

gr 4/5
Special Ed

Paper Sculpture: Comprehending Literacy and Math



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UNIT OVERVIEW

Students will read and comprehend stories with strong characters (Roald Dahl's *The Witches* is used here) and learn how to create large paper sculptures demonstrating key character traits. The creative process will include collage, drawing, and the use of math facts to create visual texture. It will support a range of targeted skills for diverse learners and address social emotional skill building.

CONTEXT

This project was implemented in a 4th/5th grade special education classroom with a small group of students. Arts-integrated instruction was given twice per day over the course of one week. Literacy and math skills were integrated with paper sculpture, collage, and pattern making. The collaborative nature of working together allowed students to build stronger peer relationships and practice Social Emotional Learning skills.

BIG IDEA

Visually describing key character details from a story can help us better understand narrative themes, relationships, and character development. Sequenced math functions can create patterns, support visual forms, and cement math facts. Small group creative work can help build relationships and SEL skills.

LEARNING GOALS

Students will understand:

- How the arts can be used to demonstrate understanding and describe new information.
- How to visually express literacy comprehension using paper sculpture and collage techniques.
- How math skills support everyday projects and number repetition creates visual patterns.
- How creative work and collaboration supports social emotional skill building.

sidexside

GRADE LEVEL: Fourth-Fifth Grade Special Ed

ART FORM: Mixed Media Collage, Drawing, Paper Sculpture

INTEGRATED SUBJECTS: Literacy Math, Social Emotional Learning

Project Kick-off:

The project will begin with an introduction by the teaching artist who will share examples and images of collage storytelling. For this particular unit, two books were shared: *Collage Art of Romare Bearden* and *Legs Head Arms: A Liberian Folktale*. Timeframe: 1 hour

Lesson 1: Character Traits

Students will learn how to visually describe character traits using color and pattern to create form: 1 hour

Lesson 2: Storytelling and Movement

Students will begin creating visual interpretations of an individual witch including faces with expression, postures and designing clothes. They will draw, cut, and paint components using large paper: 1 hour

Lesson 3: Pattern, Collage, and Accessories

Students will add math facts to arms and legs, creating texture. They will design clothes from collage materials and learn a variety of ways to add gestures to the limbs, creating visual movement appropriate to their witch's characteristics: 1 hour

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Teaching Tips:

- Have mixed media resources collected, sorted, and organized before you begin the program.
- Have students bring in collage materials from home.
- Have a folder/ large envelope for each student to keep collage and writing material together.
- Assign or have students choose a witch to focus on.
- Have SEL handouts or social stories available for reference.

Lesson 4: Putting it All Together

Students will use math facts as patterns to connect paper limbs, making sculpture visually cohesive. Students will finish any attachments and collage pieces and write a brief description of their witch to be read aloud at the Celebration of Learning: 1 hour

Celebration of Learning

Students will learn how to set up and exhibit their work. During the celebration, students will introduce visitors to their witches by reading written descriptions and answering questions about their art process. They will share their knowledge of the story and of the materials and methods used to build their paper sculptures: 1 hour

SEL LESSON CONNECTIONS

Side x Side's model of arts integration authentically aligns with Social Emotional Learning benchmarks through three primary developmental areas: self-management, self-expression, and relationship skills. During this arts-integrated unit, students have a range of opportunities to notice and learn about themselves in new ways. Many project components involve communication and collaboration, developing a broader sense of social awareness and forging deeper relationships. We strive to incorporate communication and community-building skills in everything we do. We use group reflection or wrap-ups at the end of each lesson to cement learning and foster continued curiosity.

All classrooms include varying learning strengths. This unit includes opportunities to strengthen fine motor skills, follow multi-step directions, practice new and core vocabulary terms, strengthen math skills through repetition, and work collaboratively with peers. Please note, the lesson plan can be adapted in multiple ways and tips for differentiating the lesson are given throughout.

