

## Native Report Season 17 Episode 4

### Round Lake Traditions: Are You Familiar with the Art of Applique?

#### Materials Needed:

- Video: [Herb Fineday Jr.: Custom applique and powwow dance regalia](#) (Facebook)
- Paper: plain, graph paper and colored paper
- Measurement tools: Variety of tools and methods to include but not limited to compass and straightedge, string, reflective devices, paper folding, Mira Math Geometry Tool, dynamic geometric technology
- Pencil

#### Minnesota State Standards:

##### Minnesota K-12 Academic Standards in Mathematics 2007

##### Geometry and Measurement Grades 9-11

9.3.1.3 Calculate measurements of plane and solid geometric figures; know that physical measurements depend on the choice of a unit and that they are approximations BENCHMARK: Understand that quantities associated with physical measurements must be assigned units; apply such units correctly in expressions, equations and problem solutions that involve measurements; and convert between measurement systems

9.3.3.6 Know and apply properties of geometric figures to solve real-world and mathematical problems and to logically justify results in geometry BENCHMARK: Know and apply properties of congruent and similar figures to solve problems and logically justify results.

##### Proposed Updates to Minnesota K-12 Academic Standards in Mathematics as of May 2022, version 2

9.7.5 Analyze characteristics of geometric shapes to make mathematical arguments and justifications about geometric relationships. Use visualization and geometric modeling to solve problems, in various cultures, especially in historical and contemporary Dakota and Anishinaabe communities. BENCHMARK: Apply properties of congruent and similar figures to solve problems and logically justify results. Apply properties such as diagonals, regularity, interior and exterior angle sums, parallel and perpendicular sides to define, classify and solve problems involving quadrilaterals and other polygons.

9.7.9 Analyze characteristics of geometric shapes to make mathematical arguments and justifications about geometric relationships. Use visualization and geometric modeling to solve problems, in various cultures, especially in historical and contemporary Dakota and Anishinaabe communities. BENCHMARK: Develop a precise geometric model for a complex situation.

9.8.1 Develop mental images and spatial sense of quantity, shape, location and orientation to make estimates, distinguish patterns and reason with relationships. Apply concepts and properties of space,

tools of representation, processes of reasoning and communicate solutions. BENCHMARK: Use compass and straightedge to create basic constructions including bisecting segments and angles, parallel and perpendicular lines and regular polygons.

9.8.2 Develop mental images and spatial sense of quantity, shape, location and orientation to make estimates, distinguish patterns and reason with relationships. Apply concepts and properties of space, tools of representation, processes of reasoning and communicate solutions. BENCHMARK: Make formal geometric constructions with a variety of tools and methods to include but not limited to compass and straightedge, string, reflective devices, paper folding, Mira, dynamic geometric technology, to represent transformations in the plane and enhance student understanding of two-dimensional shapes and their properties.

9.8.3 Develop mental images and spatial sense of quantity, shape, location, and orientation to make estimates, distinguish patterns and reason with relationships. Apply concepts and properties of space, tools of representation, processes of reasoning and communicate solutions. BENCHMARK: Create and compare rigid and non-rigid transformations and connect them to congruence.

9.8.4 Develop mental images and spatial sense of quantity, shape, location, and orientation to make estimates, distinguish patterns and reason with relationships. Apply concepts and properties of space, tools of representation, processes of reasoning and communicate solutions. BENCHMARK: Develop a procedure that shows various sequences of transformations to apply reflection, rotation and/or translation of geometric figures that will transform a preimage onto the same image.

## **Minnesota K-12 Academic Standards in the Arts 2018 (Effective 2023-2024 School Year)**

### **Visual Arts High School**

5.9.2.2.1 Generate and develop original artistic ideas. BENCHMARK: Collectively or individually apply inquiry methods of observation and research to investigate an idea.

5.9.2.2.2 Generate and develop original artistic ideas. BENCHMARK: Explore and plan themes, ideas, concepts or styles in preparation for an artwork.

5.9.2.3.1 Create original artistic work. BENCHMARK: Synthesize visual literacy strategies and conceptual intent to create artwork for a specific purpose.

5.9.2.3.2 Create original Artistic work BENCHMARK: Balance freedom and ethical responsibility in the use of images, materials, tools, and equipment during art making.

