Unit 3: Symmetry

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Unit 3: Symmetry

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

First Grade Art

Unit 3: Symmetry

Belleville Board of Education

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Unit Overview

Unit three focuses on symmetry.

- Define symmetry as an object that when divided one half is the mirror image of the other half.
- Discuss various geometric shapes that are symmetrical.
- Define shapes that are not symmetrical as asymmetrical.
- Discuss symmetry in nature. (butterflies, flowers, etc)
- Practice folding paper in half and drawing symmetrical images.
- Discuss adding color to symmetrical images. In order to be symmetrical one side must reflect the other side.
- Demonstrate how to use the medium of choice, and practice adding color to the symmetrical images created.

Enduring Understandings

- Symmetry is found in nature, art, math, and various other places in the world.
- Symmetry creates balance in art.
- Symmetry in art and nature often implicates beauty.
- Symmetry is a basis for art, architecture, and design in most areas of the world.

Essential Questions

- How is symmetry related to beauty?
- How is symmetry looked at throughout the world?
- Does asymmetrical mean something is not beautiful?
- How is symmetry used outside of traditional art?
- Are humans symmetrical?
- Does symmetry only exist over one axis?

Exit Skills

By the end of Unit 3:

- All students will demonstrate an understanding of symmetry by:
  - Defining what symmetry is.
  - Name various symmetrical geometric shapes.
  - Name some symmetrical objects in nature.
  - Depict symmetrical images.
  - Add color to their images using symmetry as a basis for their design.

New Jersey Student Learning Standards (NJSLS)

VPA.1.1.2.D.1	Identify the basic elements of art and principles of design in diverse types of artwork.
VPA.1.1.2.D.2	Identify elements of art and principles of design in specific works of art and explain how they are used.
VPA.1.2.2.A.1	Identify characteristic theme-based works of dance, music, theatre, and visual art, such as artworks based on the themes of family and community, from various historical periods and world cultures.
VPA.1.2.2.A.2	Identify how artists and specific works of dance, music, theatre, and visual art reflect, and are affected by, past and present cultures.
VPA.1.3.2.D.1	Create two- and three-dimensional works of art using the basic elements of color, line, shape, form, texture, and space, as well as a variety of art mediums and application methods.
VPA.1.3.2.D.2	Use symbols to create personal works of art based on selected age-appropriate themes, using oral stories as a basis for pictorial representation.
VPA.1.3.2.D.3	Employ basic verbal and visual art vocabulary to demonstrate knowledge of the materials, tools, and methodologies used to create and tell visual stories.
VPA.1.3.2.D.4	Explore the use of a wide array of art mediums and select tools that are appropriate to the production of works of art in a variety of art media.
VPA.1.3.2.D.5	Create works of art that are based on observations of the physical world and that illustrate how art is part of everyday life, using a variety of art mediums and art media.
VPA.1.4.2.A.1	Identify aesthetic qualities of exemplary works of art in dance, music, theatre, and visual art, and identify characteristics of the artists who created them (e.g., gender, age, absence or presence of training, style, etc.).
VPA.1.4.2.A.3	Use imagination to create a story based on an arts experience that communicated an emotion or feeling, and tell the story through each of the four arts disciplines (dance, music, theatre, and visual art).
VPA.1.4.2.A.4	Distinguish patterns in nature found in works of dance, music, theatre, and visual art.
VPA.1.4.2.B.1	Observe the basic arts elements in performances and exhibitions and use them to formulate objective assessments of artworks in dance, music, theatre, and visual art.
VPA.1.4.2.B.2	Apply the principles of positive critique in giving and receiving responses to performances.
VPA.1.4.2.B.3	Recognize the making subject or theme in works of dance, music, theatre, and visual art.

Interdisciplinary Connections

LA.RL.1.1	Ask and answer questions about key details in a text.
MA.1.G.A.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
MA.1.G.A.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
LA.SL.1.1	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
HPE.2.1.2.A.2	Use correct terminology to identify body parts, and explain how body parts work together to support wellness.
HPE.2.1.2.D.1	Identify ways to prevent injuries at home, school, and in the community (e.g., fire safety, poison safety, accident prevention).
HPE.2.1.2.D.CS1	Using personal safety strategies reduces the number of injuries to self and others.

Learning Objectives

After completing symmetry students will be able to:

- **Recognize** shapes and images that are symmetrical.
- **Classify** shapes into symmetrical and asymmetrical.
- **Generate** images that are symmetrical both in their outline, and design.

