

## Innovation Collaborative K-12 Lesson/Unit Template

***STEAM is most effective as a unit or group of related experiences, not a one-time lesson.***

***Submitted by: Kimberly Olson: Collaborative Innovation Fellow; Art Educator, Centre School, New Hampshire***

**Lesson/Unit Title:** Integrating with Ipcar: *Connections Across the Standards Rooted in Student and Artist Identity*

**Grade Level(s):** Kindergarten – Grade 2

**Duration:** Multi-day (multi-week) unit/ 4-5 class periods

### **Big Idea/Unit Overview:**

This lesson spans grades K-2 combining Visual Art & Art History content with Core concepts, Social Emotional Learning (SEL), and Culturally Responsive Learning (CRL), beginning with a biographical artist study of Maine artist/author/illustrator Dahlov Ipcar. Students become the artist through lessons which scaffold grade level art, math, science, and ELA standards, resulting in a comprehensive visual work via concepts of symmetry, geometry, perimeter, area, pattern, sequencing, counting, animal classification by species and habitat, research based in informational texts, interpreting, and inference-based analysis of visual and written works. Students expand their social awareness and self-management, drawing on and applying their own cultural lens and cultural responsiveness of all, responding, and connecting to the content as it relates to themselves and others.

### **Essential Questions:**

- Why do artists follow or break from established traditions?
- How is art used to impact the views of a society?
- How do scientists classify animals?
- How do artists represent science-based or factual characteristics and habits of animals, in particular through varied media, approaches, and genres?
- How can one glean insight and opportunity or inspiration from such approaches and methods to create their own original work?

### **Learning Outcomes (Objectives):**

Students will:

- Learn and retell facts about the life and work of artist/author Dahlov Ipcar, including what aspects they connect with and how/why
- Identify the elements of Realism, science, math, and/or ELA (animals & habitats based in scientific classification) which form the basis for Ipcar's work
- Combine personal preferences to develop a visual piece representative of a species from the animal kingdom utilizing mathematical characteristics of geometry, symmetry and pattern
- Verbally and visually demonstrate an understanding of cross-curricular connections (ELA, Math and Science) and the design process.
- Use the Design Thinking process (pre-learned) to plan and complete the design problem.

### **Learning Targets**

- I can recognize artists' use of other subjects( like math or science) in their work.
- I can use math and science in works of my own in meaningful ways.
- I know Realism is Art that is based on real things and truths.

### **Success Criteria**

- I know an artist connects art with math, science, or other subjects by their use of shapes, numbers, patterns, animals, plants, words, symbols, or text.
- I know my work is Realism because it shows things and ideas that are real and drawn/shown the way they look in real life.

### **Performance of Understanding:**

- Students practice identifying elements of artists' works that cross the boundaries of art into other content areas
- Students view diverse works that depict cross-curricular connections

### **Language Objectives**

- Translations via Reach My Teach or use of iPad/Google Translate
- Visual icon instructions
- ESOL teacher support

### **Vocabulary for Both Arts and Science**

1. Realism: Art resembling objects as they appear in real life, through color, shape, texture, pattern, etc.
2. Habitat: a home for a plant, animal, or person
3. Species: in reference to living things, a category or type, kind of animals with similar characteristics: i.e. A tiger is a species (or kind) of cat.
4. Texture: the way something feels to the sense of touch-rough, smooth, soft, etc.
5. Pattern: repetition of shapes, colors, lines, symbols - such as the stripes of a tiger.
6. Mandala: a design that takes the shape of a circle, or concentric circles, literally means *circle* in Sanskrit
7. Symmetry: having matching, same, or mirror image parts, details or characteristics

8. Classification: sorting or grouping objects, people, or animals based on similarities, shared qualities.
9. Culture: the collection of beliefs, behaviors, and practices that are shared by a group of people, society, or place
10. Identity: who a person is beyond what they look like; likes, preferences, goals, activities

