



Teacher Resource Packet
SAYA WOOLFALK CHIMATEK TOOL



About the Artist

Saya Woolfalk is an Asian- and African-American performance artist based in New York. She received her B.A. from Brown University in Visual Art and Economics in 2001. She then studied sculpture at The School of the Art Institute of Chicago, receiving her M.F.A. in 2004. In 2005, she received a Fulbright IIE Grant for the study of performance and craft traditions in Brazil. Woolfalk's experiences with Carnival inspired her to explore ways to bring the fantasy of toys into the adult world. Plush multi-colored costumes and toy-like forms have since come to characterize her work. She also travelled to Japan for the study of performance and craft traditions under an Art Matters Grant in 2007. Both countries have had an enormous influence on her artistic practice, on the forms blended into her costumes, and on the way in which she constructs her own identity. As Woolfalk says in her artist statement, "A black, white, and Japanese woman, my work is inspired by ethnographic, feminist, and psychoanalytic theory."

*Biography courtesy African American Performance Archive; accessed at <http://aapaa.org/artists/saya-woolfalk>; Photo by Third Streaming

About STEAM

STEAM education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with artistic works and cultural practices as students apply science, technology, engineering, art and mathematics in contexts that make connections between school, community, personal interests, and the global marketplace.

Elements of STEAM

- Science, which deals with and seeks the understanding of the natural world (NRC, 1996, p. 24), is the underpinning of technology. Scientific processes include "inquiry," "discovering what is," "exploring," and using "the scientific method."
- Technology is the modification of the natural world to meet human wants and needs (ITEA/ITEEA, 2000/2002/2007, p. 7). It includes computers, software learning tools, networking systems, hand-held digital devices, digital cameras, and other technologies, including those not yet developed, for accessing, creating, and communicating information.
- Engineering is the area in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of mankind" (ABET, 2002).
- Art is the expression or application of technology, science, math, and engineering skills and imagination through forms based on culture, personal style, and technique. Forms range from the cultural arts, drawing, painting, sculpture, design, music, and video (NAEA, 1994, p. 32).
- Mathematics is the science of patterns and relationships (AAAS, 1993, p. 23). It provides an exact language for technology, science, art, and engineering.

About Chimera and The Empathics

For Chimera, Saya Woolfalk continues her ongoing investigation of a fictional species of women called Empathics as mythological and genetic chimeras. A chimera is both an imaginary female monster with disparate parts, and a scientific term for a genetic organism composed of two or more genetically distinct tissues.

Woolfalk considers using systems of geometry and science [a la Ron Eglash] to talk about color blindness, fractals and symmetry.

Visual Language

Artists use symbols and images to communicate messages or stories to viewers. The phrase visual language refers to the idea that communication occurs through visual symbols, as opposed to verbal symbols, or words. Just as people can 'verbalize' their thinking, they can 'visualize' it. A diagram, a map, and a painting are all examples of uses of visual language. Its structural units include:

Visual Elements



Line is a mark with greater length than width. Lines can be horizontal, vertical, or diagonal; straight or curved; thick or thin.



Shape is a closed line. Shapes can be geometric, like squares and circles; or organic, like free-form or natural shapes. Shapes are flat and can express length and width.



Forms are three-dimensional shapes expressing length, width, and depth. Balls, cylinders, boxes, and pyramids are forms.



Space is the area between and around objects. The space around objects is often called negative space; negative space has shape. Space can also refer to the feeling of depth.



Color is light reflected off of objects. Color has three main characteristics: hue (the name of the color, such as red, green, blue, etc.), value how light or dark it is), and intensity (how bright or dull it is).

Design Principles (Motifs)

A visual element is usually a simple shape such as circle, square, diamond, etc. Repeating elements in regular or cyclical fashion can create interest, movement, and/or harmony and unity. Visual elements are usually repeated using one of the geometry transforms:

- Rotation: turning a visual element around a fixed point.
- Translation: moving a visual element as if you were sliding it on a surface.
- Reflection: flipping a visual element as if reflected in a mirror.
- Dilation: scaling the element larger or smaller

How Visual Elements & Design Principles Relate to STEM

The color systems used by scientists and artists are entirely different. An artist will mix blue and yellow **paint** to get a shade of green; a scientist will mix green and red **light** to create yellow. The printed page in a magazine is yet another system.

The repetition of visual elements creates patterns in mosaics, lattices, spirals, waves, stars, fractals, etc. Rhythms in a pattern can be random, regular, alternating, flowing, and progressive.