5.9.5.9.1 Integrate knowledge and personal experiences while responding to, creating, and presenting artistic work. BENCHMARK: Synthesize knowledge of social, cultural, historical, and personal life with art making approaches to create meaningful works of art.

5.9.5.10.1 Demonstrate an understanding that artistic works influence and are influenced by personal, societal, cultural, and historical contexts, including the contributions of Minnesota American Indian tribes and communities. BENCHMARK: Appraise the impact of art, an artist, or a group of artists on the beliefs, values and behaviors of a society.

## **Minnesota K-12 Academic Standards in English Language Arts 2010**

## Writing Benchmarks

### 9<sup>th</sup>-10<sup>th</sup> Grade

9.7.2.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of topic).

### 11<sup>th</sup>-12<sup>th</sup> Grade

11.7.2.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

### Objectives:

This lesson is a multi-disciplinary lesson that intersects mathematics, specifically geometry, visual art, specifically mixed media, and informative or explanatory writing.

Students will be able to:

1. Apply geometry concepts of congruence and similar using units to identify and solve problems in context to Ojibwe applique mixed media art form.
2. Analyze geometric shapes using tools of representation and modeling
3. Make formal geometric modeling based on Ojibwe applique mixed media art form using a variety of tools.

4. Develop a procedure to show a variety of transformations while analyzing and applying geometric concepts to Ojibwe applique mixed media art.
5. Research, plan, conceptualize and create an Ojibwe applique inspired piece using geometric concepts and colored paper.
6. Write informative or explanatory text to inform on the intersection of geometry concepts, visual art strategies, purpose and influence on Ojibwe communities while comparing personal experience of creating and presenting artistic work.

### **Procedures:**

#### **Day 1**

1. Watch the video: [Herb Fineday Jr.: Custom applique and powwow dance regalia](#) (7:07)
2. Show Students a Freeze frame in the following time stamp locations of the video to have students quick sketch designs on plain paper or graph paper. *Time Stamps options:* 0:10 Jingle Dress Vest; 0:58 Blue vest with skirt and red vest with skirt; 1:03 Two vests; 2:07 Vest, 2:47 Strawberries on skirt; 6:53 Three photos of Herb's vests
3. Students will then work in small groups to write descriptions of one or more of the designs using geometry terms and properties such as congruent and similar figures, diagonals, regularity, interior and exterior angle sums, parallel and perpendicular sides, classify quadrilaterals and other polygons. Each group will report on the design description to the whole group.

#### **Day 2**

1. Today students will design using congruent and similar figures for a skirt pattern, shirt pattern or vest pattern. Point out Herb Fineday designs that show symmetry, transformation, and congruency.
2. Discuss the ethical, cultural and personal responsibilities of individual, family and community designs. Discuss not copying the designs of Herb Finedays or others. Consider looking at inspiration from your own personal life and environment.
3. Students should use various tools to sketch constructions of geometric figures using compass and straightedge to create basic constructions including bisecting segments and angles, parallel and perpendicular lines and regular polygons.
4. Make formal geometric constructions of the sketched designs on colored paper with a variety of tools and methods to include but not limited to compass and straightedge, string, reflective devices, paper folding, Mira, dynamic geometric technology, to represent transformations in the plane and enhance student understanding of two-dimensional shapes and their properties.
5. Students will explore and plan their themes around their own individual art piece and then create the piece considering the visual literacy strategies and intent of the mixed media applique design.

#### **Day 3**

1. Today, students will write an informative or explanatory text to inform on the intersection of geometry concepts, visual art strategies, purpose and influence on Ojibwe communities while comparing personal experience of creating and presenting artistic work.

2. Structure of the Informative or explanatory text 4 to 5 Paragraphs:

Paragraph 1: Introduction to the intersection between geometry and visual art strategies of applique

Paragraph 2: Herb Fineday's Business Round Lake Traditions and the purpose, influence of Ojibwe Applique. Address the process that Herb goes through to create his work.

Paragraph 3: Comparison of your personal experience creating and presenting your artistic work. Address your process for creating the mixed media art piece. Were there similarities or differences between your processes for creating art?

Paragraph 4 Conclusion