Art in Three Dimensions

Fifth Grade

School Tour Packet
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INTRODUCTION

This fifth grade tour is designed in line with NGSSS: Visual Arts Standards to introduce students to art in three-dimensions and to examine the physical forces that sculptors take into account to create a work of three-dimensional art. This tour also examines sculpture through the ages.

VISUAL ART:

- VA.5.C.3.1 Use the structural elements of art and organizational principles of design when engaged in art criticism.
- VA.5.C.3.2 Use art-criticism processes to form a hypothesis about an artist’s or designer’s intent.
- VA.5.C.3.3 Critique works of art to understand and make connections with other content areas.
- VA.5.H.1.1 Examine historical and cultural influences that inspire artists and their works.
- VA.5.H.1.2 Use suitable behavior as a member of an art audience.
- VA.5.H.1.3 Identify and describe the importance of a selected group or culture places on specific works of art.
- VA.5.H.2.1 Compare works of art on the basis of style, culture, or artist across time to identify visual differences.

SCIENCE:

- SC.3.E.5.4 Explore the laws of gravity.
- SC5.P.13.1 Forces that cause objects to move.
THE FELDMAN METHOD OF ART CRITICISM

Art educator Edmund Burke Feldman of the University of Georgia developed this technique of art criticism. He separates art criticism into four distinct steps. When these stages are complete, the viewer will have a critical identification of the artwork.

1. Description: What do you see?
2. Analysis: How is it arranged?
3. Interpretation: What does it mean?
4. Judgment: Is it significant?

It is also important to identify the scholarly information of any artwork: the title of the work, the artist, the date it was made, the place and (if possible) the medium and materials used.

1. **Description: What do you see?**
Describe the work in terms of what can be seen, including the subject and the sensory elements of art: color, line, texture, shape, and space. Scholarly information can also be observed in this step.

*Key Questions/Prompts:*
- What do you see?
  - Landscapes: trees, rivers, clouds, etc.
  - Still lifes: flowers, cups, cloth, etc.
  - Portraits: people, clothing, accessories, etc.
  - Abstracts: line, shape, color, etc.
- How was the piece of art made?
- Describe in more detail the things in the artwork that are familiar.
- Discover as much as possible about the work of art.

*Further Questions/Prompts:*
- Where are the subjects/objects/elements within the artwork?
- Are there open and closed spaces in the work of art?
- What takes up most of the work of art?
- If there are people, what are they doing?

2. **Analysis: How is it arranged?**
Analyze how the parts of the artwork that have been described are arranged and work together. Examine how the formal principles of art (balance, movement, proportion, rhythm, unity and contrast) relate to the organizational properties in the work of art.
Key Questions/Prompts:
- How is the work of art arranged?
- Why did the artist arrange the subjects/objects/elements as she/he did?
- Size relationships: Shapes are seen in groups. Which are larger? Which are smaller? Would these shapes have the same importance if their size were altered?
- Color and value: Are the colors of related shapes similar to or different from each other? Are the colors lighter or darker than a nearby area?
- Textural and surface relationships: Compare and contrast the textures. Do areas appear, rough, smooth, scratchy, or fuzzy?

Further Questions/Prompts:
- Is this picture balanced? Is it symmetrical or asymmetrical? Has the artist used color, shape, or space to create balance?
- Do you see pattern or repetition in the work of art? Does it make your eye move around the work of art?
- Unity is the perception that a work of art is “complete” or “harmonious.” Is this work of art unified? What elements has the artist used to create unity?
- Where is the focus? How does the artist make the focal point stand out? Does another color, shape, space, or texture make it stand out?
- Is there depth created in the work of art? Is there a foreground, middle ground, or background?

When you have completed these first two steps, you will have accomplished the following goals:
- You encourage complete examination of the work of art.
- You slow down the viewer’s tendency to jump to conclusions.
- You help build skills in observation.
- You accumulate the visual facts that will form the basis for critical interpretation.

3. Interpretation: What does it mean?
Interpret the meaning based on the description (step 1) and analysis (step 2). Always come back to the things known about the artwork as evidence to support the interpretation. Multiple meanings are appropriate if they make sense based on the evidence, but some interpretations are better than others.
Key Questions/Prompts:
- What does it mean?
- What is the artwork about?
- What are all the possible meanings?

Further Questions/Prompts:
- What mood or feeling seems to be expressed in the work of art? Does it seem quiet, happy, powerful, or dreamy? What in the artwork makes this evident?
- What insights can be made about this artwork after further analysis (step 2)? Has the meaning changed from the first analysis?
- What are the ideas, meanings, and concepts presented? How are they revealed? Are any of the following devices used?
  - Allegory: a representation that illustrates a deeper meaning.
  - Symbol: represents something by association, resemblance or convention.
  - Iconography: the imagery or symbolism of a work of art.