Many cultural designs are based on geometry (e.g. reflection, rotation, dilation, translation) and algorithmic designs called fractals that repeat in a pattern that gets smaller and smaller, sometimes to the point where you can't see it anymore, and sometimes into infinity (beyond where it can be counted). Saya Woolfalk uses these designs and patterns in her artwork.



Clockwise from the top right: "No Place," 2008, "Chimera," 2013. Courtesy the artist; "Empathics," 2013. Courtesy the artist.

Saya Woolfalk's ChimaTEK includes a hybrid human-plant creature that demonstrates the workings of a synthesizing machine. Woolfalk draws on museological, ethnographic, and ritualistic vocabularies and blends high and low aesthetics, providing a light-hearted look at a possible future.

Questions for Viewing

Engaging with a work of art is a meaningful and lasting experience. The following four-step process encourages close looking and careful thinking with any work of art that you view with your students, either in your classroom or in an exhibition.

LOOK

Take time to look at the work of art.

- Describe what you see in the artwork. Think about line, color, texture, pattern, and shape. Can you figure out what it is made of, or how it was made?

DESCRIBE

Talk about what you see in the work of art.

- Write down words or sketch things that come to your mind when you look at the art. Why do the artworks make you think about those words/things?

THINK

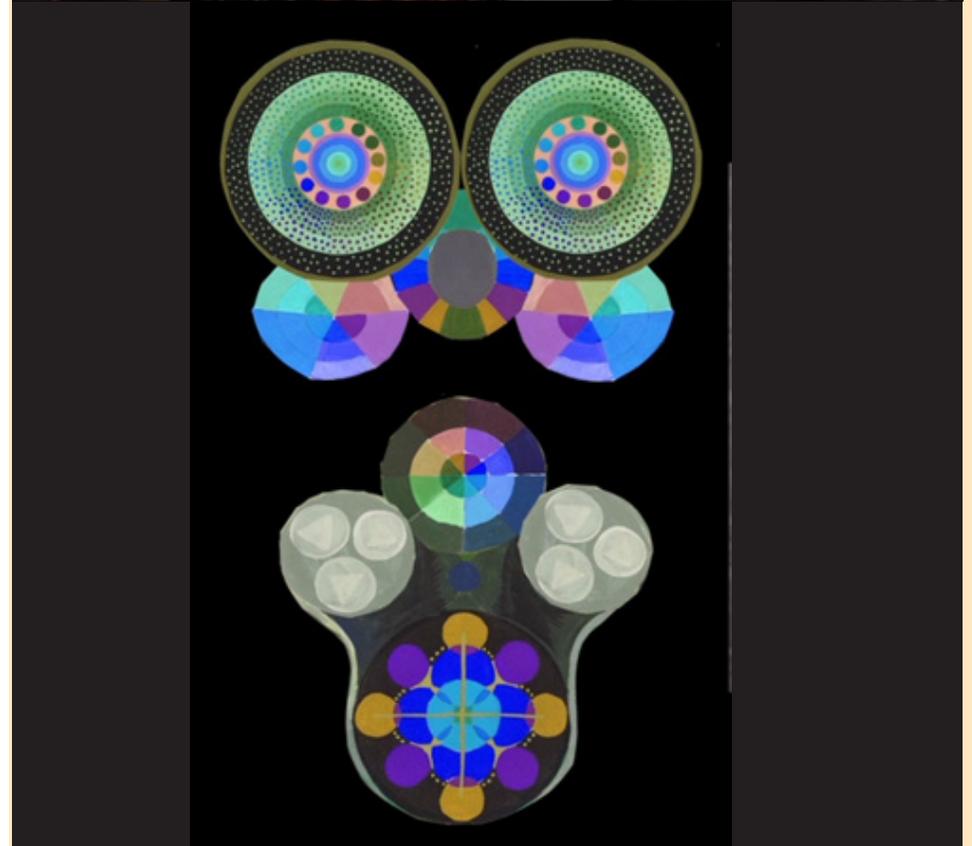
Interpret and assign meaning to the work of art.

- What do you think the artist was trying to communicate through the creation of this work of art?
- What questions would you like to ask about this artwork? Can you guess at the answers to any of them?

