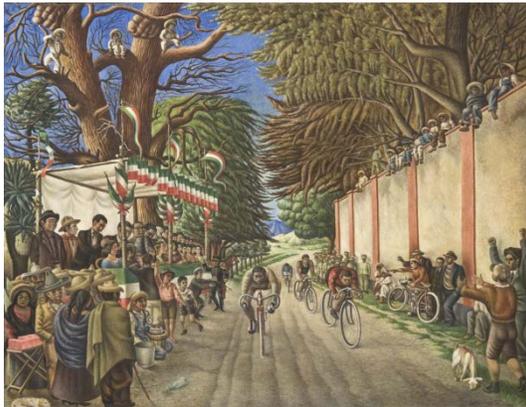


THINKING TOOLS FOR INNOVATORS: PART 3— ABSTRACTING

Recent research has shown that we can build innovative thinkers by reinforcing a set of thinking tools, including such skills as observing, abstracting, pattern recognition, modeling, and transforming (among others). As these skills can all be taught, it makes sense that we can help students become the creative thinkers that we will need in the twenty-first century. This lesson plan is the third in a series that is focused on using art to enrich instruction in these critical skills. The research on which this information is based can be found in many sources, perhaps best summarized in the book *Sparks of Genius: The Thirteen Thinking Tools of the World's Most Creative People* by Robert and Michele Root-Bernstein.



Framed: 21 1/4 x 25 1/8 x 4 1/8 inches (54 x 63.8 x 10.5 cm)

Purchased with the Nebinger Fund, 1949
1949-24-1

Grade Level

For grades 7–9, adaptable for elementary or high school

Common Core Academic Standards

- [CCSS.ELA-Literacy.SL.7.2](#)
- [CCSS.ELA-Literacy.RH.6-8.1](#)

PA Academic Standards for Art

- 9.3.A: Critical Processes
- 9.4.B: Aesthetic Interpretation

Art Images Required

Click on the titles below to view high-resolution photographs on the Philadelphia Museum of Art website. Images that are available in the ARTstor Digital Library are indicated by an ID number or search phrase. Entering that number or phrase into the ARTstor search bar will direct you to the corresponding image in that database.

- [Bicycle Race](#), 1938, by Antonio Ruiz
ARTstor search: 1949-24-1
- [Jam Session](#), 1943, by Claude Clark
ARTstor search: 1998-65-1
- [Nude Descending a Staircase \(No. 2\)](#), 1912, by Marcel Duchamp
ARTstor search: 1950-134-59 Arensberg
- [Hydrangeas Spring Song](#), 1976, by Alma Thomas
ARTstor search: 2002-20-1

Background

The first in this series of lesson plans examined Observing, since creative thinking requires paying careful attention to what we see, hear, feel, etc. Our ability to observe needs to be trained and practiced—once we have observed, this sensory information can be used to imagine, the focus of the second lesson in this series. Imagining allows us to process our observations with our imagination, allowing us to create other possibilities. However, raw data (sensory input) can be staggering, so to think creatively, we need to be able to abstract key elements from the whole. This lesson will focus on developing the skill of Abstracting.

We create and use abstractions all the time, and don't think much about it; however, the process of abstracting can be mysterious. The German physicist Werner Heisenberg (1901–1976) described the process as, "singling out one feature [of an object] which is considered [by the viewer] to be particularly important." We use abstractions when we research articles in addition to when we look at a newspaper headline, watch a movie trailer, or scan a dinner menu. We even talk in abstractions. Tell someone about a book or television show you recently enjoyed and you will pull out the basic information, the things that stood out to you. You are abstracting.

Lesson Process

PART 1

1. Examine the painting *Bicycle Race* by Antonio Ruiz. Have the class use their observing skills to see the details in the painting. Direct them to imagine possible sounds, smells, textures, and even a story that potentially surrounds the painting. Discuss these observations and imaginings.
2. Now that the class is more familiar with the painting, have them write a one-sentence summary of *Bicycle Race*. Make a list of student responses, noting their differences. Point out that each of these is an abstract of the painting based on an individual focus.
3. Examine the painting *Jam Session* by Claude Clark, and follow the same process.
4. The next step is to examine a few famous artistic abstractions. Examine Marcel Duchamp's *Nude Descending a Staircase (No. 2)*. Discuss details of the painting so that students can identify the figure that is walking down the stairs. What can students see (stairs, feet, hips, head, etc.)? How is this an abstract, and can we see from the painting what the focus of the artist might have been?
5. Examine *Hydrangeas Spring Song* by Alma Thomas. Ask the class if anyone is familiar with the hydrangea flowering shrub and have them describe the flowers. (If no one is familiar with the shrub, call up a few images from the computer.) How is Thomas's painting an abstraction, and what is its focus?

PART 2

1. Look again at *Jam Session*. Have students sketch a simple outline of the two dancers by observing their apparent movements. Direct the class to imagine where the male dancer will be positioned in the next moment, and outline his "future figure." Repeat this step with the next imagined movement. There should now be three outlines of this male dancer on the same paper. Follow the same process for the female dancer. Have students discuss the focus of their abstract drawing, noting what needed to be observed and what needed to be ignored in creating the abstraction.
2. Abstracting can also be achieved by simplifying. Have the class return to their first outline of the two dancers in *Jam Session*. Much of the painting has been eliminated but focus is still on the two dancers. What additional lines can be eliminated while maintaining the basic idea or focus of the painting?

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Direct students to keep simplifying the drawing until what is left is only what is absolutely necessary. This is also an example of an abstraction of the painting, focused instead on the dancers themselves rather than their movement.

Remediation

1. Ask students to find examples of abstractions in everyday life. What do they see, hear, etc., that is meant to represent the basic idea of something larger? Newspaper headlines, chapter summaries, reviews, even their notes are good written examples of abstractions. Many advertisements—especially one-page ads from magazines—are meant to represent a bigger idea (vacation excitement, femininity, security, etc.).
2. Repeat any of the above steps with additional works of art.

Enrichment

1. Instruct the class to write a paragraph that describes an event that was important to them. After they have finished writing, have them cut their words, eliminating words that are needed to form proper sentences, are redundant, or don't add to the overall importance of the event. Have them continue to edit their paragraph, selecting new words that convey more depth of meaning than the ones they replace. Point out that poetry is a kind of abstraction.