



Dalí Museum, Saint Petersburg, Florida

Integrated Curriculum Tour Form

Education Department, 2015

TITLE:

**"Salvador Dalí: Elementary School Dalinian Mathematics"**



SUBJECT AREA:

(VISUAL ART, LANGUAGE ARTS, SCIENCE, MATHEMATICS, SOCIAL STUDIES)

**Visual Art, Mathematics (Next Generation Sunshine State Standards listed at the end of this document)**

GRADE LEVEL(S):

**Grades: K-5**

DURATION: (NUMBER OF SESSIONS, LENGTH OF SESSION)

**One session (30 to 45 minutes)**

**Resources: (Books, Links, Films and Information)**

**Books:**

- *The Dalí Museum Collection: Oil Paintings, Objects and Works on Paper.*
- *The Dalí Museum: Museum Guide.*
- *The Dalí Museum: Building + Gardens Guide.*

**Art and Mathematics Links:**

- **Florida Art Education Association:** [www.faea.org](http://www.faea.org)
- **National Art Education Association:** [www.arteducators.org](http://www.arteducators.org)

- **National Core Art Standards:** [www.nationalartstandards.org](http://www.nationalartstandards.org)

- [www.thedali.org](http://www.thedali.org)
- <http://www.artlex.com/ArtLex/m/mathematics.html>
- <http://plus.maths.org/issue3/fibonacci/index.html>
- <http://www.mcs.surrey.ac.uk/Personal/R.Knott/Fibonacci/fibinArt.html>
- [http://mathworld.wolfram.com/Golden\\_Ratio.html](http://mathworld.wolfram.com/Golden_Ratio.html)
- <http://educ.queensu.ca/~fmc/october2001/GoldenArt.htmml>
- <http://www-history.mcs.st-and.ac.uk/history/HistTopics/Art.html>
- <http://mathforum.org/library/topics/art/>

#### Films:

- Dalí Condensed: 5 lecture series, Peter Tush, Curator of Education, Dali Museum You Tube Site.
- *Dimension Dalí*.
- Disney's *Donald in Mathematics Land*: Animated film about Greek proportions.

#### Information:

- Salvador Felipe Jacinto Dalí.
- May 11, 1904 – January 23, 1989.
- Figueres, Spain.

#### Pi, Irrational Number and Phi:

- Pi: The relation of the circumference to the diameter of every circle is the same. This constant is known as pi from the Greek perimetros and is expressed as approximately 3.14 or as 22/7. Pi is essential to descriptions of motion and mechanics and it is useful to everyday life.
- [www.teachpi.org](http://www.teachpi.org)
- Irrational Number: An Irrational Number is a real number that cannot be written as a simple fraction. The popular approximation of Pi, or  $22/7 = 3.141592653587932384626433832795...$  You cannot write down a simple fraction that equals Pi. Phi's sequence, also infinite = 1.61803398874989484820...
- Phi: The golden ratio is a number, approximately 1.618, that possesses many interesting properties. It was studied by ancient mathematicians due to its frequent appearance in geometry. Shapes defined by the golden ratio have long been considered aesthetically pleasing in western cultures, reflecting nature's balance between symmetry and asymmetry. The ratio is still used frequently in art and design. The golden ratio is also known as the golden mean, golden section, golden number or divine proportion. It is usually denoted by the Greek letter  $\phi$  (phi).

#### Avant-Garden:

- Notice a set of pavers in 3 groups – a long line, a short line, and a circle. The longest line represents the circumference of the circle and the short line represents its diameter. If you divide the length of the long line (22 pavers) / short line (7 pavers) = you reach pi, the irrational number.
- Notice the large rectangle made by the various colored tiles, of which three of its corners are touched by a stainless steel spiral. When a square is cut from this rectangle, the remainder is a rectangle of exactly the same proportion. As squares continue to be removed leaving smaller and smaller rectangles, this proportion remains the same. This proportion is the basis for many things found in nature, from the sunflower floret to the nautilus shell.
- The term labyrinth is often used interchangeably with maze, but a maze is a tour puzzle in the form of a complex branching passage with choices of path and direction; while a single-path (unicursal) labyrinth has a single Eulerian path to the center. A labyrinth has an ambiguous through-route to the center and back and is not designed to be difficult to navigate.
- Notice the path of crushed limestone leads you through a course of hedges (formed by the poda carpus shrub) which curve and angle abruptly until reaching the center. The center is marked by the tallest cypress tree on the grounds, a symbol of resurrection. The labyrinth's design is derived from the Labyrinth at Chartres Cathedral in France.

#### Glass Enigma:

- It is the only irregular tessellation structure of its kind in North America. The Enigma is made up of over 1,000 triangles, each one a slightly different size. Each triangle is double paned glass. The triangles were fabricated by computer controls on robotic cutting tools and identified with bar-coding to keep track for final assembly or replacement.
- A tessellation is a collection of plane figures (triangles) that fills the plane with no overlaps or gaps. A geodesic dome is a spherical or partial-spherical shell structure or lattice shell based on a network of great circles (geodesics) lying on the surface of a sphere. The geodesics intersect to form triangular elements that have local triangular rigidity and also distribute the stress across the entire structure.
- Dalí was a fan of Buckminster Fuller, the inventor of the Geodesic dome. The artist enlisted a student of Fuller to create his own geodesic dome (situated above his Teatre-Museu in Figueres, Spain). At the Dalí Museum this concept is taken a step further with a dome that pours out of the center of the concrete-box structure. This geodesic glass structure, nicknamed the "Glass Enigma," is a 21<sup>st</sup> century expression of Buckminster Fuller's original design.

#### Golden Ratio:

- Nature Morte Vivante, 1956, Underlying design of the painting is the harmonic mathematical grid from the study of aesthetic proportions by Matila Ghyka
- The Ecumenical Council, 1960,
- The Hallucinogenic Toreador, Galacidalacidesoxiribunucleicacid (Homage to Crick and Watson), 1968-70,
- Velazquez Painting the Infanta Margarita with the Lights and Shadows of his Own Glory, 1958,
- Venus de Milo with Drawers (and pompoms), 1936.
- Woodworking for Mortals: <http://woodworkingformeremortals.com/2011/03/phi-and-golden-rectangle.html>

#### **DNA:**

- Nature Morte Vivante, 1956, Railing post in the form of the double-helix structure representing the DNA molecule.
- Galacidalacidesoxiribunucleicacid (Homage to Crick and Watson), 1963, DNA molecule represented with an image on the canvas and the title.

#### **Platonic Solids (Cubes):**

- Portrait of My Dead Brother, 1963, Cherries form a cube with their stems.
- Gala Contemplating the Mediterranean Sea Which at Twenty Meters Becomes the Portrait of Abraham Lincoln-Homage to Rothko (Second version), 1976, Dali uses repeated squares of color to pixilate the portrait of Abraham Lincoln.
- Galacidalacidesoxiribunucleicacid (Homage to Crick and Watson), 1963, Group of Arab gunmen in "molecular" cube-like formations.

#### **Fractals:**

- A curve or geometric figure, each part of which has the same statistical character as the whole. Fractals are useful in modeling structures in which similar patterns recur at progressively smaller scales, and in describing partly random or chaotic phenomena such as crystal growth, fluid turbulence, and galaxy formation.
- Nature Morte Vivante, 1956, Illustrated in the waves becoming repeated geometric shapes.
- The Disintegration of the Persistence of Memory, 1952-54, Illustrated in the geometric structures receding into the background.

#### **Tiling and Tessellations:**

- Gala Contemplating the Mediterranean Sea Which at twenty Meters Becomes the Portrait of Abraham Lincoln-Homage to Rothko (Second Version), 1976, Illustrated in the repeated pattern of square tiles creating the illusion of Abraham Lincoln's portrait.

#### **Anamorphic Art:**

- Anamorphoses Skull, 1972, Distorted image of a skull corrects itself when reflected in a cylindrical mirrored surface.
- Anamorphoses Clown, 1972, Distorted image of a clown corrects itself when reflected in a cylindrical mirrored surface.
- <http://anamorphicart.wordpress.com/page/2/>
- You Tube Video (3D iPad-Cylindrical Mirror Optical Illusion) [http://www.youtube.com/watch?v=JqyvDOP\\_vZM](http://www.youtube.com/watch?v=JqyvDOP_vZM)

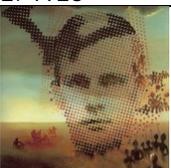
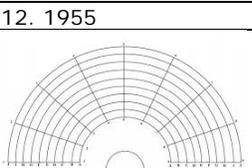
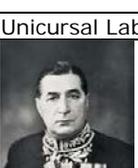
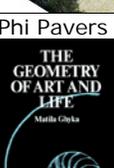
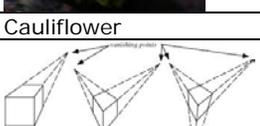
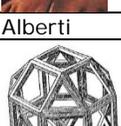
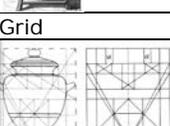
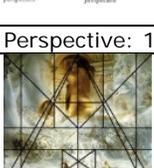
#### **Hypercube:**

- Dalí: painting in the fourth dimension.
- <http://www.philipcoppens.com/dali.html>