LESSON 1: Character Traits

MATERIALS

Large sheet/white board and markers for making character list and mood

Per student:

- large heavy-duty paper
- watercolor sets or liquid watercolor
- brushes
- pencil and paper

To share:

- jars of water
- paper towels
- large and small rulers
- reference books

VOCABULARY

expression, sketch, crosshatching, 3D, color value, traits, mood, presence

LEARNING GOALS

Students will understand:

- How to identify character traits in a story.
- How to visually represent character traits.
- How to create a paper sculpture from one large sheet.
- How the arts can be used to share knowledge and ideas.

Teaching Tip:

Show examples of multiple ways of gathering ideas with [Leonardo da Vinci drawings](#).

Timeframe: 1 hour over two sessions (Steps 1-2: 30 min | Steps 3-4: 30 min) Students will learn how to visually describe character traits using color and pattern to create form. The teaching artist will make connections to pattern (math), character traits (literacy), collage (arts), and expression/communication (SEL). The class will discuss *The Witches* by Roald Dahl, and then students will select their character from the story.

Lesson Outcomes:

By the end of Session 4, students will have chosen a witch, completed a sketch with a list of character traits, folded a large paper in thirds, and painted with watercolors.

INSTRUCTIONS

Step 1: Introduction

While discussing the story, create a list with students (on large paper or white board) of character traits with strong adjectives. Have students describe colors and textures that correspond with each witch's traits. Discuss how body posture can communicate personality and attitudes as well as facial expressions. Make a list of all the ways these witches are different from human bodies; for example, square feet with no toes.

Step 2: Sketching and Planning

After each student chooses a witch, have them sketch their witch, including posture, highlighting their character traits. They can make notes on the side of their drawing of textures and colors they would like to use in the final sculpture. Encourage students to note as many ideas as possible on the paper.

**SEL SKILL:
SELF-MANAGEMENT**

is the ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. Making large-scale watercolor paintings requires careful listening, body control, and impulse management. Students can link content and self-expression through color and texture using paint, crayons, and salt.



Fun Fact:

The art of folding paper, origami, was invented in Japan in the sixth century but was strictly reserved for ceremonial purposes. To learn more: [A Brief History of Origami](#).

Step 3: Fractions, Folding, and Rulers

Show an example of a paper sculpture to students again. Spend a few minutes reviewing fractions before having students divide the paper in thirds. Demonstrate how to fold the large paper into three sections noting where the joints and limbs will be. Show students how to use the ruler to have straight sides and equal distance from side to side.

Step 4: Review and Watercolor

Review *The Witches*, referencing particular scenes from the story. Review character traits, mood, and posture. Ask students to assign a color to the scenes. Discuss the purpose of a background. Remind students that collage materials will be added over the watercolor to represent clothes and hair. Demonstrate three watercolor techniques including dry brush for texture. Be sure students have a plan before beginning to paint their large paper.

Teaching Tips:

- Show tips and tricks for successfully folding and creasing paper for those with fine motor challenges or sensory sensitivities.
- Use rulers to practice taking specific measurements.
- Have small paper (of the same weight) available for practice.
- Describe layering watercolors techniques with analogies; for example, making a cake, or a building, or getting dressed in the morning.
- Demonstrate how to mix colors and not make everything brown!





LESSON 2: Storytelling and Movement

MATERIALS

Large sheet/white board and markers for demonstrating facial features

Per student:

- large heavy-duty paper for head and limbs
- watercolor sets or liquid watercolor
- brushes
- pencil and paper

To share:

- small hand mirrors
- jars of water
- paper towels
- glue sticks/paste
- scissors
- reference books

VOCABULARY

form, posture, implied movement, collage

LEARNING GOALS

Students will understand:

- How to draw a face with expression.
- How to use paper to create three dimensions.
- How to deeply analyze a story character for characteristics and expressions.
- How to use watercolors.