**Process/Thinking Skills/Habits of Mind and how where they are used**

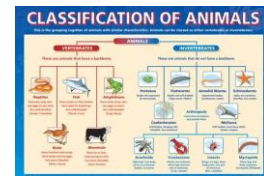
- Disciplinary practices addressed: Visual Art & Art History, Math, Science: Using math and computational thinking, obtaining, evaluating, and communicating information; Social Studies, SEL, and CRL
- [Collaborative Creative/Innovative Thinking Skills](#) used: problem Solving, synthesis, transformation, persistence, determining relevance
- Arts Habits of Mind addressed: Cognitive (elaboration, creativity, resistance to closure) and Personal through self-directed and motivated approach reflective of self through ownership of learning, risk-taking, and self confidence
- Problem-solving skills used (see [Collaborative Thinking Skills Rubric](#)): Acquires, analyzes, and selects information, relevancy, synthesizes in a way that addresses or solves the problem
- Degree of content integration (see [Collaborative Content Rubric](#)): Transdisciplinary through the science of animal species portrayed through the conventions of shape, pattern, form, organization, and visual representation

**Materials:**

Animal classification planning sheet, 12” x 18” 60 lb. white drawing paper (grades K & 1), 9” x9” square drawing paper (grade 2), pencils, erasers, colored pencils, crayons, markers (thin and wide), watercolor, oaktag 8” diameter circle template, rulers, shape tracers and templates, shape charts, student iPads

**Resources (websites, videos, images, books, etc.):**

- Animal Classification chart: [Biology: Animals - On Beyond Z](#)
- Vertebrates and invertebrates - books, charts
- Dahlov Ipcar books, prints, survey of work, biographical photos and history : [Dahlov Ipcar](#) [Where to Buy Dahlov Ipcar's](#)
- Animal picture collection, library books that support the 5 vertebrate categories



[Books](#)

**Procedure (with modifications if needed):**

**Introduction:**

- *Kindergarten and First Grade*  
The lessons begin with a *Responsive Classroom Morning Meeting* style message shared at a circle time whole group discussion on the rug. The message introduces the class to the artist by name and discipline. Next, I tell the fact-based “story” of the artist's life using a map to locate her hometown and summer and school year locations, photos of the artist’s family, as a child, and prints of the artist’s work. I created an artifact basket with many of her picture books,

paintbrushes, a stuffed cat, pictures of her family, and a toy barn as well as a postcard from Maine.

- *Second grade*

I may follow this introduction too, or, depending on their experience with VTS (Visual Thinking Strategies) - especially later in the year, I begin with students making connections to identify any cultural characteristics inferred from a backward design approach, sharing the artist's work prior to sharing the story of her life. Students connect to their observations and evidence they interpret from their observation using the See, Think, Wonder approach. Be ready for complex wonderings and perceptions (sometimes misperceptions) from your students. Make sure they are well versed in VTS and articulating using the Elements of Design and discipline specific vocabulary.

**Inquiry and process:**

**Class #1** - All students are prompted to write and illustrate facts they have learned about the artist on a memory page that is added to a yearlong study.

Following the introduction, students convene at individual group tables set with *Memory Pages*, a handout with the artist's name on it. Photos and pictures of the artist and her work can be projected or placed on tables. Students write facts they remember, even connected with, during the discussion and then illustrate them with drawings of the artist, her work, or family.

*Kindergarten* students are asked to write a word or two at the beginning of the year which progresses to a sentence come spring.

*First and Second Grade* students write a sentence per grade they are in and more is always welcomed and encouraged. During the studio time I project the artist's web site ([www.dahlovipcar.com](http://www.dahlovipcar.com)) onto my Smart Board. I may share an interview clip as well.

**Closing:**

Students reconvene at the rug with their memory pages to share a connection or fact they remembered about the artist. A selection of these memory pages is added to the interactive bulletin board.