#### **General Research Related to Dali and Mathematics:**

- Dalí Atomicus, or the Prodigious Adventure of the Lacemaker and the Rhinoceros, Elliot H. King, University of Essex.
- [http://sls-2002.caltech.edu/king\\_paper.html](http://sls-2002.caltech.edu/king_paper.html)
- Salvador Dalí:
- <http://www.abcgallery.com/D/dali/dalibio.html>
- Nuclear Mysticism:
- [http://www.tufts.edu/programs/mma/fah\\_188/clifford/Subsections/NuclearMysticism/nuclearmysticism.html](http://www.tufts.edu/programs/mma/fah_188/clifford/Subsections/NuclearMysticism/nuclearmysticism.html)
- Nuclear Mysticism Homage to Salvador Dali:
- <http://ionamiller.50megs.com/photo5.html>

**Suggested Illustrations:**

				
1. 1924	2. 1926	3. 1952-54	4. 1956	5. 1960
				
6. 1963	7. 1963	8. 1969-70	9. 1976	10. 1958-59
				
11. 1958	12. 1955	13. 1958	14. ca. 1963	15. 1936
				
16. 1972	Polar Grid	Hypercube	The Enigma	Tessellation
				
Helix	Unicursal Labyrinth	Phi Pavers	Pi Pavers (22/7)	Marcus Vitruvius
				
Vitruvian Man	Ghyka	1946	Heisenberg	Golden Rectangle
				
Cauliflower	Nautilus Shell	Sunflower	Alberti	Grid
	$\Phi\phi$	$\pi$ 3.1415926 Pi Day!		
Perspective: 1,2,3 Point	Greek Letter Phi	Greek Letter Pi	Platonic Solid	Stamnos Vase
				
Inverted Grid	Phi Grid			

**Suggested Tour Artworks: (Title, Date, Medium, Scale and Description)**

**Suggested Number of Artworks per Tour: (Eight to Twelve)**

Artwork 1:



**Still Life (Sandia)**, 1924, oil on canvas, 19 ¼ x 19 ¼ in.

- Early geometric organization of space.
- Cubism breaks up an image and simplifies it with geometric shapes and forms.
- Dalí was inspired by Picasso, Braque, Gris and others.

Artwork 2:



**Girl with Curls**, 1926, oil on panel, 20 x 15 ¾ in.

- Early Vermeer inspired perspective.
- The math of artistic perspective.
- Paintings are simply flat pieces of wood, cloth or paper, etc.
- Artists can create the illusion that you are looking right through a painting.
- Perspective in a landscape has a horizon line, the line between the sky and land.
- There is a point located at a specific place on the horizon line, called the vanishing point.
- Orthogonal lines travel from an object back to the vanishing point and create the illusion of space.
- Dalí takes the traditional rules of perspective and subverts them in this painting.

Artwork 3:



**The Disintegration of the Persistence of Memory**, 1952-54, oil on canvas, 10 x 13 in.

- Dalí expresses his interest in the exterior world of physics and Werner Karl Heisenberg.
- Dismantled his earlier surrealist masterpiece to reveal a new structure that visualizes quantum mechanics.
- Extreme use of perspective employed in the grid like construction throughout the foreground and extending into the middle ground, also referencing the mathematical concept of fractals.

Artwork 4:



**Nature Morte Vivante (Still Life – Fast Moving)**, 1956, oil on canvas, 49 ¼ x 63 in.

- This is a key painting that shows Dalí's intense interest in the geometry of art, the science of beauty and the spiral form.
- Inspired by Matila Ghyka, a Romanian mathematician, who explored "dynamic symmetry" in art and nature using simple mathematical formulas (such as Phi) to explore natural forms.
- Dalí incorporated several of these symmetrical grids as the compositional basis for many paintings, such as the harmonic rectangle (the Phi rectangle) and the dynamic triangle (from Greek canons of proportion).
- The ideas of geometry of art and life are further expanded with the connection of the Fibonacci spiral; the numerical sequence of the Golden spiral: (1,1,2,3,5,8,13,21...).
- Werner Karl Heisenberg's work on quantum theory is linked with a basic conception of atomic physics.
- DNA double-helix molecular structure represented in the railing post.
- The mathematical concept of fractals is evident in the repeated pattern within the painting of the sea.

Artwork 5:



***The Ecumenical Council***, 1960, oil on canvas, 118 x 100 in.

- Matila Ghyka's investigation of proportion leads him to a study in Greek proportion from various Greek vase designs.
- Greek vases have specific mathematic ratios that can be studied in terms of geometry.
- Dalí utilized the analysis of the Greek vase "Stamnos" and used its reversed direction as a compositional basis for this monumental painting.

Artwork 6:



***Galacidalacidesoxiribunucleicacid (Homage to Crick and Watson)***, 1963, oil on canvas, 120 x 163 ½ in.

- Dalí combined his name, the name of his wife Gala, Allah, and Cid Campeador (the feminine Cid) with desoxiribunucleic acid.
- Dalí weaves his beliefs on nuclear mysticism into a complex and often esoteric historical narrative.
- DNA molecule represents the building-block of life (Dr. Francis Crick and Dr. James Watson, 1953).
- Group of Arab gunmen in "molecular" formations in a geometric cube design.

Artwork 7:



***Portrait of My Dead Brother***, 1963, oil on canvas, 69 x 69 in.

- Dalí's older brother, Salvador, died and Dalí inherited his brother's name.
- Dalí imagined himself as one-half of a double whose unity was irretrievable and kept him in a state of perpetual crisis.
- Cherries joined in a molecular structure of a cube design representing platonic solids.
- Geometric pattern of dots/cherries create his dead brother's imaginary visage.

Artwork 8:



***The Hallucinogenic Toreador***, 1969-70, oil on canvas, 157 x 118 in.

- Venus figure, the Greek geometric ideal of feminine proportion, is repeated many times and in various ways throughout the painting.
- Geometric grid formed by colored dots and gadflies in multiple locations on the canvas.
- Golden Spiral employed to organize the numerous images in an aesthetic way based on a mathematical ratio (22/7).

Artwork 9:



***Gala Contemplating the Mediterranean Sea which at Twenty Meters Becomes the Portrait of Abraham Lincoln-Homage***

**to Rothko (Second Version)**, 1976, oil and collage on canvas,  
99 ¼ x 75 ½ in.

- Carefully calibrated square cells that form a complex network of multiple images and two for one optical illusions.
- Scientific American article, 1973, by Leon D. Harmon titled "The Recognition of Faces," included the transformed and digitized version of Anthony Berger's 1864 portrait of Lincoln.
- Dalí understood the implications of Harmon's research for the growing fields of neuroscience and computer imaging.
- This painting is designed with a grid-like pattern of squares of color employing the mathematical concepts of tessellations, tiling and platonic solids.

Artwork 10:



**The Discovery of America by Christopher Columbus**, 1958-59, oil on canvas,  
161 ½ x 122 1/8 in.

- The structure of the painting is based on the harmonic rectangle calculated by Matila Ghyka in *The Geometry of Art and Life*.
- Two symmetric mirrored images of Dalí's *Christ of Saint John of the Cross*, 1951.
- Repeated linear pattern of crosses, staffs and weapons create movement throughout the canvas.
- One-point perspective employed in the angled crosses and shadows to create the illusion of depth.

Artwork 11:



**Leda Atomica design drawing**, 1947.

- Renaissance inspired perspective using architectural elements as well as classical figure proportions, based on the Golden Ratio.
- Intentional use of a pentagon whose angles intersect with a circle to create the optimum aesthetic organization of visual elements.
- Reminiscent of Leonardo da Vinci's *Vitruvian Man*, 1490, based on the work of the architect Vitruvius.

Artwork 12:



**The Sacrament of the Last Supper**, 1955, oil on canvas, 105 x 66 in.

- This painting is designed with connections to the number twelve including: the 12 Apostles, Dodecahedrons and references to numerology.

Artwork 13:



**Velázquez Painting the Infanta Margarita with the Lights and Shadows of His Own Glory**, 1958, oil on canvas, 60 ½ x 36 ¼ in.

- Dalí viewed Velázquez as a quintessential realist whose "impressionistic" approach to color and form presaged developments in modern art.

- Between 1958 and 1982 Dalí executed a number of paintings after works by Velázquez.
- Dalí locates Velázquez in a continuum that spans the entire history of Spanish painting, from the Golden to the Atomic Age.
- Dalí's fragmentation of the figure and the overall design of light and shadow speak not only to geometry, but also Nuclear Mysticism and fractals.

Artwork 14:



***Fifty Abstract Paintings Which Seen from Two Yards Change into Three Lenins Masquerading as Chinese and as Seen from Six Yards Appear as the Head of a Royal Bengal Tiger***, ca. 1963, oil on canvas.

- Each of the fifty panels of this painting is a separate abstract painting, which as seen from two yards away, change into three Lenins masquerading as Chinese.
- When seen from six yards away, the whole painting comes together to appear as the head of a royal tiger.
- This is an excellent use of geometry, based on the square, employing the mathematical concept of tiling.