Timeframe: 1 hour over two sessions (Steps 1-3: 30 min | Steps 4-6: 30 min) Students will begin creating visual interpretations of an individual witch, including faces with expression and postures, and begin designing clothes. They will draw, cut, and paint components using large paper.

Lesson Outcomes:

Students will complete their witch's face and limbs, and begin making collage clothes.

INSTRUCTIONS

Step 1: Introduction

Review all the character traits of the witches again and focus on facial expressions. Have students consider their witch and the shape of the head. Have them draw and cut the head out of heavy paper (same as the body).

Step 2: The Face

Demonstrate on the whiteboard how to draw parts of a face using simple geometric shapes. Show how to make three-dimensional eyebrows or pop-out features like a tongue or wart by folding/tenting paper. Discuss how we interpret what someone is feeling by their facial expressions.

Teaching Tips:

- Use multiple small steps when describing how to draw a face.
- Include options for pencil grips and drawing while standing.
- Provide small hand mirrors for students to observe their features.
- Use a sharpie to go over pencil lines before painting to enhance drawings.

Teaching Tip:

While painting, encourage students to discuss how they might handle a particular situation:

- How would you stay calm in the face of the witches' evil plan?
- How would you work together to get rid of the witches?



SEL SKILL: SELF-AWARENESS

is the ability to accurately recognize one's emotions and thoughts and their influence on behavior. This program requires planning, organizing, and understanding one's strengths. Setting goals while blending content with drawing and design builds content knowledge and self-confidence.

Step 3: Cut and Glue

When they have finished drawing three-dimensional components, have them use scissors to carefully cut around the facial features and glue in place. Set aside to dry.

Step 4: The Limbs

Have students consider postures for the limbs. First have them draw an outline for their limbs on heavyweight paper and then carefully cut out legs and arms. (Note: Some students may need assistance with cutting. After drawing shapes, move on to Step 5 and have cut pieces ready for Lesson 3.)

Step 5: Watercolor

Have students paint the head and limbs with watercolors. Be sure to have them use lighter colors on the head and limbs so that details can be added during the next lesson. Assist with excessive water or lack of pigment. When sections are dry, encourage adding textures with dry brush, towel, or other techniques.

Step 6: Collage & Reflection

Have students begin to cut collage pieces for their witch's clothes. They can use the limbs they just cut as a template for the collage materials. Encourage reflection on their particular character. There will be time to glue the components during Lesson 3.

Extra Time?

- Have students make a mask for their witch.



LESSON 3: Pattern, Collage, and Accessories

MATERIALS

Per student:

- extra pieces of heavy-duty paper
- pencil, eraser, and scrap paper
- scissors

To share:

- glue/paste
- gel pens
- paper towels
- collage material, fabrics, etc.
- reference books on collage

VOCABULARY

pattern, function, form, repetition, unique, style

LEARNING GOALS:

Students will understand:

- How practicing math functions helps cement learning.
- How numbers as visual symbols can create patterns and textures.
- How to use a paper template to trace and cut pieces of fabric.
- How to read for details in a text.
- How to write math equations.

Timeframe: 1 hour over two sessions (Steps 1-2: 30 min | Steps 3-5:

30 min) Students will add math facts to arms and legs, creating texture.

They will design clothes from collage materials and learn a variety of ways to add gestures to the limbs, creating visual movement appropriate to their witch's characteristics.

Lesson Outcomes:

Students will have completed number textures with math functions and designed collaged clothes and accessories. They will have connected the head and limbs to the main body.

INSTRUCTIONS

Step 1: Math Facts

Work on math facts together. Write the facts on a white board and leave them up for students to reference. Demonstrate how the numbers make patterns and the importance of practicing math facts.

Step 2: Adding Math Facts to Limbs

Write out math facts on arms and legs. Be sure to have students start at the beginning or the end of the limb so that facts are sequential. Identify where limbs will connect to the body.