**Inquiry and process:**

**Class #2** - Students *become* the artist (avoiding cultural appropriation) by grade-level lessons using a specific work or media technique characteristic of the artist. Lessons are infused with the original Core, NGSS, SEL, and CRL connections, which led me to choose the artist, and any other thematic or school goals currently a focus.

Review the Artist Study message and let students tell the story of Dahlov Ipcar back to you. You will be amazed at their detailed memories! Use the memory pages to review if necessary.

*Kindergarten* and *First grade* students are prompted to think about animals and how scientists group or categorize them. Reflect your students' schema in the beginning of this discussion. Use Ipcar's books to prompt discussion of farm animals compared to jungle animals with *Farmyard Alphabet* and *Wild Animal Alphabet*, etc. This discussion preempts their individual choice of animal group to focus their visual response on.

Discuss with students the idea of Ipcar's ways of organizing her picture plane using lines - actual and implied. Show examples from Ipcar's paintings such as *Blue Savannah*, *Masai Mara* or *Blue Moons and Menageries*. *Kindergarten* students will fold their paper twice to create four rectangles to draw their animal choice in - 4 farm animals, pets, jungle, zoo, etc. *First grade* will use rulers and shape templates to set up their picture structure. Instruct them to choose 7 - 8 shapes per the number of animals they decided on for their animal group/species.

*Second grade students* come up with a solution to the problem of talking about all the animals in the animal kingdom - how can we/scientists divide the whole animal kingdom into two smaller categories? Students will offer many relevant ideas such as land/water, fly/walk, big/small, etc. Introduce them to the concept of backbones and no backbones, or *vertebrates* and *invertebrates*. Inform students of their own backbones and ask them to feel the bones in their own back and neck. Give them plenty of examples of invertebrates: lobster, snail, insects, clams, squid, octopus, etc. Next, try to elicit the 5 classes of vertebrates, their characteristics, and species from the group. Give them a hint of a certain group based on your built rapport and knowledge of the cultural characteristics to complete the chart. Once you have completed a class anchor chart defining the classification information discussed, explain student responsibility in regards to the Planning sheet. Students will choose one class (reptiles, birds, amphibians, mammals, fish) to complete a graphic organizer, listing 8-12 chosen species, writing and/or drawing and listing the habitat as well. Students may help each other within their teacher-chosen work groups of 2 - 3 students.

### **Closing:**

Students may share their choices verbally as a closing circle and discuss resources they may need to continue to draw/color their choices - make note and gather resources for next week's lesson. Additionally, a shared reading of a relevant Ipcar title can occur at this time.

### **Inquiry and Process:**

**Class #3** - Review animal classification, groups grids, and geometric shapes within the paintings as a whole group discussion. Discuss realism and drawing the animals so they are recognizable, identifying shapes, characteristics (ears, whiskers, horns, tails, etc.) indicative of each animal.

*Kindergarten* - Exploring animals, habitats, patterns, and counting through Ipcar's book, [Calico Jungle](#). After a shared reading, ask children what a pattern is to prompt discussion of line, shapes, colors, and repetition. Name common patterns - stripes and polka dots. Share classroom examples (their clothes, furnishings, home wallpaper, carpet patterns, etc.). Ask

what was different about the animals' patterns in the story. Then show patterned paper, fabric, etc. for students to use to fill in their animal drawings using pencil then color-markers are a favorite. Students may add habitats (and as patterns) that match their animals as background in the individual rectangles following a (review/intro) discussion of habitat. Students work to complete their piece in color. Complete during an additional lesson as required - or for absent students to make up work.