4. Judgment: Is it significant?
Judge the significance or value of the work of art. Judgment requires reasons. Evaluation can be viewed as a way to find value and significance rather than stamping approval or disapproval.

Key Questions/Prompts:
- Is it significant? Decide if it is good/important/worthwhile or bad/trivial/not worth examining.
- Do you like it? Remember to give careful reasons for your opinion.

Further Questions/Prompts:
- Is the artwork good/important/worthwhile or bad/trivial/not worth examining because of what it represents? Why?
- How well does the artwork achieve the interpretation identified?
- What standards are used to judge this artwork? Some standards are derived from traditional Western theories of art:
  - Mimetic: art is an imitation of the world.
  - Expressionistic: art is an expression of an emotion.
  - Pragmatic: art functions toward some practical end.
  - Formal: art is a significant arrangement of sensory elements.
**VOCABULARY**

**COMPRESSION (PUSH)**  
Gravity’s force that makes an object tip over.

**ENERGY**  
The ability to do work; work is the transfer of energy.

**FORCE**  
The energy that puts an object in motion or changes it.

**GRAVITY**  
The force that holds objects on a planet, holds planets in their orbit, and gives objects weight.

**KINETIC SCULPTURE**  
A sculpture that moves or has parts that move.

**NEGATIVE SPACE**  
Void or empty space between and around the solid part of the sculpture.

**POSITIVE SPACE**  
The solid parts of an object or sculpture.

**SCULPTURE**  
Three-dimensional art is carved, shaped, or molded from solid material. The three dimensions are height, width, and depth. A sculpture occupies space and has mass, volume, and weight. Sculpture can be made from many different materials such as clay, wood, metal, or stone.

**SIMPLE MACHINES**  
Machines are instruments designed to transmit or modify the application of power, force, or motion. Examples of simple machines are: ramps, wheels, gears, or wedges.

**SPACE**  
The area around and inside all objects. Objects define and take up space.

**TENSION (PULL)**  
The act or action of stretching or being stretched to stiffness.

**WEIGHT**  
The force exerted on an object by gravity.

**What is Sculpture?**

A sculpture is an artwork that has height, width and depth. It can be free-standing or in relief. The challenge for sculptors is that the artwork they design must function in the physical world. They must solve the challenge of gravity. Gravity is the physical force that holds objects on the earth. It is also what makes an object fall down and gives objects weight.

**Stele of Iku and Mer-imat**  
*About the Sculpture*

Although the original location of this stele is unknown, it is almost certainly from Naga ed-Der, a village in Upper Egypt, about seventy miles northwest of Thebes and Karnak, on the bank of the Nile river. This stele closely resembles nearly one hundred relief carvings found in the offering chambers of tombs in the vast cemetery at Naga ed-Der.

Despite its fragmentary condition, the expertly carved surface and the original polychrome are well preserved.

The stele depicts a nobleman named Iku and his wife, Mer-imat. One of the principal purposes of this stele is explained in the vertical inscription (hieroglyphs) located in front of the striding Iku. This written “appeal to the living” asks those who pause in front of it to read the offering text aloud, providing the deceased with “a thousand of bread and beer, a thousand of beef and fowl, and of everything good, for the high official, the honored Iku.”
Mer-imat’s name is identified by the incised hieroglyphs to the right of her profile. The text above her head describes her titles as “king’s [ornament], priestess of Hathor, honored one, beautiful of ornament, overseer of oasis-dwellers.” Scholars originally thought that Mer-imat’s titles, significantly more elaborate than those of her husband, suggested that Iku may have owed his noble position to their marriage. More recent scholarship has suggested that these titles were often used on the stele of well-born women in the area, and that Iku was important in his own right.

The relationship between the figures, that of husband and wife, is underscored by the position of the figures, and Mer-imat’s arm encircling her husband’s shoulder is a device seen in many other stele in Naga ed-Der to indicate the marital relationship. In like fashion, Iku’s staff and scepter, traditional symbols of authority, are commonly seen on male figures in the area to reinforce power and prominence.

The wealth and position of the couple is further highlighted by the intricately beaded wigs, jeweled collars, armlets and anklets.

In ancient times, a stele, stone slabs, or monuments were placed in tombs to commemorate the life of the person buried there. The stele or stone itself is three-dimensional, while the figures are two-dimensional.

**ACTIVITY 1 Find Your Center of Gravity**

What keeps a sculpture from toppling over? A sculptor needs to correctly find a sculpture’s center of gravity. Every object has a center of gravity that ensures its weight is centered over its base. If the weight is not centered, the object can topple over due to the force of gravity being stronger than object’s balance.

Have your students take Iku’s pose. His torso faces front, but both his feet are turned to one side. Ask:
- If he were a free-standing sculpture, would he stand up or fall over?