Suggested Activities & Best Practices

1. Having students do a "scavenger hunt" in the room for objects that display symmetry, have them explain to their classmates one by one.

2. Having students use mirrors to "create" symmetry in items.

Assessment Evidence - Checking for Understanding (CFU)

- Project (Summative)
- Portfolio (Benchmark)
- Participatory Assessment (Alternative)
- Peer Reviews (Formative)
- Sample Assessment: "Show students different slides with images, and have them point out if there is symmetry in the shown object or not."

In addition to the assessments listed above, the following assessments can be used to track progress:

- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Self- assessments
- Teacher Observation Checklist
- Think, Pair, Share
- Unit review/Test prep

Primary Resources & Materials

- Color Wheel poster, or printout
- School and town libraries
- Various internet websites for art education.

Ancillary Resources

- Pinterest, Pinterest.com
- Artsonia, Artsonia.com
- The Getty Institute, getty.edu
- WebArt, webart.com
- Internet, Virtual Museum Tours
- Hand-outs
- YouTube videos related to art history, artists, or art creation.

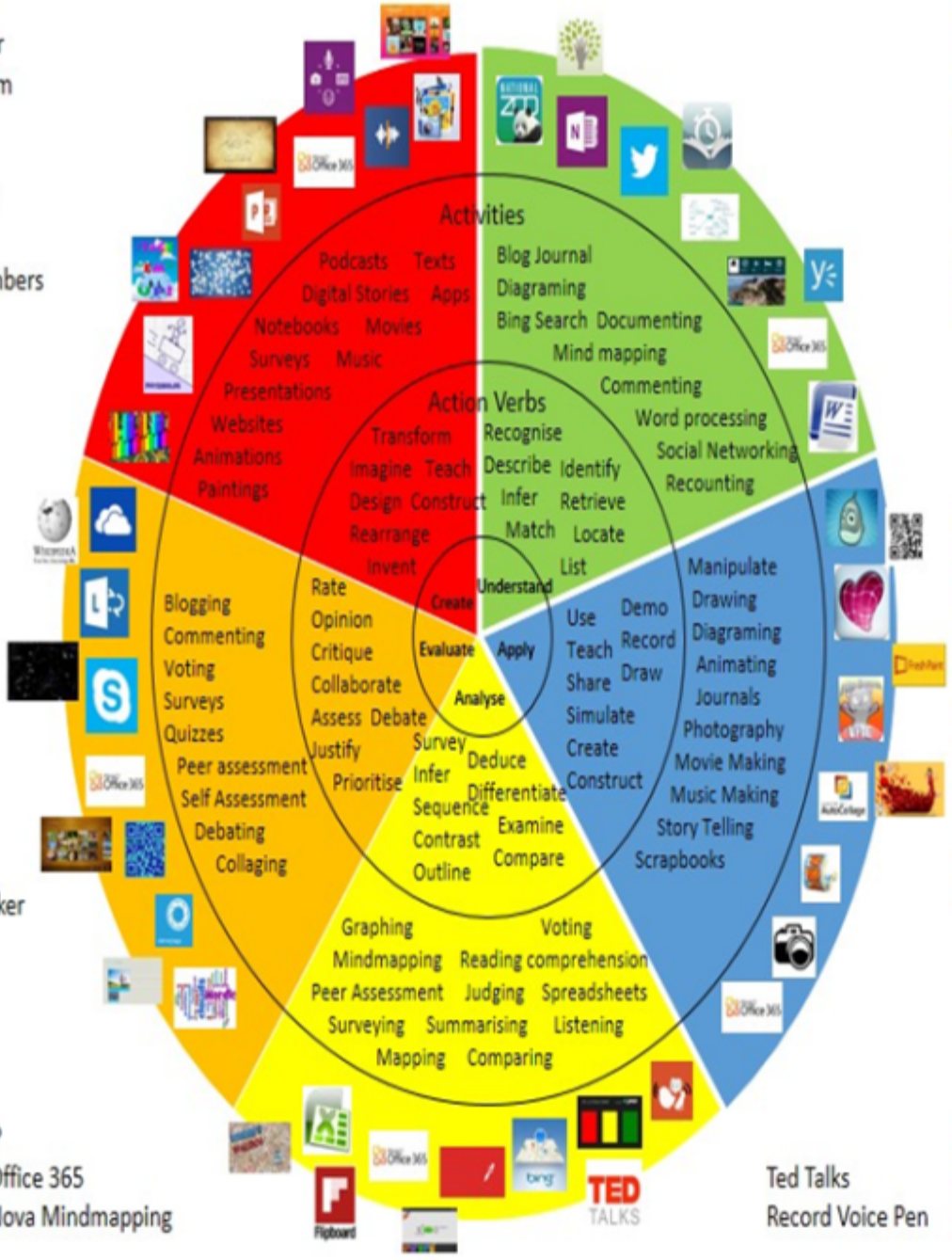
Technology Infusion

SmartBoard (where available), Projector, ipad, Computer, Internet for reference or websites with relevant art information.

Win 8.1 Apps/Tools Pedagogy Wheel

Podcasts
Photostory 3
Kid Story Builder
Music Maker Jam
Paint A Story
Office 365
MS PowerPoint
Stack 'Em Up
NqSquared Numbers
Physamajig
Xylophone 8

Wikipedia
Skydrive
Lync
SkyMap
Skype
Office 365
Puzzle Touch
Easy QR
Memorylage
Life Moments
Word Cloud Maker



Where's Waldo?
MS Excel Office 365
Flipboard Nova Mindmapping

Ted Talks
Record Voice Pen

Originally taken from http://www.coetail.com/vzimmer/files/2013/02/iPadagogy-Wheel.001.jpg
And adapted for Windows 8.1 devices by Charlotte Beckhurst @CharBeckhurst

Alignment to 21st Century Skills & Technology

Mastery and infusion of **21st Century Skills & Technology** and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

TECH.8.1.2.A.CS1	Understand and use technology systems.
TECH.8.1.2.A.CS2	Select and use applications effectively and productively.
TECH.8.1.2.B.CS1	Apply existing knowledge to generate new ideas, products, or processes.
TECH.8.1.2.C.CS3	Develop cultural understanding and global awareness by engaging with learners of other cultures.

21st Century Skills/Interdisciplinary Themes

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy

CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CRP.K-12.CRP6.1	Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to

	issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
CRP.K-12.CRP8.1	Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

21st Century Skills

- Global Awareness
- Health Literacy