*First Grade* - Students review Ipcar's paintings *Blue Savannah* and *Masai Mara*, exploring underlying grids, shapes, patterns, habitats, and recognizable or familiar animals. Students read copies of Ipcar's books *Wild Animal Alphabet*, *Farmyard Alphabet*, and *Stripes and Spots*, among others. They work to draw each animal to fit within the shapes they have drawn, thinking of when the animal would best fit within the shape - i.e. a curled up sleeping kitten fits within a circle, while 1 cat standing on its hind legs stretching fits inside a vertical rectangle. Students sketch in pencil, adding realistic patterns and color using colored pencil.

*Second Grade: Full Circle* - Students base their Becoming Dahlov Ipcar on Ipcar's inspirational mandala paintings, especially *African Circle*. Students begin by folding a 12" x 18" paper to create a 12" x 12" square, folding both corners to create an X and center point of the square. Students used a circle template to begin their mandala. Through a chosen animal species or category, students use rulers to divide their circle to create symmetrical sections like Ipcar. Using books and visual references, they add realistic details and patterns to the animals and background habitat.

### **Closing:**

Students share work progress or completed work with a gallery walk around the studio, reinforcing positive peer feedback supporting their likes and questions with reasons and suggestions as applicable. Reference feedback anchor charts as available. Written self or peer assessment offers another option. Share exhibit ideas and options per the school setting/capacity and develop digital sharing and celebration options per school resources and regulations as well.

### **Assessment:**

Teacher observation during discussion and studio work, anecdotal notes, daily progress and running records, process evaluation based on lesson rubric, class gallery walk, and written and/or verbal self and peer assessment. End of unit exhibit, real and digital. Informal Product Project or Performance with a Rubric. Observations 1:1 and small group discussions

- *Formative:* Students will participate in mid and closing discussion about the life and work of Dahlov Ipcar. Discussion points will be based on factual information, as well as students' interpretive analysis.

Individual approaches to both parts of the lesson will be noted and encouraged during the studio inquiry of the lesson-verbal conferencing and running records. (Formative)

- *Summative:* Student visual response and materials use will be assessed in relation to application, technique, individual ability, comprehension, and rubric-based expectations. Students will self and peer assess completed work, verbally and through exit ticket written responses.

Student work will be displayed via digital and traditional platforms and exhibit venues. (Summative)

- How are the [Collaborative rubrics](#) used? The rubrics are used to guide development and differentiation of the lesson and in demonstrating and justifying levels of integration, especially in reaching transdisciplinary learning.

### Culminating Event:

Student process, completed work, and recorded artist statements will be exhibited in the building entrance hallway exhibit space, on our class webpage, and Instagram. Digital archive of photos and videos will also be shown during Spring learning celebrations via Promethean boards and projection devices.

### Teacher Reflection:

Reflect on lesson and student response using the rubrics to guide specific aspects. Determine student work (and process) which represents areas of meeting, exceeding and not meeting the lesson objectives to reflect on student comprehension and perspective. Revise, adjust, or pre-teach aspects based on feedback from observable process and tangible response.

### Extensions:

Dependent on student response, curiosity and wonders, lesson extensions may include study of artists' use of structure, grids, organization within their work, realistic or mythic creatures, illustration, scientific illustration, etc.

### Standards:

	Grade Level K	Grade Level 1	Grade Level 2	
<a href="#">NATIONAL CORE ARTS STANDARDS</a> (NCAS): <i>National Visual Arts Standards</i>	Creating: VA:Cr2.1.Ka Through experimentation, build skills in various media and approaches to art-making.  Responding: VA:Re7.2.Ka Describe what an image represents. VA:Re8.1.Ka Interpret art by identifying subject matter and describing relevant	VA:Cr1.2.1a - Use observation and investigation in preparation for making a work of art. VA:Cr2.1.1a - Explore uses of materials and tools to create works of art or design. VA:Cr2.2.1a - Demonstrate safe and proper	Creating: Generate and conceptualize artistic ideas and work. Make art or design with various materials and tools to explore personal interests, questions, and curiosity. (VA:Cr1.2.2a)  Responding: Perceive and	