Have the students shift their weight backwards and forwards and side to side. Ask:
- How far can they shift without losing their balance?
Now, keeping their torso facing front and moving their feet to face the front as well, have them shift their weight back and forth and side to side. Ask:
  - Are you more stable now?
    - Because the weight of their body is now centered over the wide base of their feet they should be more stable.

Still facing forward, have students spread their feet as far as they can and shift their weight. Ask:
  - Are you as stable?

**ACTIVITY 2  Egyptian Inspired Music**

The 20th-century American composer Philip Glass composed an opera based on the life of the Egyptian pharaoh Akhenaten, entitled *Akhaten*. Have the students listen to an excerpt of the opera. Many of Glass’s compositions are considered “minimalist.” Have students research the meaning of “minimalist” and listen to the excerpt again.

Pose the following questions to your students:
  - Does this sound like ancient Egypt? Why or why not?
  - Do they think this composition is minimalist? Why or why not?
**Head of Theseus**

**About the Sculpture**

This head, although no longer attached to its original body, retains the heroic characteristics for which Theseus is known. In Greek mythology, Theseus is credited with founding the city-state of Athens. He did this by encouraging all of the local rulers to live in Athens under his rule. Theseus’ name is interpreted to mean “Founder.”

Theseus’ origin is somewhat confusing in Greek mythology, for Aegeus and the sea god Poseidon are both known to be his father, depending on the source. They both slept with Aethra, Theseus’ mother.

Aegeus left Theseus his sword under a rock, a symbol of his paternity. Theseus was able to remove the stone and recover the sword as a young adult, proving that he was the heir to Aegeus. This event can be seen in Reynaud Levieux de Nîmes’ *Theseus Discovering His Father’s Sword*, another painting from the museum’s Permanent Collection.

Theseus is known for his “exploits,” in which he remains triumphant after each. His most famous exploit is killing the Minotaur, a mythical half bull, half man beast. He did this with the help of King Minos’ daughter Ariadne. She aided him with a ball of thread, which enabled him to find his way out of the Labyrinth after slaying the Minotaur.
ACTIVITY 1 What Holds Up Theseus’ Head?

Pose the following questions to your students:

- What holds up our heads?
  - Our spine which is part of our skeletal system supports the weight of our head.

- What holds up Theseus’ head?
  - An armature is used in sculpture to support weight and help balance the work of art. It is similar to our spine and skeletal system.
  - Often an armature is not visible, similar to our bones.
  - Sculptors also use tools such as bases, braces, or mounts to help keep works of art upright.

- Why did the Cummer Museum use an armature for this sculpture?
  - The Cummer added this support because the sculpted head is the fragment of a larger sculpture and can’t stand on its own without proper support.
  - The neck isn’t wide enough for the size of the head to keep the head stable so the Cummer created a base and connected the head to it with a metal rod, the armature.

*Recumbent Feline Vessel*

**About the Sculpture**

Chavin, located on the eastern slope of the Andes Mountains, is the oldest known civilization in Peru. The name Chavin is derived from the name of a temple (Chavin de Huántar) located in the Andes Mountains. This temple’s walls include bas-reliefs and carved heads, which were used to help classify Chavin style.

Chavin art was based mostly on religion, including the jaguar deity. This deity was represented by canine teeth, and also melded into other forms having bird-like qualities, such as wings, and a mask resembling the head of a vulture or condor.

Jaguar inspired feline forms are common in Pre-Columbian art. In their belief system, the jaguar symbolized supernatural powers because of its hunting prowess. Peruvian shamans, or ritual specialists, often identify with the jaguar, particularly during hallucinogenic trances.

This work shows a feline reclining, with its mouth open. It is revealing its teeth and tongue, perhaps an indication that it represents the jaguar deity.

This vessel is in the form of a *stirrup pot*, which is a container used to hold liquids, such as water. This container has a handle (*stirrup*), which also serves as the spout for pouring. Stirrup pots were often used in the preparation of making liquid offerings to the gods.
Stirrup pots would have been used by the nobility or wealthy class in ancient Peru, considering they were made out of the much more durable and decorative clay. This is in contrast to the lower class, which would have used hollowed-out gourds to carry water and other liquids.

**ACTIVITY 1 How Stable is this Vessel?**

Pose the following questions to your students:

- What is this piece made of?
  - It is made of earthenware, a clay that is fired at low temperature usually over a campfire.
- Do you think it is heavy? Would it tip over easily? If not, what makes it so stable?
  - The figure has a low, wide base thus giving it a low center of gravity which prevents it from easily tipping over.

**Sea of the Ear Rings**

**About the Artist**

Takashi Soga was born in Osaka, Japan in 1952. He grew up there and graduated from Osaka University of Art in 1975. Soga moved to the United States in 1999, and in 2000 was awarded a residency at Sculpture Space in Utica, New York. Sculpture Space is an international artist in residence program, where Soga lived. Soga was the Studio Manager at Sculpture Space from 2000-2006.