Artwork 15:



***Venus de Milo with Drawers (and pompoms)***, 1936, plaster cast, 39 ½ x 11 5/8 x 11 in., sculpture.

- As a child, Dalí's first sculpture was a clay copy of the Venus de Milo.
- Greek marble sculpture of the goddess of love.
- This armless figure has become the icon of classical female beauty based on the golden ratio.
- Dalí cuts six drawers into Venus, transforming the Greek goddess into a piece of living furniture and dividing the golden rectangle with six rectangular cut outs.
- Simple white surface is complemented by elegant fur knobs, a tribute to her beauty and erotic potential.
- The drawers are a metaphor for the way Freudian psychoanalysis opens the hidden areas of the unconscious.

Artwork 16:



***Anamorphoses Skull***, 1972.

- Distorted image of a skull corrects itself when reflected in a mirrored cylindrical surface.
- Original image is created within a polar grid on a flat surface.
- Mirrored cylinder is placed at the vanishing point of the polar grid perpendicular to the flat surface.
- Dalí has forced us to see the reflected distortion of the actual image as reality, playing off the opposing perceptions of the two hemispheres of our brain.

**Vocabulary:**

Alberti grid  
 Buckminster Fuller  
 Fibonacci sequence  
 Geodesic dome

Geometry  
 Glass enigma  
 Golden rectangle  
 Golden spiral  
 Horizon line  
 Hyper cube  
 Irrational number  
 Irregular tessellation  
 Labyrinth  
 Leon Battista Alberti  
 Marcus Vitruvius Pollio  
 Matila Ghyka  
 Maze  
 Orthogonal lines  
 Perspective  
 Phi  
 Pi  
 Tessellation  
 Tiling  
 Vanishing point  
 Werner Karl Heisenberg

**Declarative Knowledge: (Students will Know/Understand)**

Students will know/understand: how to describe three-dimensional shapes and analyze their properties, including volume and surface area.

Students will know/understand: that the processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.

Students will know/understand: how connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.

**Procedural Knowledge: (Students/Group will be able to do)**

Students will be able to: analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.

Students will be able to: use the structural elements of art and organizational principles of design when engaged in art criticism.

Students will be able to: discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.

**NGSSS: Next Generation Sunshine State Standards (Florida)**

**Visual Art (VA), Language Arts (LA), Science (SC), Mathematics (MA) and Social Studies (SS)**

<http://tools.fcit.usf.edu/sss/>

<b>MA.5.G.3</b>	<b>Big Idea 3</b>
<b>MA.5.G.3.1</b>	<b>Standard 3:</b> Describe three-dimensional shapes and analyze their properties, including volume and surface area. <b>Benchmark: 1.</b> Analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.
<b>VA.5.C.3</b>	<b>Big Idea: CRITICAL THINKING AND REFLECTION</b>
<b>VA.5.C.3.1</b>	<b>Enduring Understanding 3:</b> The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. <b>Benchmark: 1.</b> Use the structural elements of art and organizational principles of design when engaged in art criticism.
<b>VA.5.H.3</b>	<b>Big Idea: HISTORICAL AND GLOBAL CONNECTIONS</b>
<b>VA.5.H.3.1</b>	<b>Enduring Understanding 3:</b> Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. <b>Benchmark: 1.</b> Discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.

**Formative Assessments:**

1. Observation of student engagement.
2. Monitoring student progress and "Teachable Moments."
3. Discussion participation and responses.

**Summative Assessments: (Scoring Scales/Rubrics)**

	<b>4</b> COMPLEX  Personal Application	<b>3</b> TARGET  Success for all Students	<b>2</b> SIMPLER  Limited Success	<b>1</b> PARTIAL  Minimal Success	<b>0</b> NO SUCCESS  Unsatisfactory
Students will: analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.	Fluently analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.	Analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.	Analyze and compare some of the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces.	Limited ability to analyze and compare the properties of two-dimensional figures and three-dimensional solids.	Not able to analyze or compare properties.
Students will: use the structural elements of art and organizational principles of design when engaged in art criticism.	Consistently use the structural elements of art and organizational principles of design demonstrating personal connections when engaged in art criticism.	Use the structural elements of art and organizational principles of design when engaged in art criticism.	Occasionally use the structural elements of art and organizational principles of design when engaged in art criticism.	Rarely use the structural elements of art or organizational principles of design when engaged in art criticism.	Never engage in art criticism.
Students will: discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.	Discuss how skills learned through the analysis and art-making process are used in their personal experience to solve problems in non-art areas.	Discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.	Occasionally discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.	Rarely discuss how skills learned through the analysis and art-making process are used to solve problems.	No evidence of skills learned.

**REFERENCE SCALE/RUBRIC USED TO ASSESS: Visual Art, Design or any Creative Endeavor.**

 THE DA FINE ART SCALE (RUBRIC)	4 COMPLEX  Personal Application	3 TARGET  Success for all Students	2 SIMPLER  Limited Success	1 PARTIAL  Minimal Success	0 NO SUCCESS  Unsatisfactory
KNOWLEDGE	Uses basic directions and concepts of the assignment in a unique way.	All basic directions and concepts of the assignment clearly evident.	Uses most assignment specific directions and concepts.	Minimal assignment specific directions and concepts evident.	No evidence of knowledge.
REASONING	Connecting information in introspective, logical and sequential choices throughout entire creative process.	Connecting information in logical and sequential choices throughout entire creative process.	Connecting some information in choices throughout entire creative process.	Minimal connection of information in choices throughout entire creative process.	No evidence of reasoning.
TECHNICAL SKILLS	Demonstrates high level of expertise in techniques appropriately employed.	Uses all relevant techniques appropriately.	Uses most relevant techniques appropriately.	Minimal use of appropriate and relevant techniques.	No evidence of technical skills.
CREATIVITY	Exceptional evidence of personal style continued throughout creative process and product.	Solid evidence of personal style continued throughout creative process and product.	Some evidence of personal style continued throughout creative process and product.	Limited evidence of personal style continued throughout creative process and product.	No evidence of creativity.

**ADDITIONAL REFERENCE MATERIAL:**

**Elements of Art:**

Line, Shape, Color, Value, Form, Texture, Space.

**Principles of Design:**

Balance, Contrast, Emphasis, Movement, Pattern, Rhythm, Unity.

**National Core Art Standards:**

[www.nationalartstandards.org](http://www.nationalartstandards.org)

Creating, Performing/Presenting/Producing, Responding, Connecting.

**Anchor Standards:**

**Creating:**

1. Generate and conceptualize artistic ideas and work.
2. Organize and develop artistic ideas and work.
3. Refine and complete artistic work.

**Performing/Presenting/Producing:**

4. Analyze, interpret, and select artistic work for presentation.
5. Develop and refine artistic work for presentation.
6. Convey meaning through the presentation of artistic work.

**Responding:**

7. Perceive and analyze artistic work.
8. Interpret intent and meaning in artistic work.
9. Apply criteria to evaluate artistic work.

**Connecting:**

10. Synthesize and relate knowledge and personal experiences to make art.
11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

**Critical Thinking:**

Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation.

**Bloom's Taxonomy:**

Remembering, Understanding, Applying, Analyzing, Evaluating, Creating.

**Marzano's Taxonomy:**

<b>Retrieval</b>	Recognizing, recalling, executing.
<b>Comprehension</b>	Integrating, symbolizing.
<b>Analysis</b>	Matching, classifying, analyzing errors, generalizing, specifying.
<b>Knowledge Utilization</b>	Decision making, problem solving, experimenting, investigating.

**Feldman's Model of Art Criticism (1981):**

<b>Description</b>	What do you see in this work?
<b>Analysis</b>	How is the work organized?
<b>Interpretation</b>	What is the work about?
<b>Judgment</b>	Is the work successful? Why?

**Anderson's Model of Art Criticism (1988):**

<b>Reaction</b>	What is it?
<b>Description</b>	What does the work show? How, why, where was it made?
<b>Interpretation</b>	What is the work about? How do we know?
<b>Evaluation</b>	Is the work well done? How do we decide?

## NGSSS: (Standard Numbers/Standards/Taxonomy Levels)

### Next Generation Sunshine State Standards (Florida)

<http://tools.fcit.usf.edu/ssss/>

#### Mathematics K

##### Big Idea 1

**Standard 1:** Represent, compare, and order whole numbers and join and separate sets. (MA.K.A.1)

**Benchmark: 1.** Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives. (MA.K.A.1.1)

**Benchmark: 2.** Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20. (MA.K.A.1.2)

**Benchmark: 3.** Solve word problems involving simple joining and separating situations. (MA.K.A.1.3)

##### Big Idea 2

**Standard 2:** Describe shapes and space. (MA.K.G.2)

**Benchmark: 1.** Describe, sort and re-sort objects using a variety of attributes such as shape, size, and position. (MA.K.G.2.1)

**Benchmark: 2.** Identify, name, describe and sort basic two-dimensional shapes such as squares, triangles, circles, rectangles, hexagons, and trapezoids. (MA.K.G.2.2)

**Benchmark: 3.** Identify, name, describe, and sort three-dimensional shapes such as spheres, cubes and cylinders. (MA.K.G.2.3)

**Benchmark: 4.** Interpret the physical world with geometric shapes and describe it with corresponding vocabulary. (MA.K.G.2.4)

**Benchmark: 5.** Use basic shapes, spatial reasoning, and manipulatives to model objects in the environment and to construct more complex shapes. (MA.K.G.2.5)

