

Six Shifts in Math

What It Means in Visual Art

		<p>Draft by Shannon Elliott, Ed.D 2/7/12</p> <p>Please notify the author of any edits.</p>	<p>The Shifts in the visual arts are understood with the following premise: Visual Art is a form of communication. The primary definition of “Text” in visual art is imagery in its most inclusive form (the art itself). Just as in other forms of communication, “Text” in art is layered, metaphoric, symbolic, and open to interpretation. (An apple is not always an apple.) Therefore, when referring to imagery as “Text” in Visual Art, we will use the term, Art (text). When referring to “Text” as the written word, we will use the term, “Text.”</p>
Shift 1 PK-5	Focus	<p>Teachers use the power of the eraser, significantly narrow, and deepen the scope of how time and energy is spent in the math classroom. They do so in order to focus deeply on only the concepts that are prioritized in the standards so that students reach strong foundational knowledge and deep conceptual understanding and are able to transfer mathematical skills and understanding across concepts and grades.</p>	<p>Students in the Visual Arts will read and understand mathematical thinking employed in primary sources: Art (text) for information about the world—science, social studies, literature, and the arts.</p>
Shift 2 6-12	Coherence	<p>Principals and teachers carefully connect the learning within and across grades so that, for example, fractions or multiplication spiral across grade levels and students can build new understanding onto foundations built in previous years. Teachers can begin to count on deep conceptual understanding of core content and build on it. Each standard is not a new event, but an extension of previous learning.</p>	<p>Teachers will scaffold reading and creating Art (text) with regard to a concept-based Pre-K -12 Art Education curriculum, and NYS MLS that align the NYS VALS Performance Indicators and artistic stage theories.</p> <p>Students will understand how meaning and communication in Art (text) are enhanced by the artists’ use of mathematical strategies and thinking.</p>
Shift 3	Fluency	<p>Fluency Students are expected to have speed and accuracy with simple calculations; teachers structure class time and/or homework time for</p>	<p>Students will employ mathematical skills and understanding in the creative process. Students will</p>

		students to memorize, through repetition, core functions (found in the attached list of fluencies) such as multiplication tables so that they are more able to understand and manipulate more complex concepts.	identify, utilize, and analyze the elements of art that have a strong basis in mathematical concepts (e.g. patterns, shapes, value, and saturation of hues). Students will identify, utilize, and analyze the principles of design that have a strong basis in mathematical concepts (e.g. composition, dynamism, symmetry, and asymmetry).
Shift 4	Deep Understanding	Teachers teach more than “how to get the answer” and instead support students’ ability to access concepts from a number of perspectives so that students are able to see math as more than a set of mnemonics or discrete procedures. Students demonstrate deep conceptual understanding of core math concepts by applying them to new situations. As well as writing and speaking about their understanding.	Teachers will guide students’ inquiry into how mathematical thinking is used to convey ideas about the world when aesthetics are combined with function (e.g. illusion of depth, gradation of value, weight, and structure). Students will demonstrate understanding by synthesizing information to create Art (text). Students will engage in mathematical thinking to analyze and discuss visual perception in Art (text), (e.g. Cubism, Pointillism, peripheral vision, optical, and medial color systems).
Shift 5	Applications	Students are expected to use math and choose the appropriate concept for application even when they are not prompted to do so. Teachers provide opportunities at all grade levels for students to apply math concepts in “real world” situations. Teachers in content areas outside of math, particularly science, ensure that students are using math – at all grade levels – to make meaning of and access content.	Students will employ mathematical thinking and skills in creating Art (text) when utilizing media and materials in the creation of meaningful and personally significant Art (text), (e.g. digital imaging, time-based media, and traditional media).
Shift 6	Dual Intensity	Students are practicing and understanding. There is more than a balance between these two things in the classroom – both are occurring with intensity. Teachers create opportunities for students to participate in “drills” and make use of those skills through extended application of math concepts. The amount of time and energy spent practicing and understanding learning environments is driven by the specific mathematical concept and therefore, varies throughout the given school year.	Students will practice mathematical skills and thinking on practical and conceptual levels within the Visual Art Curriculum—a natural extension and application of concepts introduced in the math classroom. Teachers will provide opportunities for exercises in technique, analysis of the creative process, as well as the evaluation of the products (synthesis) of the creative process, (portfolio).

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