	<p>details. Connecting: VA:Cn11.1.Ka Identify a purpose of an artwork</p>	<p>procedures for using materials, tools, and equipment while making art. VA:Cr2.3.1a - Identify and classify uses of everyday objects through drawings, diagrams, sculptures, or other visual means. VA:Pr6.1.1a - Identify the roles and responsibilities of people who work in and visit museums and other art venues. VA:Re.7.2.1a - Compare images that represent the same subject. VA:Re8.1.1a - Interpret art by categorizing subject matter and identifying the characteristics of form. VA:Re9.1.1a - Classify artwork based on different reasons for preferences. VA:Cn11.1.1a - Understand that people from different places and times have made art for a variety of reasons.</p>	<p>analyze artistic work. Use Learned art vocabulary to express preferences about artwork. (VA:Re9.1.2a) Connecting: Synthesize and relate knowledge and personal experiences to make art. Create works of art about events in home, school, or community life. (VA:Cn10 .1.2a) Connecting: Relate artistic ideas and works with societal, cultural and historical context to deepen understanding. Compare and contrast cultural uses of artwork from different times and places (VA:Cn11.1.2a)</p>	
--	---	---	--	--



<p><u>NEXTGEN SCIENCE STANDARDS</u> (NGSS): <i>List crosscutting concepts)</i></p>	<p>LS2.1.1 ~ ENVIRONMENT Recognize that living things can be found almost anywhere in the world, and that specific types of environments are required to support the many different species of plant and animal life.</p> <p>LS3.3.2~Recognize there are different species of living things in various places around the world.</p> <p>PS3.2.3~Describe the position of an object by referencing its location in relation to another object or background.</p> <p>LS4.D: Biodiversity an . (2-PS1- different places on land and in water.</p>			
<p><u>ENGLISH LANGUAGE ARTS COMMON CORE STANDARDS</u> (CCSS): <i>(List specifics - Listening, Speaking, Reading, Writing)</i></p>		<p><b>Listening:</b> CCSS.ELA LITERACY.L.2.5 Demonstrate understanding of word relationships and nuances in word meanings.</p> <p><b>Reading</b> R.1.8.2 ~ Identifying the topic of the text or explaining the title</p> <p><b>Writing</b> W.1.2.1 ~ Representing understanding of text through pictures, “words,”</p>	<p>CCSS.ELA LITERACY.RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.</p> <p>CCSS.ELA LITERACY.RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a</p>	

		<p>“sentences,” or some combination</p> <p>W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-2)</p>	<p>text.</p> <p>CCSS.ELA LITERACY.RL.2.2 Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral</p>	
<b>Other Content Standards:</b>				
<p><b>Math:</b></p> <p>CCSS.MATH.CONTE NT.2.OA.B.2 Fluently add and subtract within 2 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers.</p> <p>CCSS.MATH.CONTE NT.2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p>	<p><b>ISTE Technology</b></p> <p>ISTE NETS Standards Creativity and Innovation: Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. b. Create original works as a means of personal or group expression</p>	<p><b>C3 Social Studies</b></p> <p>Social Studies SS:GE:2:2.3: Observe the ways in which different people perceive places, e.g., personal drawings or book illustrations. (Themes: G: Science, Technology, and Society, J: Human Expression and Communication)</p> <p>) SS:HI:2:3.2: Explore art, music and literature of various time periods, e.g., spirituals or Native American Art. (Themes: J: Human Expression and Communication)</p>	<p><b>Social - emotional Learning</b></p> <ul style="list-style-type: none"> <li>• Social-Awareness</li> <li>• Self-awareness</li> <li>• Self-management</li> </ul>	<p><b>Responsive Teaching for All Learners</b></p> <ul style="list-style-type: none"> <li>• Reflect on one’s cultural lens</li> <li>• Promote respect for student differences</li> <li>• Draw on students’ culture to shape curriculum and instruction</li> </ul>