##### Big Idea 3

**Standard 3:** Order objects by measurable attributes. (MA.K.G.3)

**Benchmark: 1.** Compare and order objects indirectly or directly using measurable attributes such as length, height, and weight. (MA.K.G.3.1)

#### Supporting Ideas

**Standard 4:** Algebra (MA.K.A.4)

**Benchmark: 1.** Identify and duplicate simple number and non-numeric repeating and growing patterns. (MA.K.A.4.1)

**Standard 5:** Geometry and Measurement (MA.K.G.5)

**Benchmark: 1.** Demonstrate an understanding of the concept of time using identifiers such as morning, afternoon, day, week, month, year, before/after, and shorter/longer. (MA.K.G.5.1)

#### Mathematics 1

##### Big Idea 1

**Standard 1:** Develop understandings of addition and subtraction strategies for basic addition facts and related subtraction facts. (MA.1.A.1)

**Benchmark: 1.** Model addition and subtraction situations using the concepts of "part-whole," (MA.1.A.1.1)

**Benchmark: 2.** Identify, describe, and apply addition and subtraction as inverse operations. (MA.1.A.1.2)

**Benchmark: 3.** Create and use increasingly sophisticated strategies, and use properties such as Commutative, Associative and Additive Identity, to add whole numbers. (MA.1.A.1.3)

**Benchmark: 4.** Use counting strategies, number patterns, and models as a means for solving basic addition and subtraction fact problems. (MA.1.A.1.4)

##### Big Idea 2

**Standard 2:** Develop an understanding of whole number relationships, including grouping by tens and ones. (MA.1.A.2)

- Benchmark:** 1. Compare and order whole numbers at least to 100. (MA.1.A.2.1)  
**Benchmark:** 2. Represent two digit numbers in terms of tens and ones. (MA.1.A.2.2)  
**Benchmark:** 3. Order counting numbers, compare their relative magnitudes, and represent numbers on a number line. (MA.1.A.2.3)

### Big Idea 3

**Standard 3:** Compose and decompose two-dimensional and three-dimensional geometric shapes. (MA.1.G.3)

- Benchmark:** 1. Use appropriate vocabulary to compare shapes according to attributes and properties such as number and lengths of sides, and number of vertices. (MA.1.G.3.1)  
**Benchmark:** 2. Compose and decompose plane and solid figures, including making predictions about them, to build an understanding of part-whole relationships and properties of shapes. (MA.1.G.3.2)

### Supporting Ideas

**Standard 4:** Algebra (MA.1.A.4)

- Benchmark:** 1. Extend repeating and growing patterns, fill in missing terms, and justify reasoning. (MA.1.A.4.1)

**Standard 5:** Geometry and Measurement (MA.1.G.5)

- Benchmark:** 1. Measure by using iterations of a unit and count the unit measures by grouping units. (MA.1.G.5.1)  
**Benchmark:** 2. Compare and order objects according to descriptors of length, weight and capacity. (MA.1.G.5.2)

**Standard 6:** Number and Operations (MA.1.A.6)

- Benchmark:** 1. Use mathematical reasoning and beginning understanding of tens and ones, including the use of invented strategies, to solve two-digit addition and subtraction problems. (MA.1.A.6.1)  
**Benchmark:** 2. Solve routine and non-routine problems by acting them out, using manipulatives, and drawing diagrams. (MA.1.A.6.2)

## Mathematics 2

### Big Idea 1

**Standard 1:** Develop an understanding of base-ten numerations system and place-value concepts. (MA.2.A.1)

- Benchmark:** 1. Identify relationships between the digits and their place values through the thousands, including counting by tens and hundreds. (MA.2.A.1.1)  
**Benchmark:** 2. Identify and name numbers through thousands in terms of place value and apply this knowledge to expanded notation. (MA.2.A.1.2)  
**Benchmark:** 3. Compare and order multi-digit numbers through the thousands. (MA.2.A.1.3)

### Big Idea 2

**Standard 2:** Develop quick recall of addition facts and related subtraction facts and fluency with multi-digit addition and subtraction. (MA.2.A.2)

- Benchmark:** 1. Recall basic addition and related subtraction facts. (MA.2.A.2.1)  
**Benchmark:** 2. Add and subtract multi-digit whole numbers through three digits with fluency by using a variety of strategies, including invented and standard algorithms and explanations of those procedures. (MA.2.A.2.2)  
**Benchmark:** 3. Estimate solutions to multi-digit addition and subtraction problems, through three digits. (MA.2.A.2.3)  
**Benchmark:** 4. Solve addition and subtraction problems that involve measurement and geometry. (MA.2.A.2.4)

### Big Idea 3

**Standard 3:** Develop an understanding of linear measurement and facility in measuring lengths. (MA.2.G.3)

- Benchmark:** 1. Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects. (MA.2.G.3.1)  
**Benchmark:** 2. Describe the inverse relationship between the size of a unit and number of units needed to measure a given object. (MA.2.G.3.2)  
**Benchmark:** 3. Apply the Transitive Property when comparing lengths of objects. (MA.2.G.3.3)  
**Benchmark:** 4. Estimate, select an appropriate tool, measure, and/or compute lengths to solve problems. (MA.2.G.3.4)

## Supporting Ideas

### Standard 4: Algebra (MA.2.A.4)

**Benchmark:** 1. Extend number patterns to build a foundation for understanding multiples and factors (MA.2.A.4.1)

**Benchmark:** 2. Classify numbers as odd or even and explain why. (MA.2.A.4.2)

**Benchmark:** 3. Generalize numeric and non-numeric patterns using words and tables. (MA.2.A.4.3)

**Benchmark:** 4. Describe and apply equality to solve problems, such as in balancing situations. (MA.2.A.4.4)

**Benchmark:** 5. Recognize and state rules for functions that use addition and subtraction. (MA.2.A.4.5)

### Standard 5: Geometry and Measurement (MA.2.G.5)

**Benchmark:** 1. Use geometric models to demonstrate the relationships between wholes and their parts as a foundation to fractions. (MA.2.G.5.1)

**Benchmark:** 2. Identify time to the nearest hour and half hour. (MA.2.G.5.2)

**Benchmark:** 3. Identify, combine, and compare values of money in cents up to \$1 and in dollars up to \$100, working with a single unit of currency. (MA.2.G.5.3)

**Benchmark:** 4. Measure weight/mass and capacity/volume of objects. Include the use of the appropriate unit of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lbs), grams (g), kilograms (kg), milliliters (mL) and liters (L). (MA.2.G.5.4)

### Standard 6: Number and Operations (MA.2.A.6)

**Benchmark:** 1. Solve problems that involve repeated addition. (MA.2.A.6.1)

## Mathematics 3

### Big Idea 1

**Standard 1:** Develop understandings of multiplication and division and strategies for basic multiplication facts and related division facts. (MA.3.A.1)

**Benchmark:** 1. Model multiplication and division including problems presented in context: repeated addition, multiplicative comparison, array, how many combinations, measurement, and partitioning. (MA.3.A.1.1)

**Benchmark:** 2. Solve multiplication and division fact problems by using strategies that result from applying number properties. (MA.3.A.1.2)

**Benchmark:** 3. Identify, describe, and apply division and multiplication as inverse operations. (MA.3.A.1.3)

### Big Idea 2

**Standard 2:** Develop an understanding of fractions and fraction equivalence. (MA.3.A.2)

**Benchmark:** 1. Represent fractions, including fractions greater than one, using area, set and linear models. (MA.3.A.2.1)

**Benchmark:** 2. Describe how the size of the fractional part is related to the number of equal sized pieces in the whole. (MA.3.A.2.2)

**Benchmark:** 3. Compare and order fractions, including fractions greater than one, using models and strategies. (MA.3.A.2.3)

**Benchmark:** 4. Use models to represent equivalent fractions, including fractions greater than one, and identify representations of equivalence. (MA.3.A.2.4)

### Big Idea 3

**Standard 3:** Describe and analyze properties of two-dimensional shapes. (MA.3.G.3)

**Benchmark:** 1. Describe, analyze, compare and classify two-dimensional shapes using sides and angles (MA.3.G.3.1)

**Benchmark:** 2. Compose, decompose, and transform polygons to make other polygons, including concave and convex polygons with three, four, five, six, eight, or ten sides. (MA.3.G.3.2)

**Benchmark:** 3. Build, draw and analyze two-dimensional shapes from several orientations in order to examine and apply congruence and symmetry. (MA.3.G.3.3)

## Supporting Ideas

### Standard 4: Algebra (MA.3.A.4)

**Benchmark:** 1. Create, analyze, and represent patterns and relationships using words, variables, tables and graphs. (MA.3.A.4.1)

### Standard 5: Geometry and Measurement (MA.3.G.5)

**Benchmark:** 1. Select appropriate units, strategies and tools to solve problems involving perimeter. (MA.3.G.5.1)

**Benchmark:** 2. Measure objects using fractional parts of linear units such as  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{10}$ . (MA.3.G.5.2)

**Benchmark:** 3. Tell time to the nearest minute and to the nearest quarter hour, and determine the amount of time elapsed. (MA.3.G.5.3)