Teaching Tip: Distribute individual math facts sheets.

Teaching Tips:

- Discuss how different facial expressions and body postures send different messages. How do clothes, shoes, and accessories affect how we think about someone?
- Make SEL connections through group reflection.
- As a group, brainstorm plans for the Celebration of Learning.



Fun Fact:

The largest sheet of handmade paper measures 49 ft 0.5 in x 32 ft 10 in and was made by the students of Colegio Salesiano Don Bosco de Ypacaraí in Ypacaraí, Paraguay, on 7 August 2015. Around 250 students created the giant sheet of paper from recycled newspapers. To learn more: [Guinness Book of World Records](#)

Step 3: Review

Review the story and characteristics. Have students consider what their witches might need to wear to best support their character. Describe how you will be “dressing” them with collage material and adding texture to their skin with math facts.

Step 4: Making Clothing

Have students use their painted limbs that have already been cut to trace shapes for fabric and collage material. After tracing shapes, have students cut the clothes for their witches.

Step 5: Adding Details

Have students gather materials for details like hair and nails, or accessories.



SEL SKILL: RELATIONSHIP SKILLS

are the ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed. Drawing, design, and adding details during classroom instruction provide opportunities to see a variety of expressions about similar content broadening empathy and building relationships.



LESSON 4: Putting it All Together

MATERIALS

Per student:

- extra pieces of heavy-duty paper
- pencil, eraser, and scrap paper
- scissors

To share:

- glue/paste
- gel pens
- paper towels
- collage material, fabrics, etc.
- reference books on collage

VOCABULARY

articulation, shape, presentation, critique, overview

LEARNING GOALS:

Students will understand:

- How body language is a form of communication.
- How to respectfully collaborate with peers.
- How to connect paper shapes using brads, staples, and glue.
- How to write their witch's characteristics and describe their artistic process and choices.
- How to read for information.

Timeframe: 1 hour over two sessions (Steps 1-2: 30 min | Steps 3-4: 30 min) Students will finish any attachments and collage pieces and write a brief description of their witch to be read aloud at the Celebration of Learning.

Lesson Outcomes:

Students will have attached all limbs and the head, completed math facts on limbs, glued on collaged clothes and accessories, and written a brief description of their character.

INSTRUCTIONS

Step 1: Introduction

Play a posture guessing game where students try different head positions to express different emotions. This is a great way to have students practice social awareness and relationship skills by collaborating with peers to recognize body language and differences. Have students share their ideas about their witches and how they want to position the head and face.

Teaching Tip: Pause before students get started and have them share their ideas and receive feedback.

Step 2: Connecting Body Parts

Demonstrate different methods of attaching the head to the body. Experiment before making a permanent connection to the body. Have students connect all their body parts.

Teaching Tips:

- Write math functions on white board so they remain accessible while working.
- Have small paper (of the same weight) available for practicing connections.
- Discuss how different facial expressions and body postures send different messages. How do clothes, shoes, and accessories affect how we think about someone?
- Ask for a few volunteers so there are extra hands available for connecting pieces.
- Make SEL connections through group reflection.
- As a group, brainstorm plans for the Celebration of Learning.

Step 3: Attaching Clothing/Accessories

Demonstrate how to use the materials; that is, the way to cut fabrics, glue/paste techniques, gel pens over watercolors. Show other ways to connect pieces such as accessories, hats, or scarves. Be sure to leave some of the math facts exposed.

Step 4: Finish Attaching

Help students finish attaching all components to their witches.

Step 5: Prepare for Celebration

Discuss what happens at an art exhibit and set the stage for the Celebration of Learning. Describe how an Artist Statement or description plaque can help the audience understand what they are looking at. Have students begin to write about their witch and its unique characteristics.

Step 6: Writing Statements

Help students complete their written statements. Some students may finish early and can help others.

Extra Time?

- Take a few minutes to reflect on the creative process and their sculptures.