Takashi Soga grew up very interested in Greek sculpture and learned much from his study of figurative sculpture. Though he appreciated classical sculpture, Soga realized his art needed to express the power of his era, so he moved in a different direction.

Soga is primarily interested in space and gravity. Soga recognizes that Greek sculpture “always occupied a special space in landscape and in society,” and “it was clear that space is influenced by gravity.” He said, “The earth we all rely on is, in fact, an unsteady ball floating in space. In response to gravity, I developed counter-gravity, to maintain balance. In the cosmos everything is about weight and counter weight.”
Soga’s works dwarf the human body. Some of his larger-than-life pieces are meant to look like prefabricated houses. People are able to walk inside of them, which creates a whole-body experience of his art. These pieces also use a counterbalance system to sway in the wind. His works attempt to change the quality of space around them and to overthrow people’s preconceptions of both their own bodies and how they interact with the world around them.

Soga’s works are time intensive, and he works without an assistant. Once his drawings are complete, he orders his materials and cuts and assembles everything himself.

**About the Sculpture**

An open ring sits vertically on the ground, with a second open ring of equal size balanced - edge to edge - so this top ring is parallel to the ground but suspended 13 feet into the air. The upper ring moves gently up and down in response to the wind and atmospheric conditions.

The inspiration for the piece came from Soga’s musings about a real ear. He recognized that when you have water in your ear and lie down, it moves. He calls this phenomenon “the sea of the ear.”

Soga uses an ingenious method of counterbalances – or “counter-gravity” – to create pieces that hover weightlessly, disconnected from any visible means of support. Elements shift subtly, responding to our movements and to the slightest of air currents. In this way, Soga regards gravity as an actual material he uses in his pieces.

This type of art is considered “kinetic art,” which is defined as art which contains moving parts or depends on movement for its effect. The moving parts can be powered by any number of energies, including air currents, motors, steam, clockwork, observer interaction, and others, such as simple machines. Simple machines include wedges, ramps, wheels, axles and levers.

In *Sea of the Ear Rings*, a kinetic sculpture, Soga is primarily interested in working with two concepts: space and gravity. The sculpture seems to defy gravity and looks like it should tip over, but it doesn’t. It is bolted to a concrete base that acts as a counterweight to keep the sculpture upright. A simple balanced scale is a good illustration.
ACTIVITY 1 Counterweight/Counterbalance

Show these images to your students and discuss the concepts of counterweight and counterbalance. Pose the following questions to your students:

- Which scale is balanced?
- How can you balance the unbalanced scale?
  - By adding equal amounts of weight to each side of the scale.
- How is counterweight and counterbalance used in the *Sea of the Ear Rings* sculpture?
  - There is a counterweight inside the sleeve, which is the upper portion of the lower ring that counterbalances the weight of the upper ring.
- What are other examples of machines that use counterweight and counterbalance?
  - A crane
  - An elevator
  - A trebuchet
ACTIVITY 2  Positive/Negative Space

Positive space refers to the solid parts of a sculpture. Negative space is the void or empty space between and around the solid part of the sculpture. In sculpture negative space is as important as the positive space.

Copy the following image and give one to each of your students.

Have the students cut away the background and the interior negative spaces of both the lower and upper ring. Using magazine pictures have students place the sculpture in different settings.

Pose the following questions to your students:
- How have the different backgrounds changed the appeal of the sculpture?
- Which backgrounds do you like more than others? Why?
- Do you like this sculpture?
RESOURCES

Reading Resources:
- Blue Balliett, *The Calder Game*
- Ann Civardi, *What is Sculpture? (Arts Alive)*
- Judy Donnally, *Tut’s Tomb: Lost and Found*
- Jan Greenberg, *Sculptor’s Eye*
- Susie Hodge, *Ancient Egyptian Art*
- Peter Lafferty, *Force and Motion (Eyewitness Science)*
- Andrew Langley, *Ancient Egypt (History in Art)*
- Ben Morgan, *Gravity (Elementary Physics)*
- Jiri Tibor Novak, *You Can Make Mobiles*
- Mary Jane Opie, *Sculpture (Eyewitness Art)*
- Andrew Pekarik, *Sculpture Behind the Scenes*
- Susan Schwake, *3-D Art Lab for Kids: 32 Hands-on Adventures in Sculpture and Mixed Media*

Music Resources:
- Philip Glass, *Akhenaten*

Internet Resources:
- Alexander Calder and mobile making -
  [www.nga.gov/content/ngaweb/education/teachers/lessons-activities/counting-art/calder.html](http://www.nga.gov/content/ngaweb/education/teachers/lessons-activities/counting-art/calder.html)