### Standard 6: Number and Operations (MA.3.A.6)

**Benchmark:** 1. Represent, compute, estimate and solve problems using numbers through hundred thousands. (MA.3.A.6.1)

**Benchmark:** 2. Solve non-routine problems by making a table, chart, or list and searching for patterns. (MA.3.A.6.2)

### Standard 7: Data Analysis (MA.3.S.7)

**Benchmark:** 1. Construct and analyze frequency tables, bar graphs, pictographs, and line plots from data, including data collected through observations, surveys, and experiments. (MA.3.S.7.1)

## Mathematics 4

### Big Idea 1

**Standard 1:** Develop quick recall of multiplication facts and related division facts and fluency with whole number multiplication. (MA.4.A.1)

**Benchmark:** 1. Use and describe various models for multiplication in problem-solving situations, and demonstrate recall of basic multiplication and related division facts with ease. (MA.4.A.1.1)

**Benchmark:** 2. Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems. (MA.4.A.1.2)

### Big Idea 2

**Standard 2:** Develop an understanding of decimals, including the connection between fractions and decimals. (MA.4.A.2)

**Benchmark:** 1. Use decimals through the thousandths place to name numbers between whole numbers. (MA.4.A.2.1)

**Benchmark:** 2. Describe decimals as an extension of the base-ten number system. (MA.4.A.2.2)

**Benchmark:** 3. Relate equivalent fractions and decimals with and without models, including locations on a number line. (MA.4.A.2.3)

**Benchmark:** 4. Compare and order decimals, and estimate fraction and decimal amounts in real-world problems. (MA.4.A.2.4)

### Big Idea 3

**Standard 3:** Develop an understanding of area and determine the area of two-dimensional shapes. (MA.4.G.3)

**Benchmark:** 1. Describe and determine area as the number of same-sized units that cover a region in the plane, recognizing that a unit square is the standard unit for measuring area. (MA.4.G.3.1)

**Benchmark:** 2. Justify the formula for the area of the rectangle (MA.4.G.3.2)

**Benchmark:** 3. Select and use appropriate units, both customary and metric, strategies, and measuring tools to estimate and solve real-world area problems. (MA.4.G.3.3)

### Supporting Ideas

**Standard 4:** Algebra (MA.4.A.4)

**Benchmark:** 1. Generate algebraic rules and use all four operations to describe patterns, including nonnumeric growing or repeating patterns. (MA.4.A.4.1)

**Benchmark:** 2. Describe mathematics relationships using expressions, equations, and visual representations. (MA.4.A.4.2)

**Benchmark:** 3. Recognize and write algebraic expressions for functions with two operations. (MA.4.A.4.3)

**Standard 5:** Geometry and Measurement (MA.4.G.5)

**Benchmark:** 1. Classify angles of two-dimensional shapes using benchmark angles, i.e. 45 (MA.4.G.5.1)

**Benchmark:** 2. Identify and describe the results of translations, reflections, and rotations of 45, 90, 180, 270, and 360 degrees, including figures with line and rotational symmetry. (MA.4.G.5.2)

**Benchmark: 3.** Identify and build a three-dimensional object from a two-dimensional representation of that object and vice versa. (MA.4.G.5.3)

#### **Standard 6: Number and Operations (MA.4.A.6)**

**Benchmark: 1.** Use and represent numbers through millions in various contexts, including estimation of relative sizes of amounts or distances. (MA.4.A.6.1)

**Benchmark: 2.** Use models to represent division as: the inverse of multiplication, as partitioning and as success subtraction. (MA.4.A.6.2)

**Benchmark: 3.** Generate equivalent fractions and simplify fractions. (MA.4.A.6.3)

**Benchmark: 4.** Determine factors and multiples for specified whole numbers. (MA.4.A.6.4)

**Benchmark: 5.** Relate halves, fourths, tenths, and hundredths to decimals and percents. (MA.4.A.6.5)

**Benchmark: 6.** Estimate and describe reasonableness of estimates; determine the appropriateness of an estimate versus an exact answer. (MA.4.A.6.6)

### **Mathematics 5**

#### **Big Idea 1**

**Standard 1: Develop an understanding of and fluency with division of whole numbers. (MA.5.A.1)**

**Benchmark: 1.** Describe the process of finding quotients involving multi-digit dividends using models, place value, properties and the relationship of division to multiplication. (MA.5.A.1.1)

**Benchmark: 2.** Estimate quotients or calculate them mentally depending on the context and numbers involved. (MA.5.A.1.2)

**Benchmark: 3.** Interpret solutions to division situations including those with remainders depending on the context of the problem. (MA.5.A.1.3)

**Benchmark: 4.** Divide multi-digit whole numbers fluently, including solving real-world problems, demonstrating understanding of the standard algorithm and checking the reasonableness of results. (MA.5.A.1.4)

#### **Big Idea 2**

**Standard 2: Develop an understanding of and fluency with addition and subtraction of fractions and decimals. (MA.5.A.2)**

**Benchmark: 1.** Represent addition and subtraction of decimals and fractions with like and unlike denominators using models, place value or properties. (MA.5.A.2.1)

**Benchmark: 2.** Add and subtract fractions and decimals fluently and verify the reasonableness of results, including in problem situations. (MA.5.A.2.2)

**Benchmark: 3.** Make reasonable estimates of fraction and decimal sums and differences, and use techniques for rounding. (MA.5.A.2.3)

**Benchmark: 4.** Determine the prime factorization of numbers. (MA.5.A.2.4)

#### **Big Idea 3**

**Standard 3: Describe three-dimensional shapes and analyze their properties, including volume and surface area. (MA.5.G.3)**

**Benchmark: 1.** Analyze and compare the properties of two-dimensional figures and three-dimensional solids (polyhedra), including the number of edges, faces, vertices, and types of faces. (MA.5.G.3.1)

**Benchmark: 2.** Describe, define and determine surface area and volume of prisms by using appropriate units and selecting strategies and tools. (MA.5.G.3.2)

#### **Supporting Ideas**

**Standard 4: Algebra (MA.5.A.4)**

**Benchmark: 1.** Use the properties of equality to solve numerical and real world situations. (MA.5.A.4.1)

**Benchmark: 2.** Construct and describe a graph showing continuous data, such as a graph of a quantity that changes over time. (MA.5.A.4.2)

**Standard 5: Geometry and Measurement (MA.5.G.5)**

**Benchmark: 1.** Identify and plot ordered pairs on the first quadrant of the coordinate plane. (MA.5.G.5.1)

**Benchmark: 2.** Compare, contrast, and convert units of measure within the same dimension (length, mass, or time) to solve problems. (MA.5.G.5.2)

**Benchmark: 3.** Solve problems requiring attention to approximation, selection of appropriate measuring tools, and precision of measurement. (MA.5.G.5.3)

**Benchmark: 4.** Derive and apply formulas for areas of parallelograms, triangles, and trapezoids from the area of a rectangle. (MA.5.G.5.4)

**Standard 6: Number and Operations (MA.5.A.6)**

**Benchmark: 1.** Identify and relate prime and composite numbers, factors and multiples within the context of fractions. (MA.5.A.6.1)

**Benchmark: 2.** Use the order of operations to simplify expressions which include exponents and parentheses. (MA.5.A.6.2)

**Benchmark: 3.** Describe real-world situations using positive and negative numbers. (MA.5.A.6.3)

**Benchmark: 4.** Compare, order, and graph integers, including integers shown on a number line. (MA.5.A.6.4)

**Benchmark: 5.** Solve non-routine problems using various strategies including (MA.5.A.6.5)

**Standard 7: Data Analysis (MA.5.S.7)**

**Benchmark: 1.** Construct and analyze line graphs and double bar graphs. (MA.5.S.7.1)

**Benchmark: 2.** Differentiate between continuous and discrete data and determine ways to represent those using graphs and diagrams. (MA.5.S.7.2)

**NGSSS: (Standard Numbers/Standards/Taxonomy Levels)**

**Next Generation Sunshine State Standards (Florida)**

<http://tools.fcit.usf.edu/ssss/>

**Visual Art: Critical Thinking and Reflection (C),  
Skills, Techniques, and Processes (S),  
Organizational Structure (O),  
Historical and Global Connections (H),  
Innovation, Technology, and the Future (F)**

**Arts: Visual Art K**

**Big Idea: CRITICAL THINKING AND REFLECTION**

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.K.C.1)

**Benchmark: 1.** Create and share personal works of art with others. (VA.K.C.1.1)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.K.C.2)

**Benchmark: 1.** Describe personal choices made in the creation of artwork. (VA.K.C.2.1)

**Benchmark: 2.** Identify media used by self or peers. (VA.K.C.2.2)

**Big Idea: SKILLS, TECHNIQUES, AND PROCESSES**

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.K.S.1)

**Benchmark: 1.** Explore art processes and media to produce artworks. (VA.K.S.1.1)

**Benchmark: 2.** Produce artwork influenced by personal decisions and ideas. (VA.K.S.1.2)

**Enduring Understanding 2:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.K.S.3)

**Benchmark: 1.** Develop artistic skills through the repeated use of tools, processes, and media. (VA.K.S.3.1)

**Benchmark: 2.** Practice skills to develop craftsmanship. (VA.K.S.3.2)

**Benchmark: 3.** Handle art tools and media safely in the art room. (VA.K.S.3.3)

### **Big Idea: ORGANIZATIONAL STRUCTURE**

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.K.O.1)