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CELEBRATION OF LEARNING

Timeframe: 1 hour over two sessions (Steps 1-2: 30 min | Steps 3-4: 30 min)

Students will learn how to set up and exhibit their work. During the celebration, students will introduce visitors to their witches by reading written descriptions and answering questions about their art process. They will share their knowledge of the story and of the materials and methods used to build their paper sculpture.

Lesson Outcomes:

Students will have their paper sculptures ready for display and will have a brief written description to share.

INSTRUCTIONS

Step 1: Design

The classroom teacher and teaching artist will design a Celebration of Learning that meets the needs of the students, parents, and school community. The celebration provides an opportunity for students to demonstrate what they have learned and to practice awareness of how they cooperate with peers to achieve a common goal.

Step 2: Set Up

The students and teachers will work together to rearrange the room for the exhibit. Students needing additional time can finish their writing.

Step 3: Exhibit

School community comes to the exhibit to listen to students read their descriptions of the witches' main character traits and answer questions.

Step 4: Reflect & Assess

Students take time to reflect on their learning and their artistic skills. Teachers assess learning through demonstrated understanding of character traits.



Note:

In this example, other grade level classes were invited to a gallery walk where students displayed their witches and described what artistic processes they used and how decisions were made based on their comprehension of the story.

SEL SKILL: RESPONSIBLE DECISION-MAKING

is the ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others. The Celebration of Learning is an opportunity to demonstrate knowledge acquisition visually and collaboratively. It is a chance for students to work together making strong choices to represent their creative work.

COMMON CORE STATE STANDARDS corestandards.org

Reading Standards for Informational Text:
CCSS ELA literacy RI 4.2

Reading Standards for Foundational Skills:
CCSS ELA literacy RF 4.4.A & 5.4.A

Writing:
CCSS ELA literacy W 4.1.B & 5.1.B

Speaking and Listening:
CCSS ELA literacy SL 4.1 & 5.1

Math, Measurement and Data:
CCSS MATH CONTENT 4.NBT.B.4

21st CENTURY STUDENT OUTCOMES p21.org

21st Century Interdisciplinary Themes:
Global Awareness
Civic Literacy

Learning and Innovation Skills:
Creativity and Innovation
Critical Thinking and Problem Solving
Communication and Collaboration

Life and Career Skills:
Flexibility and Adaptability
Initiative and Self-Direction
Social and Cross-Cultural Skills
Productivity and Accountability
Leadership and Responsibility

NATIONAL CORE ART STANDARDS nationalcoreartsstandards.org

Anchor Standard 1: Generate and conceptualize artistic ideas and work. VA: Cr1.1.4a, Cr1.1.5a

Anchor Standard 2: Organize and develop artistic ideas and work. VA: Cr1.1.1a, VA:Cr2.1.4a, VA:Cr2.1.5a

Anchor Standard 3: Refine and complete artistic work. VA: Cr3.1.4a, VA:Cr2.1.5a

Anchor Standard 4: Select, analyze, and interpret artistic work for presentation. VA:Pr4.1.4a, VA:Pr4.1.5a

Anchor Standard 6: Convey meaning through the presentation of artistic work. VA:Pr6.1.4a, VA:Pr6.1.5a

Anchor Standard 7: Perceive and analyze artistic work. VA:Re.7.1.4a, VA:Re.7.1.5a

Anchor Standard 9: Visual imagery influences understanding of and responses to the world. VA:Re.7.2.4a, VA:Re.7.2.5a

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art. VA:Cn10.1.4a, VA:Cn10.1.45

Anchor Standard 10: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding. VA:Cn11.1.4a, VA:Cn11.1.5a

CASEL SOCIAL EMOTIONAL LEARNING SKILLS

SEL is an integral part of education and human development. SEL is the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. casel.org

- Self Management
- Self-Awareness
- Relationship Skills
- Responsible Decision-Making