliances, such as the electric iron, improved the life of homemakers. Finally, students will be able to describe how electrical energy becomes heat energy in an iron, using the terms current, resistance, and electrons.

**NATIONAL STANDARDS:****VISUAL ARTS**

1. Understands and applies media, techniques, and processes related to the visual arts
4. Understands the visual arts in relation to history and cultures

**SCIENCE**

9. Understands the sources and properties of energy

**UNITED STATES HISTORY**

22. Understands how the United States changed between the post World War I years and the eve of the Great Depression

**RESOURCES****Willie Cole**

Stanford University-Educator's Packet

[http://museum.stanford.edu/view/documents/EducatorsPacket\\_WillieCole.PDF](http://museum.stanford.edu/view/documents/EducatorsPacket_WillieCole.PDF)

Zulu in Silex [http://www.jerseyarts.com/gallery/exhibits/cole/cole\\_03.html](http://www.jerseyarts.com/gallery/exhibits/cole/cole_03.html)

Exploring the Widening Frontiers of Contemporary Printmaking

<http://www.montclairtimes.com/page.php?page=15768>

Moma's New Concepts in Printmaking 2- Willie Cole <http://www.moma.org/exhibitions/1998/cole/introduction.html>

From Newark to ... Montclair

[http://www.nytimes.com/2006/03/12/nyregion/nyregionspecial2/12ARTnj.html?\\_r=2&pagewanted=1&oref=slogin](http://www.nytimes.com/2006/03/12/nyregion/nyregionspecial2/12ARTnj.html?_r=2&pagewanted=1&oref=slogin)

**History of Irons**

Pressing Matters <http://homepage.ntlworld.com/paul.linnell/sso/pressingmatters.html>

Electric Iron, Ironing [http://www.edinformatics.com/inventions\\_inventors/electric\\_iron.htm](http://www.edinformatics.com/inventions_inventors/electric_iron.htm)

Antique Pressing Iron Museum

<http://inventors.about.com/gi/dynamic/offsite.htm?site=http://www.irons.com/electric.htm>

How is a clothes iron made?

<http://www.answers.com/topic/clothes-iron?cat=technology>

**The Science of Irons**

An Alternating Current-Physics for kids [http://www.physics4kids.com/files/elec\\_ac.html](http://www.physics4kids.com/files/elec_ac.html)

Small Appliance Basics <http://home.howstuffworks.com/small-appliance-basics-ga.htm>

How Does a Toaster or Hair Dryer Work?

[http://www.energyquest.ca.gov/how\\_it\\_works/toaster.html](http://www.energyquest.ca.gov/how_it_works/toaster.html)

Taking Apart Electrical Appliances- lesson plan

<http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/appliances.html>

Electrical Appliances- lesson plan

<http://www.proteacher.com/cgi-bin/outside/site.cgi?id=9250&external=http://www.amphi.com/~tlcf/schaefer/web1/elect.html&original=http://www.proteacher.com/110016.shtml&title=Electrical%20Appliances>



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