**Benchmark: 1.** Explore the placement of the structural elements of art in personal works of art. (VA.K.O.1.1)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.K.O.2)

**Benchmark: 1.** Generate ideas and images for artworks based on memory, imagination, and experiences. (VA.K.O.2.1)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.K.O.3)

**Benchmark: 1.** Create works of art to document experiences of self and community. (VA.K.O.3.1)

### **Big Idea: HISTORICAL AND GLOBAL CONNECTIONS**

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.K.H.1)

**Benchmark: 1.** Describe art from selected cultures and places. (VA.K.H.1.1)

**Benchmark: 2.** Follow directions for suitable behavior in an art audience. (VA.K.H.1.2)

**Benchmark: 3.** Explain how art-making can help people express ideas and feelings. (VA.K.H.1.3)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.K.H.2)

**Benchmark: 1.** Compare selected artworks from various cultures to find differences and similarities. (VA.K.H.2.1)

**Benchmark: 2.** Explore everyday objects that have been designed and created by artists. (VA.K.H.2.2)

**Benchmark: 3.** Describe where artwork is displayed in school or other places. (VA.K.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.K.H.3)

**Benchmark: 1.** Express ideas related to non-art content areas through personal artworks. (VA.K.H.3.1)

### **Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE**

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.K.F.1)

**Benchmark: 1.** Experiment with art media for personal satisfaction and perceptual awareness. (VA.K.F.1.1)

**Benchmark: 2.** Identify real and imaginary subject matter in works of art. (VA.K.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.K.F.2)

**Benchmark: 1.** Describe where art ideas or products can be found in stores. (VA.K.F.2.1)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.K.F.3)

**Benchmark: 1.** Create artwork that communicates an awareness of self as part of the community. (VA.K.F.3.1)

### **Arts: Visual Art 1**

## Big Idea: CRITICAL THINKING AND REFLECTION

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.1.C.1)

**Benchmark: 1.** Create and discuss works of art that convey personal interests. (VA.1.C.1.1)

**Benchmark: 2.** Gather clues to help interpret and reflect on works of art. (VA.1.C.1.2)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.1.C.2)

**Benchmark: 1.** Describe visual imagery used to complete artwork. (VA.1.C.2.1)

**Benchmark: 2.** Use various media or techniques to learn how changes affect the completed artwork. (VA.1.C.2.2)

**Enduring Understanding 3:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. (VA.1.C.3)

**Benchmark: 1.** Identify vocabulary that is used in both visual art and other contexts. (VA.1.C.3.1)

**Benchmark: 2.** Distinguish between artwork, utilitarian objects, and objects from nature. (VA.1.C.3.2)

## Big Idea: SKILLS, TECHNIQUES, AND PROCESSES

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.1.S.1)

**Benchmark: 1.** Experiment with art processes and media to express ideas. (VA.1.S.1.1)

**Benchmark: 2.** Use varied processes to develop artistic skills when expressing personal thoughts, feelings, and experiences. (VA.1.S.1.2)

**Benchmark: 3.** Create works of art to tell a personal story. (VA.1.S.1.3)

**Benchmark: 4.** Use accurate art vocabulary to communicate ideas about art. (VA.1.S.1.4)

**Enduring Understanding 2:** Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. (VA.1.S.2)

**Benchmark: 1.** Practice correct use of tools with various art media, techniques, and processes. (VA.1.S.2.1)

**Benchmark: 2.** Describe the steps used in art production. (VA.1.S.2.2)

**Enduring Understanding 3:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.1.S.3)

**Benchmark: 1.** Practice skills and techniques to create with two- and/or three-dimensional media. (VA.1.S.3.1)

**Benchmark: 2.** Discuss the qualities of good craftsmanship. (VA.1.S.3.2)

**Benchmark: 3.** Demonstrate safety procedures for using art tools and materials. (VA.1.S.3.3)

**Benchmark: 4.** Identify and be respectful of artwork that belongs to others and represents their ideas. (VA.1.S.3.4)

## Big Idea: ORGANIZATIONAL STRUCTURE

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.1.O.1)

**Benchmark: 1.** Identify and use the structural elements of art and organizational principles of design to support artistic development. (VA.1.O.1.1)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.1.O.2)

**Benchmark: 1.** Create imagery and symbols to express thoughts and feelings. (VA.1.O.2.1)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.1.O.3)

**Benchmark: 1.** Use personal symbols in artwork to document surroundings and community. (VA.1.O.3.1)

## Big Idea: HISTORICAL AND GLOBAL CONNECTIONS

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.1.H.1)

**Benchmark:** 1. Discuss how different works of art communicate information about a particular culture. (VA.1.H.1.1)

**Benchmark:** 2. Discuss suitable behavior expected of audience members. (VA.1.H.1.2)

**Benchmark:** 3. Describe ways in which artists use their work to share knowledge and life experiences. (VA.1.H.1.3)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.1.H.2)

**Benchmark:** 1. Compare artworks from different cultures, created over time, to identify differences in style and media. (VA.1.H.2.1)

**Benchmark:** 2. Identify objects of art that are used every day for utilitarian purposes. (VA.1.H.2.2)

**Benchmark:** 3. Identify places in which artworks may be viewed by others. (VA.1.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.1.H.3)

**Benchmark:** 1. Identify connections between visual art and other content areas. (VA.1.H.3.1)

## Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.1.F.1)

**Benchmark:** 1. Use various art media and real or imaginary choices to create artwork. (VA.1.F.1.1)

**Benchmark:** 2. Identify how classmates solve artistic problems. (VA.1.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.1.F.2)

**Benchmark:** 1. Explain how artists impact the appearance of items for sale in stores. (VA.1.F.2.1)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.1.F.3)

**Benchmark:** 1. Describe the use of art to share community information. (VA.1.F.3.1)

**Benchmark:** 2. Follow directions for completing classroom tasks in a specified timeframe to show early development of 21st-century skills. (VA.1.F.3.2)

## Arts: Visual Art 2

### Big Idea: CRITICAL THINKING AND REFLECTION

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.2.C.1)

**Benchmark:** 1. Use the art-making process to communicate personal interests and self-expression. (VA.2.C.1.1)

**Benchmark:** 2. Reflect on and discuss various possible meanings in works of art. (VA.2.C.1.2)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.2.C.2)

**Benchmark:** 1. Use appropriate decision-making skills to meet intended artistic objectives. (VA.2.C.2.1)

**Benchmark:** 2. Identify skillful techniques used in works by peers and others. (VA.2.C.2.2)

**Benchmark:** 3. Use suggestions from others to modify the structural elements of art. (VA.2.C.2.3)

**Enduring Understanding 3:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. (VA.2.C.3)

**Benchmark: 1.** Use accurate art vocabulary to identify connections among visual art and other contexts. (VA.2.C.3.1)  
**Benchmark: 2.** Compare artworks with utilitarian objects and use accurate art vocabulary to describe how they are the same and how they are different. (VA.2.C.3.2)

### **Big Idea: SKILLS, TECHNIQUES, AND PROCESSES**

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.2.S.1)

**Benchmark: 1.** Experiment with tools and techniques as part of art-making processes. (VA.2.S.1.1)  
**Benchmark: 2.** Use diverse resources to inspire expression of personal ideas and experiences in works of art. (VA.2.S.1.2)

**Benchmark: 3.** Explore art from different time periods and cultures as sources for inspiration. (VA.2.S.1.3)  
**Benchmark: 4.** Use accurate art vocabulary to discuss art. (VA.2.S.1.4)

**Enduring Understanding 2:** Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. (VA.2.S.2)

**Benchmark: 1.** Develop artistic skills through repeated experiences with art media, techniques, processes, and tools. (VA.2.S.2.1)  
**Benchmark: 2.** Follow sequential procedures focused on art production. (VA.2.S.2.2)

**Enduring Understanding 3:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.2.S.3)

**Benchmark: 1.** Manipulate art materials and refine techniques to create two- and/or three-dimensional personal works. (VA.2.S.3.1)  
**Benchmark: 2.** Demonstrate growth in craftsmanship through purposeful practice. (VA.2.S.3.2)  
**Benchmark: 3.** Follow directions for safety procedures and explain their importance in the art room. (VA.2.S.3.3)  
**Benchmark: 4.** Describe the differences between using one's own ideas, using someone else's ideas as one's own, and drawing inspiration from the works of others. (VA.2.S.3.4)

### **Big Idea: ORGANIZATIONAL STRUCTURE**

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.2.O.1)

**Benchmark: 1.** Employ structural elements of art and organizational principles of design in personal work to develop awareness of the creative process. (VA.2.O.1.1)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.2.O.2)

**Benchmark: 1.** Use personal experience to convey meaning or purpose in creating artworks. (VA.2.O.2.1)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.2.O.3)

**Benchmark: 1.** Create personally meaningful works of art to document and explain ideas about local and global communities. (VA.2.O.3.1)

### **Big Idea: HISTORICAL AND GLOBAL CONNECTIONS**

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.2.H.1)

**Benchmark: 1.** Identify examples in which artists have created works based on cultural and life experiences. (VA.2.H.1.1)  
**Benchmark: 2.** Distinguish between appropriate and inappropriate audience behavior. (VA.2.H.1.2)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.2.H.2)

