

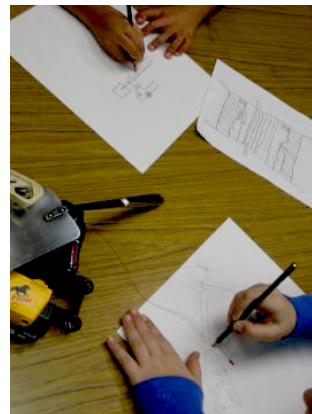
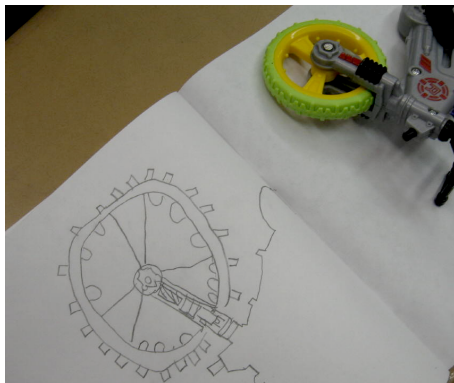
ARTS IMPACT—ARTS-INFUSED INSTITUTE LESSON PLAN (YR2-AEMDD)

LESSON TITLE: Shapes Are Everywhere

Visual Art and Math Lesson

Artist-Mentor – Meredith Essex

Grade Level: Third Grade



Enduring Understanding

Math polygon shapes/figures can represent the human made world around us.

Geometry Search Journal:

Target: Observes, identifies, and compares shapes/figures.

Criteria: Examines art and still life objects and draws/labels polygons in Geometry Search Journal.

Target: Represents objects.

Criteria: Draws tools, machines and/or toys with polygon shapes/figures by connecting and layering geometric shapes/figures.

Target: Shows depth of shapes/figures in space in still life.

Criteria: Overlaps objects in drawing with closest objects covering part of objects farther away and identifies/labels math shapes/figures seen in objects.

Teaching and Learning Strategies

Introduction to Arts-Infused Concepts through Classroom Activities:

Arts-Infused Concepts: Properties/Attributes of Polygons

- Review properties/attributes of different shapes/figures: numbers of sides and lengths of sides.
- Classroom shape/figure search: Find, name, and record shape/figures in Geometry Search Journal.
- Practice drawing a wide variety of polygons.
- Practice drawing polygons oriented in different directions.

1. Introduces *Duet V from the Onion series* by David Shratter from Tacoma Art Museum.

Prompts: This is a lesson that is a visual art lesson and a math lesson at the same time. Shapes/figures from math are everywhere, and are used in art to represent the world around us. What shapes/figures do you see in this art? Add the math shapes/figures/polygons you see in the art to your Geometry Search Journal, and label them with their geometry shape/figure name. Today we will be using shapes/figures to draw a still life—a collection of objects. Your job is to look at them very closely. We

will start with one object at your cluster of desks that is part of the whole still-life for your group. Draw and label all of the shapes/figures you see: the outside shapes/figure, and the shapes/figures you see inside of the object. Especially look for polygon shapes/figures from math as well as other shapes/figures. Compare objects and the kinds of shapes/figures you have found. Did one of your classmates find a polygon you did not see at first?

Student: Examines art and two still life objects; records shapes/figures in Geometry Search Journal. Compares shapes/figure notations by comparing drawings and shape/figure labels with a partner.

Embedded Assessment: Criteria-based peer critique

2. Demonstrates drawing still-life. *Prompts: What is the most important thing an artist does to get ready to draw? Observe! Using our lightest, H pencil, I am looking much more at the still life (Look at the paper 20% of the time and the object 80% of the time). Notice the missing eraser on your drawing pencil. . . .remember that artists make changes, not mistakes! Notice that **I am very lightly drawing in the shapes/figures** I see in front of me. I'm looking for polygon shapes/figures (triangles, squares, rectangles, parallelograms), as well as other shape/figures that may not have math names. I am thinking about every object as a combination of shape/figures (instead of an outline) that I build through connecting and layering shapes/figures. How am I showing that some objects are close and some farther away? **I am overlapping the shapes/figures**: do I see the whole object behind the one that is closer to me? No—find overlapping in this room where part of something is covered by something else. . . . I will only show where parts of objects are seen, not the parts of shapes/figures that are behind other objects. I'm looking for the math shapes/figures I see in parts of objects. Is there a triangle? A square? A multi-sided figure (polygon) that comes into sight when it is overlapped with another shape/figure?*

Student: Observes demonstration, discusses examples of overlapping in classroom.

3. Guides students in drawing still-life. *Prompts: Each group of five to six students has a still life in the center of their desks. Every student will have a different point of view since they are sitting in a different spot. Focus on the objects only: remember start drawing very lightly and so large the still life shapes/figures touch the edges of your paper. Define the shapes/figures you see with care to show only what you see. Remember that parts of the still life will not be showing because they are overlapped by other objects. Are there still some shapes from your math knowledge? Which ones? Do you will see some specific polygons? Triangles? Rectangles? **Add as much detail as you can by adding shapes inside of shapes/figures and patterns or lines you observe. Self check: Point to a polygon in your drawing; point to a place where you showed overlapping.***

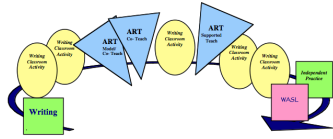
Student: Draws still-life.