CONNECT

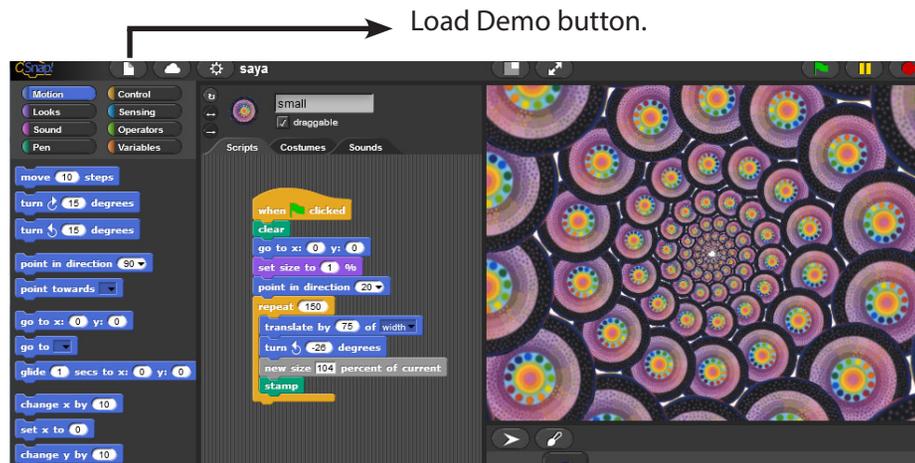
Relate what you see to your own life, or to other works of art or images you have seen.

- Compare this work of art to other images/objects that you have seen, either in a museum or in your everyday life. How are they similar? How are they different?
- In one sentence, describe the most interesting thing about this artwork?

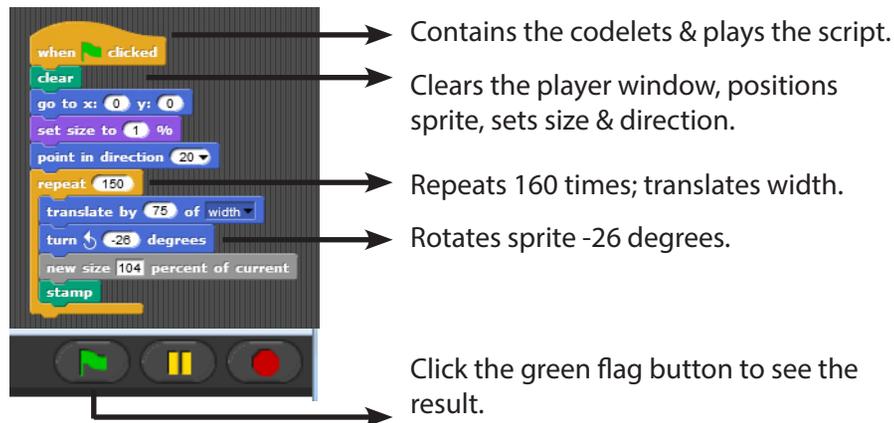


Using the Culturally Situated Design Tool (CSDT)

Codelets are stackable blocks that are used to create designs in the CSDT. A collection of codelets is a “script”. Codelets connect to each other, where each transformation has its own block and a slot for the block to be inserted into. A sprite is a shape or symbol. First, launch the software. Next, click “Load Demo” to select a sprite (ex. lotus, rockstar_quilt).



On the far left are blue (codelet) blocks that can be used to simulate the artist’s design. Drag and stack the blue blocks in the center area, inside of the “When Clicked” (main) yellow block. You can change the parameters of each block by clicking inside of the white box (field) next to the corresponding label.



Students/users can change blocks and try different transformations or parameters until they create the design they want to save. They can also import their own symbols/shapes and sounds.

Getting Started

Here are the recommended steps to get students started with their projects:

1. Talk about the key concepts (e.g. math, science, visual elements, design).
2. Direct students to look closely at the artwork; use “Questions for Viewing.”
3. Give students time to do research about the artwork; or talk about the cultural and historical elements of the artwork.
4. Show students how the CSDT works; give them time to explore the tool.
5. Direct them to create their own designs, save/print or use in group projects such as murals, hanging wall and floor art.

About the Researcher

Nettrice Gaskins is a Ph.D. candidate and researcher in Georgia Tech’s Digital Media Program and Experimental Game Lab. Her work investigates culturally situated arts-based learning and new media, their invention, and use in underrepresented, creative communities of practice. This includes the use of new media tools and platforms, and existing cultural art forms. She is a writer/columnist for Art21, the producer of the Peabody award-winning PBS series, Art in the Twenty-First Century. She has other works published online and in Ghost Nature: Beyond and Between Transhuman Spaces, published by Green Lantern Press.

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