- Benchmark: 1.** Identify differences or similarities in artworks across time and culture. (VA.2.H.2.1)  
**Benchmark: 2.** Identify objects from everyday life that have been designed and created using artistic skills. (VA.2.H.2.2)  
**Benchmark: 3.** Identify the physical features or characteristics of artworks displayed in the community. (VA.2.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.2.H.3)

- Benchmark: 1.** Describe connections made between creating with art ideas and creating with information from other content areas. (VA.2.H.3.1)

### **Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE**

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.2.F.1)

- Benchmark: 1.** Use imagination to create unique artwork incorporating personal ideas and selected media. (VA.2.F.1.1)  
**Benchmark: 2.** Explore the advantages of having multiple solutions to solve an artistic problem. (VA.2.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.2.F.2)

- Benchmark: 1.** Identify work created by artists and designers. (VA.2.F.2.1)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.2.F.3)

- Benchmark: 1.** Describe the use of art to promote events within the school or community. (VA.2.F.3.1)  
**Benchmark: 2.** Work with peers to complete a task in art. (VA.2.F.3.2)  
**Benchmark: 3.** Use time effectively while focused on art production to show early development of 21st-century skills. (VA.2.F.3.3)

### **Arts: Visual Art 3**

#### **Big Idea: CRITICAL THINKING AND REFLECTION**

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.3.C.1)

- Benchmark: 1.** Use the art-making process to develop ideas for self-expression. (VA.3.C.1.1)  
**Benchmark: 2.** Reflect on and interpret works of art, using observation skills, prior knowledge, and experience. (VA.3.C.1.2)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.3.C.2)

- Benchmark: 1.** Assess personal artworks for completeness and success in meeting intended objectives. (VA.3.C.2.1)  
**Benchmark: 2.** Compare techniques used by peers and established artists as a basis for improving one's own work. (VA.3.C.2.2)  
**Benchmark: 3.** Use constructive criticism to improve artwork. (VA.3.C.2.3)

**Enduring Understanding 3:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. (VA.3.C.3)

- Benchmark: 1.** Critique one's own and others' artworks, and identify the use of structural elements of art and organizational principles of design. (VA.3.C.3.1)  
**Benchmark: 2.** Describe the connections between visual art and other contexts through observation and art criticism. (VA.3.C.3.2)  
**Benchmark: 3.** Explain the similarities and differences between artworks and utilitarian objects. (VA.3.C.3.3)

#### **Big Idea: SKILLS, TECHNIQUES, AND PROCESSES**

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.3.S.1)

- Benchmark: 1.** Manipulate tools and media to enhance communication in personal artworks. (VA.3.S.1.1)  
**Benchmark: 2.** Use diverse resources to inspire artistic expression and achieve varied results. (VA.3.S.1.2)

**Benchmark: 3.** Incorporate ideas from art exemplars for specified time periods and cultures. (VA.3.S.1.3)  
**Benchmark: 4.** Choose accurate art vocabulary to describe works of art and art processes. (VA.3.S.1.4)

**Enduring Understanding 2:** Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. (VA.3.S.2)

**Benchmark: 1.** Integrate the structural elements of art and organizational principles of design with sequential procedures and techniques to achieve an artistic goal. (VA.3.S.2.1)  
**Benchmark: 2.** Follow procedures, focusing on the art-making process. (VA.3.S.2.2)

**Enduring Understanding 3:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.3.S.3)

**Benchmark: 1.** Use materials, tools, and processes to achieve an intended result in two- and/or three-dimensional artworks. (VA.3.S.3.1)  
**Benchmark: 2.** Develop craftsmanship skills through repeated practice. (VA.3.S.3.2)  
**Benchmark: 3.** Work within safety guidelines while using tools, media, techniques, and processes. (VA.3.S.3.3)  
**Benchmark: 4.** Demonstrate awareness of copyright laws to show respect for the ideas of others when creating art. (VA.3.S.3.4)

### **Big Idea: ORGANIZATIONAL STRUCTURE**

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.3.O.1)

**Benchmark: 1.** Demonstrate how the organizational principles of design are used to arrange the structural elements of art in personal work. (VA.3.O.1.1)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.3.O.2)

**Benchmark: 1.** Use creative and innovative ideas to complete personal artworks. (VA.3.O.2.1)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.3.O.3)

**Benchmark: 1.** Use symbols, visual language, and/or written language to document self or others. (VA.3.O.3.1)

### **Big Idea: HISTORICAL AND GLOBAL CONNECTIONS**

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.3.H.1)

**Benchmark: 1.** Describe cultural similarities and differences in works of art. (VA.3.H.1.1)  
**Benchmark: 2.** Describe the importance of displaying suitable behavior as part of an art audience. (VA.3.H.1.2)  
**Benchmark: 3.** Identify and be respectful of ideas important to individuals, groups, or cultures that are reflected in their artworks. (VA.3.H.1.3)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.3.H.2)

**Benchmark: 1.** Compare differences or similarities in artworks across time and culture. (VA.3.H.2.1)  
**Benchmark: 2.** Examine artworks and utilitarian objects, and describe their significance in the school and/or community. (VA.3.H.2.2)  
**Benchmark: 3.** Describe various venues in which artwork is on display for public viewing. (VA.3.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.3.H.3)

**Benchmark: 1.** Discuss how knowledge gained in the visual art classroom can serve as prior knowledge in other classrooms. (VA.3.H.3.1)

### **Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE**

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.3.F.1)

**Benchmark: 1.** Manipulate art media and incorporate a variety of subject matter to create imaginative artwork. (VA.3.F.1.1)

**Benchmark: 2.** Explore the effects and merits of different solutions to solve an artistic problem. (VA.3.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.3.F.2)

**Benchmark: 1.** Identify places where artists or designers have made an impact on the community. (VA.3.F.2.1)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.3.F.3)

**Benchmark: 1.** Create artwork that communicates an awareness of events within the community. (VA.3.F.3.1)

**Benchmark: 2.** Collaborate to complete a task in art. (VA.3.F.3.2)

**Benchmark: 3.** Demonstrate the skills needed to complete artwork in a timely manner, demonstrating perseverance and development of 21st-century skills. (VA.3.F.3.3)

#### Arts: Visual Art 4

### Big Idea: CRITICAL THINKING AND REFLECTION

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.4.C.1)

**Benchmark: 1.** Integrate ideas during the art-making process to convey meaning in personal works of art. (VA.4.C.1.1)

**Benchmark: 2.** Describe observations and apply prior knowledge to interpret visual information and reflect on works of art. (VA.4.C.1.2)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.4.C.2)

**Benchmark: 1.** Revise artworks to meet established criteria. (VA.4.C.2.1)

**Benchmark: 2.** Use various resources to generate ideas for growth in personal works. (VA.4.C.2.2)

**Benchmark: 3.** Develop and support ideas from various resources to create unique artworks. (VA.4.C.2.3)

**Enduring Understanding 3:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. (VA.4.C.3)

**Benchmark: 1.** Use accurate art vocabulary when analyzing works of art. (VA.4.C.3.1)

**Benchmark: 2.** Compare purposes for the structural elements of art and organizational principles of design in artworks and utilitarian objects. (VA.4.C.3.2)

**Benchmark: 3.** Use the art-making process, analysis, and discussion to identify the connections between art and other disciplines. (VA.4.C.3.3)

### Big Idea: SKILLS, TECHNIQUES, AND PROCESSES

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.4.S.1)

**Benchmark: 1.** Manipulate tools and materials to achieve diverse effects in personal works of art. (VA.4.S.1.1)

**Benchmark: 2.** Explore and use media, technology, and other art resources to express ideas visually. (VA.4.S.1.2)

**Benchmark: 3.** Create artworks that integrate ideas from culture or history. (VA.4.S.1.3)

**Benchmark: 4.** Use accurate art vocabulary to discuss works of art and the creative process. (VA.4.S.1.4)

**Enduring Understanding 2:** Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. (VA.4.S.2)

**Benchmark: 1.** Organize the structural elements of art to achieve an artistic objective. (VA.4.S.2.1)

**Benchmark: 2.** Demonstrate the ability to recall art procedures and focus on art processes through to the end of production. (VA.4.S.2.2)

**Enduring Understanding 3:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.4.S.3)

**Benchmark: 1.** Experiment with various materials, tools, techniques, and processes to achieve a variety of results in two- and/or three-dimensional artworks. (VA.4.S.3.1)

**Benchmark: 2.** Plan and produce art through ongoing practice of skills and techniques. (VA.4.S.3.2)

**Benchmark: 3.** Follow procedures for using tools, media, techniques, and processes safely and responsibly. (VA.4.S.3.3)

**Benchmark: 4.** Discuss the importance of copyright law in regard to the creation and production of art. (VA.4.S.3.4)

### **Big Idea: ORGANIZATIONAL STRUCTURE**

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.4.O.1)

**Benchmark: 1.** Use the structural elements of art and organizational principles of design to understand the art-making process. (VA.4.O.1.1)

**Benchmark: 2.** Identify the structural elements of art used to unite an artistic composition. (VA.4.O.1.2)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.4.O.2)

**Benchmark: 1.** Use a variety of resources and art skills to overcome visual challenges in personal artworks. (VA.4.O.2.1)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.4.O.3)

**Benchmark: 1.** Apply meaning and relevance to document self or others visually in artwork. (VA.4.O.3.1)

### **Big Idea: HISTORICAL AND GLOBAL CONNECTIONS**

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.4.H.1)

**Benchmark: 1.** Identify historical and cultural influences that have inspired artists to produce works of art. (VA.4.H.1.1)

**Benchmark: 2.** Identify suitable behavior for various art venues and events. (VA.4.H.1.2)

**Benchmark: 3.** Describe artworks that honor and are reflective of particular individuals, groups, events, and/or cultures. (VA.4.H.1.3)

**Benchmark: 4.** Identify and practice ways of showing respect for one's own and others'™ personal works of art. (VA.4.H.1.4)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.4.H.2)

**Benchmark: 1.** Explore works of art, created over time, to identify the use of the structural elements of art in an historical event or art style. (VA.4.H.2.1)

**Benchmark: 2.** Identify differences between artworks and utilitarian objects. (VA.4.H.2.2)

**Benchmark: 3.** Identify reasons to display artwork in public places. (VA.4.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.4.H.3)

**Benchmark: 1.** Discuss how analytical skills and thinking strategies are applied to both art production and problem-solving in other content areas. (VA.4.H.3.1)

### **Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE**

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.4.F.1)

**Benchmark: 1.** Combine art media with innovative ideas and techniques to create two- and/or three-dimensional works of art. (VA.4.F.1.1)

**Benchmark: 2.** Examine and apply creative solutions to solve an artistic problem. (VA.4.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.4.F.2)

**Benchmark:** 1. Discuss how artists and designers have made an impact on the community. (VA.4.F.2.1)

**Benchmark:** 2. Identify the work of local artists to become familiar with art-making careers. (VA.4.F.2.2)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.4.F.3)

**Benchmark:** 1. Create art to promote awareness of school and/or community concerns. (VA.4.F.3.1)

**Benchmark:** 2. Collaborate with peers in the art room to achieve a common art goal. (VA.4.F.3.2)

**Benchmark:** 3. Work purposefully to complete personal works of art in a timely manner, demonstrating development of 21st-century skills. (VA.4.F.3.3)

## Arts: Visual Art 5

### Big Idea: CRITICAL THINKING AND REFLECTION

**Enduring Understanding 1:** Cognition and reflection are required to appreciate, interpret, and create with artistic intent. (VA.5.C.1)

**Benchmark:** 1. Develop a range of interests in the art-making process to influence personal decision-making. (VA.5.C.1.1)

**Benchmark:** 2. Use prior knowledge and observation skills to reflect on, analyze, and interpret exemplary works of art. (VA.5.C.1.2)

**Benchmark:** 3. Examine and discuss exemplary works of art to distinguish which qualities may be used to evaluate personal works. (VA.5.C.1.3)

**Enduring Understanding 2:** Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. (VA.5.C.2)

**Benchmark:** 1. Revise artwork as a necessary part of the creative process to achieve an artistic goal. (VA.5.C.2.1)

**Benchmark:** 2. Analyze personal artworks to articulate the motivations and intentions in creating personal works of art. (VA.5.C.2.2)

**Benchmark:** 3. Apply established criteria to the art-making process to measure artistic growth. (VA.5.C.2.3)

**Benchmark:** 4. Identify examples of constructive criticism and use them to improve artworks and enhance artistic growth. (VA.5.C.2.4)

**Enduring Understanding 3:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. (VA.5.C.3)

**Benchmark:** 1. Use the structural elements of art and organizational principles of design when engaged in art criticism. (VA.5.C.3.1)

**Benchmark:** 2. Use art-criticism processes to form a hypothesis about an artist's or designer's intent when creating artworks and/or utilitarian objects. (VA.5.C.3.2)

**Benchmark:** 3. Critique works of art to understand the content and make connections with other content areas. (VA.5.C.3.3)

### Big Idea: SKILLS, TECHNIQUES, AND PROCESSES

**Enduring Understanding 1:** The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. (VA.5.S.1)

**Benchmark:** 1. Use various art tools, media, and techniques to discover how different choices change the effect on the meaning of an artwork. (VA.5.S.1.1)

**Benchmark:** 2. Use media, technology, and other resources to inspire personal art-making decisions. (VA.5.S.1.2)

**Benchmark:** 3. Create artworks to depict personal, cultural, and/or historical themes. (VA.5.S.1.3)

**Benchmark:** 4. Use accurate art vocabulary to communicate about works of art and artistic and creative processes. (VA.5.S.1.4)

**Enduring Understanding 2:** Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. (VA.5.S.2)

**Benchmark:** 1. Organize the structural elements of art to support planning, strengthen focus, and implement artistic vision. (VA.5.S.2.1)

**Benchmark:** 2. Identify sequential procedures to engage in art production. (VA.5.S.2.2)

**Benchmark:** 3. Visualize the end product to justify artistic choices of tools, techniques, and processes. (VA.5.S.2.3)

**Enduring Understanding 3:** Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. (VA.5.S.3)

**Benchmark:** 1. Use materials, tools, techniques, and processes to achieve expected results in two- and/or three-dimensional artworks. (VA.5.S.3.1)

**Benchmark:** 2. Use craftsmanship and technical ability in personal works to show refinement of skills over time. (VA.5.S.3.2)

**Benchmark:** 3. Use tools, media, techniques, and processes in a safe and responsible manner. (VA.5.S.3.3)

**Benchmark:** 4. Use ethical standards, including copyright laws, when producing works of art. (VA.5.S.3.4)

### **Big Idea: ORGANIZATIONAL STRUCTURE**

**Enduring Understanding 1:** Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process. (VA.5.O.1)

**Benchmark:** 1. Use structural elements of art and organizational principles of design to develop content in artwork. (VA.5.O.1.1)

**Benchmark:** 2. Organize the structural elements of art to achieve visual unity. (VA.5.O.1.2)

**Benchmark:** 3. Explain how creative and technical ability is used to produce a work of art. (VA.5.O.1.3)

**Enduring Understanding 2:** The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. (VA.5.O.2)

**Benchmark:** 1. Analyze works of art that document people and events from a variety of places and times to synthesize ideas for creating artwork. (VA.5.O.2.1)

**Benchmark:** 2. Use a variety of sources for ideas to resolve challenges in creating original works. (VA.5.O.2.2)

**Enduring Understanding 3:** Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. (VA.5.O.3)

**Benchmark:** 1. Create meaningful and unique works of art to effectively communicate and document a personal voice. (VA.5.O.3.1)

### **Big Idea: HISTORICAL AND GLOBAL CONNECTIONS**

**Enduring Understanding 1:** Through study in the arts, we learn about and honor others and the worlds in which they live(d). (VA.5.H.1)

**Benchmark:** 1. Examine historical and cultural influences that inspire artists and their work. (VA.5.H.1.1)

**Benchmark:** 2. Use suitable behavior as a member of an art audience. (VA.5.H.1.2)

**Benchmark:** 3. Identify and describe the importance a selected group or culture places on specific works of art. (VA.5.H.1.3)

**Benchmark:** 4. Explain the importance of artwork to show why respect is or should be given to the work of peer or specified professional artists. (VA.5.H.1.4)

**Enduring Understanding 2:** The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. (VA.5.H.2)

**Benchmark:** 1. Compare works of art on the basis of style, culture, or artist across time to identify visual differences. (VA.5.H.2.1)

**Benchmark:** 2. Describe the ways in which artworks and utilitarian objects impact everyday life. (VA.5.H.2.2)

**Benchmark:** 3. Discuss artworks found in public venues to identify the significance of the work within the community. (VA.5.H.2.3)

**Enduring Understanding 3:** Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields. (VA.5.H.3)

**Benchmark:** 1. Discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas. (VA.5.H.3.1)

### **Big Idea: INNOVATION, TECHNOLOGY, AND THE FUTURE**

**Enduring Understanding 1:** Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. (VA.5.F.1)

**Benchmark:** 1. Examine and experiment with traditional or non-traditional uses of media to apply imaginative techniques in two- and/or three-dimensional artworks. (VA.5.F.1.1)

**Benchmark:** 2. Develop multiple solutions to solve artistic problems and justify personal artistic or aesthetic choices. (VA.5.F.1.2)

**Enduring Understanding 2:** Careers in and related to the arts significantly and positively impact local and global economies. (VA.5.F.2)

**Benchmark: 1.** Describe the knowledge and skills necessary for art-making and art-related careers. (VA.5.F.2.1)

**Benchmark: 2.** Explore careers in which artworks and utilitarian designs are created. (VA.5.F.2.2)

**Benchmark: 3.** Discuss contributions that artists make to society. (VA.5.F.2.3)

**Enduring Understanding 3:** The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. (VA.5.F.3)

**Benchmark: 1.** Create artwork to promote public awareness of community and/or global concerns. (VA.5.F.3.1)

**Benchmark: 2.** Create artwork that shows procedural and analytical thinking to communicate ideas. (VA.5.F.3.2)

**Benchmark: 3.** Work collaboratively with others to complete a task in art and show leadership skills. (VA.5.F.3.3)

**Benchmark: 4.** Follow directions and complete artwork in the timeframe allotted to show development of 21st-century skills. (VA.5.F.3.4)

**Observations and Notes:**

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