Embedded Assessment: Student self-assessment.

4. Facilitates criteria-based reflection: Displays drawings. *Prompts: Describe any math or polygon shapes/figures that you can add to your Geometry Search Journal. Did you notice the math shapes/figures when you drew the whole still life, or do you notice them now, in other student's drawings? Find two drawings that show an object in different positions: is it overlapped in both (closer, farther away?) Where did you overlap in your drawing?*

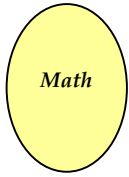
Student: Participates in critique.

Embedded Assessment: Criteria-based class critique

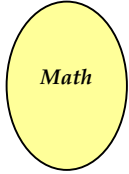


BEFORE next VISUAL ART lesson:

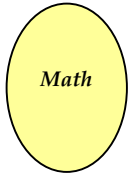
Math Centers



1. Cut out a picture from a magazine or other printed material that contains polygon shapes/figures: triangle, square, rectangle, parallelogram, and glue the picture into a Geometry Search Journal. Label the shapes/figures found with their math names and the amount of sides. Switch with a neighbor and see if they missed seeing any polygon shapes/figures!



2. Build a tool, toy or machine by connecting pattern blocks. Make a list of math shapes/figures that are polygons used for each part of the tool, toy or machine.



3. Continue to practice by drawing parts of the building, furniture, objects that have polygons in them.

Independent Practice: Air draw the shapes around you! Name the polygons! Triangles, squares, rectangles, parallelograms—shapes/figures are everywhere! Just look around you, count the sides and name them!

Vocabulary	Materials and Community Resource	WA Essential Learnings & Frameworks
<p><u>Arts:</u> composition line overlap still life</p> <p><u>Arts Infused:</u> circle geometric shape polygon rectangle shape sides square triangle</p>	<p>Museum Artworks: David Shratter, <i>Duet V</i>, from the <i>Onion Series</i>, 2002</p> <p>Art Materials: drawing pencils: 2B Geometry Search Journals white vinyl or art gum erasers Geometry Search Journals 9x9 in. white drawing paper</p> <p>Tools: kitchen utensils carpentry tools</p> <p>Machines: calculators, phones, tech-gadgets, tiny motors, interior components from household machines—cameras</p> <p>Toys: vehicles with polygon shapes: cars with rectangles</p>	<p><i>AEL 1.1 concepts:</i> shape, space/overlapping <i>AEL 1.2 skills and techniques:</i> drawing <i>AEL 4.2 connections between arts and other content areas:</i> geometry</p> <p>Math State Frameworks <i>Grade 2:</i> uses a 2D shape that matches a set of characteristics <i>Grade 3:</i> describes and compares congruent 2D figures; draws a shape that is congruent to a given 2D shape</p>

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LESSON TITLE: Shapes are Everywhere

ASSESSMENT WORKSHEET

Disciplines Concept	VISUAL ART AND MATH		VISUAL ART		Total 4
	SHAPE		SPACE		
Students	Examines art and still life objects and draws/labels polygons in Geometry Search Journal	Draws tools, machines and/or toys with polygons shapes/figures by connecting and layering geometric shapes/figures	Overlaps objects in drawing with closest objects covering part of objects farther away	Identifies/ labels math polygon shapes/figures seen in objects	
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Percentage					

Criteria-based Reflection Questions:

Self-Reflection: Describe any new shapes/figures that you can add to your Geometry Search Journal. When did you notice them? In the still life? Student’s drawings? Find two drawings that show polygons?

Peer to Peer: Switch objects with a partner, draw and label the polygon shapes/figures you see. Compare! Which math shapes/figures did you see? What makes them similar or different?

Thoughts about Learning:

Which prompts best communicated concepts? Which lesson dynamics helped or hindered learning?

Lesson Logistics:

Which classroom management techniques supported learning?

Teacher: _____ Date: _____

ARTS IMPACT—ARTS-INFUSED LEARNING FAMILY LETTER

VISUAL ART AND MATH – Shapes are Everywhere

Dear Family:

Today your child participated in a **visual art and math lesson**.

- We talked about a **still-life painting** by David Shratter. We looked for math polygon shapes/figures in the art and in still-life objects we drew. We drew and labeled math shapes/figures and their properties/attributes (number and length of sides) that we found in our **Geometry Search Journal**.
- We drew tools, machines and toys by **connecting and layering geometric shapes/figures, paying particular attention to looking for polygons**.
- We **overlapped objects** in our drawing to show depth in space: the closest objects covered part of objects that were farther away. Sometimes new polygons emerged when shapes/figures of objects overlapped.

You could start a Geometry Search Journal at home to record the shapes/figures you see everywhere, every day. You could even staple together the backs of used papers as your journal.

Enduring Understanding

Math polygon shapes/figures can represent the human made world around us.