Differentiation

- When working on a project, students who are struggling with finishing a project will be given more time to do so.
- At the beginning of each class, to ensure that all students are aware of their goal, it will be written clearly on the board and read aloud.
- When working on a project for multiple weeks, an oral review of the work already completed to remind students of their progress will be given.

Differentiations:

- **Extra time to complete assignments**
- **Repeat directions**
- **Use manipulatives**
- **Multisensory approaches**
- **Additional time**
- **Preview vocabulary**
- **Visual presentation**

Hi-Prep Differentiations:

- **Independent research and projects**
- **Project-based learning**

Lo-Prep Differentiations

- **Choice of books or activities**
- **Goal setting with students**
- **Varied supplemental materials**

Special Education Learning (IEP's & 504's)

1. Using hands-on assistance to help students learn how to properly hold and use art materials needed in this unit.

2. Displaying videos on the smartboard that show different examples of symmetry.

3. Using a large visual chart on the board with icons that show the steps students need to perform that day during class. (Ex. pencil for drawing, marker for coloring.)

- additional time for skill mastery
- assistive technology
- behavior management plan
- check work frequently for understanding
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- multi-sensory presentation
- multiple test sessions
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner

English Language Learning (ELL)

1. Thumbs up/down method to check for understanding when working on a project.
2. Visual cues (such as facial expression) to praise student and their work.

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student’s learning;
- allowing students to correct errors (looking for understanding)
- decreasing the amount of workpresented or required
- tutoring by peers

At Risk

1. Using thumbs up and verbal praise to highlight student's successes in the project as well as to keep them on track.

2. Using fist-to-five to check for student understanding after directions for projects are given.

- allowing students to correct errors (looking for understanding)

- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required
- marking students' correct and acceptable work, not the mistakes
- tutoring by peers
- using videos, illustrations, pictures, and drawings to explain or clarify

Talented and Gifted Learning (T&G)

1. Having students work on a grid drawing project using a mirror to reflect a drawn half image.

- Advanced problem-solving
- Allow students to work at a faster pace
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

Sample Lesson

Sample lesson located in Unit 1.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: